SLOVENSKA INDUSTRIJSKA STRATEGIJA

2021–2030

REPUBLIKA SLOVENIJA
VLADA REPUBLIKE SLOVENIJE

Številka: 31000-2/2021/3

Datum: 24. 6. 2021

SLOVENSKA INDUSTRIJSKA STRATEGIJA 2021–2030

SLOVENSKA INDUSTRIJSKA STRATEGIJA 2021–2030

Izdajatelj:
Ministrstvo za gospodarski razvoj in tehnologijo

Oblikovanje:
GZS

Fotografije:
Depositphotos

Tisk:
SIJ Zip Center d.o.o.

Naklada:
300 izvodov

Leto izdaje:
2021

Vsebina

Uvodnik

Foto: Nebojša Tejić

Spoštovani,

pred vami je nova Slovenska industrijska strategija 2021-2030, ki nas v skladu z evropsko industrijsko strategijo pripravlja na prihodnost. Razmere, povezane s pandemijo korona virusa, s katerimi smo bili in smo soočeni še danes, so ustvarile priložnost za razmislek: KJE smo, KAJ počnemo, ter predvsem: KJE hočemo biti in KAM želimo priti.

Naše in svetovno gospodarstvo se spreminja pred našimi očmi, hitreje kot kdaj koli prej. Globalizacija, tehnološki napredek in inovacije poganjajo to kolesje razvoja. Stari igralci na trgu izginjajo, pojavljajo se novi. Spreminjajo se trgovinski tokovi. Industrija se mora nenehno prilagajati, se preoblikovati, da ostane konkurenčna. Dejstvo je, da je treba uporabiti vse mehanizme za ohranitev tehnoloških kompetenc, ki jih imamo, ter za uspešno obvladovanje in oblikovanje novih globalnih izzivov in razvoja.

Predstavljena strategija temelji na skupni viziji razvoja Evropske unije, ki je bila začrtana z Evropskim zelenim dogovorom in ki usmerja države v korenito preobrazbo gospodarstva in družbe za dosego podnebne nevtralnosti do leta 2050. Gre za novo dolgoročno strategijo Evropske unije za rast, ki poudarja sodobno, konkurenčno in z viri gospodarno gospodarstvo. Rast in konkurenčnost sta še vedno v ospredju, vendar s pomembnim poudarkom: gospodarsko rast je treba ločiti od rabe virov in preiti na sistem krožnega gospodarstva.

Nadalje, strategija poudarja pomen ustvarjalnosti in inovacij, kar je ključnega pomena za prihodnji razvoj gospodarstva. Namen je skrb za ustvarjalno, podjetno in inovativno podporno okolje, za krepitev inovacijskega potenciala in dvig konkurenčnosti. Pozornost je namenjena tudi zagonu, rasti, razvoju in ohranjanju perspektivnih malih in srednje velikih podjetij.

Prav tako pa strategija veliko pozornosti posveča digitalni transformaciji gospodarstva z razvojem ter uvajanjem novih pametnih tehnologij. V tem oziru je ključno spodbujanje razvojno-raziskovalnega in inovacijskega ciklusa, mreženje in povezovanje, razvoj kompetenc in internacionalizacija poslovanja.

Če povzamemo, vizija tega dokumenta je tlakovati pot zelenemu, ustvarjalnemu in pametnemu razvoju. Na osnovi teh smernic razvoja bomo oblikovali ukrepe za podporo slovenski industriji pri njenem nadaljnjem napredku, revitalizaciji oziroma preobrazbi. Z izvajanjem industrijske strategije želimo premikati meje razvoja, ter ohraniti ali pridobiti primat z vidika inovativnosti in konkurenčnosti v primerjavi z ostalimi deli sveta. Prav tako želimo v skladu z industrijsko politiko EU postati bolj samooskrbni, povečati strateško avtonomijo in krepiti verige vrednosti. Zadali smo si cilj, da do leta 2030 dosežemo produktivnost dela, merjena z dodano vrednostjo na zaposlenega, v višini 66.000 EUR.

V Evropski uniji je že dolga leta uveljavljeno načelo „Pomisli najprej na male“ (ang. „Think small first“), kar pomeni, da je treba pri sprejemu zakonodaje najprej pomisliti na mikro podjetja, ki nimajo veliko virov, da bi se lahko prilagajala spremembam. S to industrijsko strategijo pa želimo dodati načelo „Pomisli najprej zeleno, ustvarjalno in pametno“ (ang. „Think Green, Creative and Smart first“), kar pomeni, da želimo, da se pri vsakem ukrepu, vsakem razvoju novega izdelka, storitve ali poslovnega modela, pri zagonu novega podjetja, pri novih investicijah, najprej pomisli, kako in na kakšen način bi lahko prispevali k zelenemu, ustvarjalnemu in pametnemu razvoju. Na ta način bomo krepili položaj in mednarodno konkurenčnost industrije ter zagotovili, da ostane vitalni del slovenskega gospodarstva.

Torej gremo zeleno, ustvarjalo in pametno naprej!

Ljubljana, december 2021

Zdravko Počivalšek, minister za gospodarski razvoj in tehnologijo

1. UVOD

Industrija s svojo izvozno usmerjenostjo in inovativnostjo predstavlja temelje blaginje in razvoja Slovenije ter je vitalni del njenega gospodarstva, zato ji je treba nameniti ustrezno pozornost. V ožjem smislu se industrija nanaša na proizvodno-predelovalne dejavnosti, ki v Sloveniji zaposlujejo preko 201.722 oseb v 19.671 podjetjih. Slovenska predelovalna dejavnost je v letu 2019 skupno prispevala 23,2 % k dodani vrednosti gospodarstva, kar jo uvršča na tretje mesto v EU-27, za Irsko in Češko. Povprečje EU-27 je 16,7 %. Slovenska podjetja v predelovalni dejavnosti ustvarijo skoraj tretjino celotne prodaje in dve tretjini celotnega izvoza. Predelovalne dejavnosti so zaslužne za okoli 75 % vlaganj v raziskave in razvoj (RRD) v poslovnem sektorju. Poleg tega je na industrijo vezana več kot četrtina storitvenih dejavnosti. Meje med proizvodnjo in storitvami so postale zamegljene in interakcije med storitvami in proizvodnjo se v vseh panogah povečujejo. Zato pričujoča industrijska strategija zajema širši pogled na industrijo in vključuje tudi z njo povezane storitve.

Industrijska strategija povezuje različne industrijske verige, velika podjetja, mikro, mala in srednje velika podjetja, vključno z zagonskimi podjetji (v nadaljevanju MSP), akademske in raziskovalne inštitute ter druge deležnike. V povprečni industrijski enoti dela nekaj več kot deset zaposlenih. Na drugi strani pa imamo nekaj velikih podjetij, ki zaposlujejo tudi preko tisoč delavcev. Sobivanje malih in velikih podjetij je v gospodarstvu predpogoj za uspeh. Prav tako pa je pomembno njihovo povezovanje z raziskovalno sfero in kreativno-kulturnim sektorjem (KKS). Glavno gonilo razvoja so namreč ustvarjalnost ter raziskave, razvoj in inovacije. Ena izmed ključnih nalog strategije je, da ustvari pogoje za povezovanje različnih akterjev in za učenje ter izpeljavo novih inovativnih projektov, ki premikajo meje razvoja. Nove tehnologije, dolžina življenjskega cikla izdelkov, nujnost izkoriščenja domačih surovin ter surovin iz odpadkov in naraščajoča globalna konkurenca povečujejo pomen inovacij ne le za prihodnji razvoj podjetij, temveč tudi za njihovo preživetje na dolgi rok. Zaradi prepletanja in soodvisnosti naštetih izzivov je treba iskati sistemske rešitve v smeri primerjalnih prednosti, ki jih ima Slovenija.

Industrija v Sloveniji se je skozi čas nenehno spreminjala: od delovno intenzivne v tehnološko intenzivno, od predelave surovin v izdelavo vse zahtevnejših visokotehnoloških izdelkov, od manj zahtevnih trgov do najbolj zahtevnih, od velikih emisijsko intenzivnih tovarn v sodobne nizkoogljične pametne tovarne prihodnosti, kar nam omogoča tehnološki napredek, vključno z digitalizacijo.

Ta preobrazba še zdaleč ni končana. Industrija v Evropi doživlja preporod v smeri zelene in digitalne preobrazbe ter si prizadeva za povrnitev tehnološke suverenosti in avtonomije. Tudi v Sloveniji moramo poskrbeti za nov razvojni preboj, ki bo industriji ohranjal položaj vitalnega dela gospodarstva. Ta preboj bo, kot sledi v strategiji, temeljil na zelenem, ustvarjalnem in pametnem razvoju. Trendi, kot so digitalizacija in prehod v nizkoogljično krožno

gospodarstvo, namreč temeljito spreminjajo okolje in način delovanja gospodarstva. S seboj prinašajo ogromno priložnosti, a hkrati tudi izzivov, s katerimi se je potrebno soočiti. Ritem razvoja, ki ga narekujejo nove tehnologije in družbeni izzivi, kot so globalizacija, boj proti podnebnim spremembam, potreba po učinkovitejši rabi surovin, demografske spremembe in zdravstveni izzivi, je čedalje hitrejši. Glede na pričakovani trend naraščanja cen surovin in energentov je treba spodbujati razvoj tistih področij gospodarstva, ki bodo dolgoročno zahtevali čim manj surovin, ne glede na to ali so iz obnovljivih ali neobnovljivih virov, za ustvarjanje (nove) dodane vrednosti. Hkrati s tem pa je seveda treba vzpostaviti pogoje, da bodo obstoječi gospodarski sistemi lahko naslavljali zahtevane spremembe za dosego zelenega in digitalnega prehoda.

Industrija mora slediti, soustvarjati trende in se stalno posodabljati, da ostane konkurenčna in dviguje produktivnost. To velja tudi za tradicionalne industrije, ki se digitalizirajo, postajajo »pametne« in stremijo k znižanju okoljskega odtisa. Če želimo doseči podnebno nevtralnost do leta 2050 in preiti v nizkoogljično krožno gospodarstvo, so nujne tudi spremembe potrošniških navad, česar brez proaktivne vloge industrije, kakor tudi politike države, ne bo možno doseči. Posledično bo to prispevalo k dvigu družbene odgovornosti in mednarodnemu ugledu slovenskih podjetij. Slovenska industrijska strategija bo prispevala k doseganju svetovnih ciljev trajnostnega razvoja, kot so opredeljeni z Agendo 2030.

Cilj je oblikovati trajnostno industrijsko strategijo, ki bo skladna s Slovensko strategijo pametne specializacije (S4), Evropskim zelenim dogovorom in drugimi razvojnimi usmeritvami, ter bo spodbujala inovativne rešitve, vpeljavo najsodobnejših tehnologij, digitalno preobrazbo gospodarstva ter prehod v nizkoogljično krožno gospodarstvo. Čas je za novo industrijsko strategijo, ki bo upoštevala tudi primerjalne prednosti Slovenije in spremenjene okoliščine v svetu, ki so posledica vedno težjega obvladovanja podnebnih sprememb in pandemij, vključno s potrebo po krepitvi tehnološke suverenosti in avtonomije. Ukrepi morajo omogočiti industriji lažje obvladovanje in prilagajanje spremembam ter tehnološki napredek, kar je ključni dejavnik uspeha v 21. stoletju.

Pomemben je proaktiven in usklajen pristop tako države kot podjetij, javnih raziskovalnih in izobraževalnih institucij ter drugih deležnikov. S skrbno zasnovo novih proizvodov, ki upošteva krožne in digitalne vidike, z novimi trajnostnimi tehnologijami, uporabo domačih obnovljivih surovin, novimi delovnimi mesti in prekvalifikacijo je potrebno predvideti spremembe, se jim prilagoditi in jih obvladati. Izziv je, kako vzpostaviti sistem, skozi katerega se bomo lahko nenehno učili in prilagajali spremembam. Pri tem so bistvenega pomena inovacije, naložbe in krepitev že pridobljenih znanj in kompetenc ter razvoj novih.

Industrijska strategija EU, ki jo je Evropska komisija predstavila v letu 2020 in posodobila v letu 2021, v ospredje postavlja krepitev enotnega trga, kar je osnova za konkurenčnost EU na globalnem trgu. Prav tako je cilj posodobljene industrijske strategije okrepiti vodilno vlogo Evrope kot svetovne industrijske sile za zagotovitev konkurenčne prednosti na področju digitalnih in zelenih tehnologij. Dolgoročna strateška usmeritev EU je v skladu z Evropskim zelenim dogovorom doseganje podnebne nevtralnosti do leta 2050 z zahtevo po zanesljivi oskrbi s surovinami ter čisti in cenovno dostopni energiji. Poudarjene so digitalne tehnologije, ki spreminjajo podobo industrije in način poslovanja ter omogočajo prehod v nizkoogljično krožno gospodarstvo. Digitalizacija je gonilo krožnega gospodarstva. Digitalne tehnologije omogočajo nove poslovne modele, industriji omogočajo, da je produktivnejša, delavcem za-

gotavljajo nove spretnosti in podpirajo razogljičenje našega gospodarstva. Digitalni sektor bo prispeval tudi k uresničevanju Evropskega zelenega dogovora, in sicer kot vir čistih tehnoloških rešitev ter s tem, da bo zmanjšal svoj ogljični odtis. Digitalna preobrazba gospodarstva je horizontalna glede na vse ostale dejavnosti in vsa tri razvojna področja te strategije, saj omogoča, da se lahko zaveze glede nizkoogljičnega krožnega gospodarstva, ustvarjalne, inovativne in razvojno naravnane pametne industrije sploh uresničijo.

Slovenija z namenom ustvarjanja ter krepitve enotnega trga EU kot tudi zagotavljanja konkurenčnosti slovenskih podjetij v evropskem in globalnem prostoru pri ustvarjanju nacionalne industrijske strategije upošteva usmeritve industrijske strategije EU in ostalih relevantnih dokumentov.

2. NAMEN, VIZIJA, KAZALNIKI IN OKVIR UKREPANJA

V letu 2013 je Vlada Republike Slovenije sprejela dokument »Slovenska industrijska politika - SIP«, ki je postavil prioritete razvoja industrije in gospodarstva za obdobje 2014-2020. Vseboval je usmeritve za povečanje konkurenčnosti poslovnega okolja, za krepitev podjetništva in inovacijske sposobnosti gospodarstva, za učinkovit odgovor na družbene izzive ter aktivnosti za trajnostni razvoj slovenske industrije. V minulem obdobju je bila vizija industrijske politike, da se preko izboljšanja poslovnega okolja, podpore podjetništvu in inovacijam ter preko razvoja perspektivnih tehnoloških in industrijskih področij, ki odgovarjajo na družbene izzive, ustvari pogoje za kontinuirano prestrukturiranje obstoječe industrije v energetsko, materialno, okoljsko in družbeno učinkovito industrijo znanja in inovativnosti za nova, trajnejša in kvalitetnejša delovna mesta ter večjo vpetost v mednarodne tokove poslovanja.

Ocenjujemo, da je bilo uresničevanje Slovenske industrijske politike le deloma uspešno, saj je bilo v veliki meri vezano na sredstva finančne perspektive EU 2014-2020 in pogojeno z dobrim sodelovanjem vseh resorjev glede na pristojnost. Ugotavljamo, da je manjkal sistematičen pristop in povezovanje ukrepov, ki izhajajo iz podanih usmeritev. Prav tako ugotavljamo, da je treba strategijo nadgraditi z novimi spoznanji in usmeritvami ter pospešiti njeno izvajanje v praksi. Pri tem bo poseben poudarek dan povezovanju med gospodarstvom, institucijami znanja in vsemi ministrstvi v sklopu inovacijske dejavnosti in povezavi z Raziskovalno in inovacijsko strategijo, ter izpostavljena močna navezava na prioritetna področja Slovenske strategije pametne specializacije (S4). Hkrati bo potrebno zagotoviti dodatno koordinacijo priprave ukrepov med ministrstvi, da se ti dopolnjujejo in nadgrajujejo. Samo takšno povezovanje bo lahko ob implementaciji industrijske strategije uspešno identificiralo priložnosti za slovensko vključevanje v globalne verige vrednosti ob hkratni krepitvi strateške avtonomije slovenskega in EU gospodarstva. V evalvaciji delovanja strateških razvojno-inovacijskih partnerstev (SRIP-ov)[1] se ocenjuje, da je potrebno tudi njihovo bistveno intenzivnejše vključevanje v oblikovanje industrijske in raziskovalne politike. S tega vidika je pomembna nadaljnja krepitev podpornega okolja, kar je izpostavljeno v okviru poglavja »Ustvarjalni razvoj«.

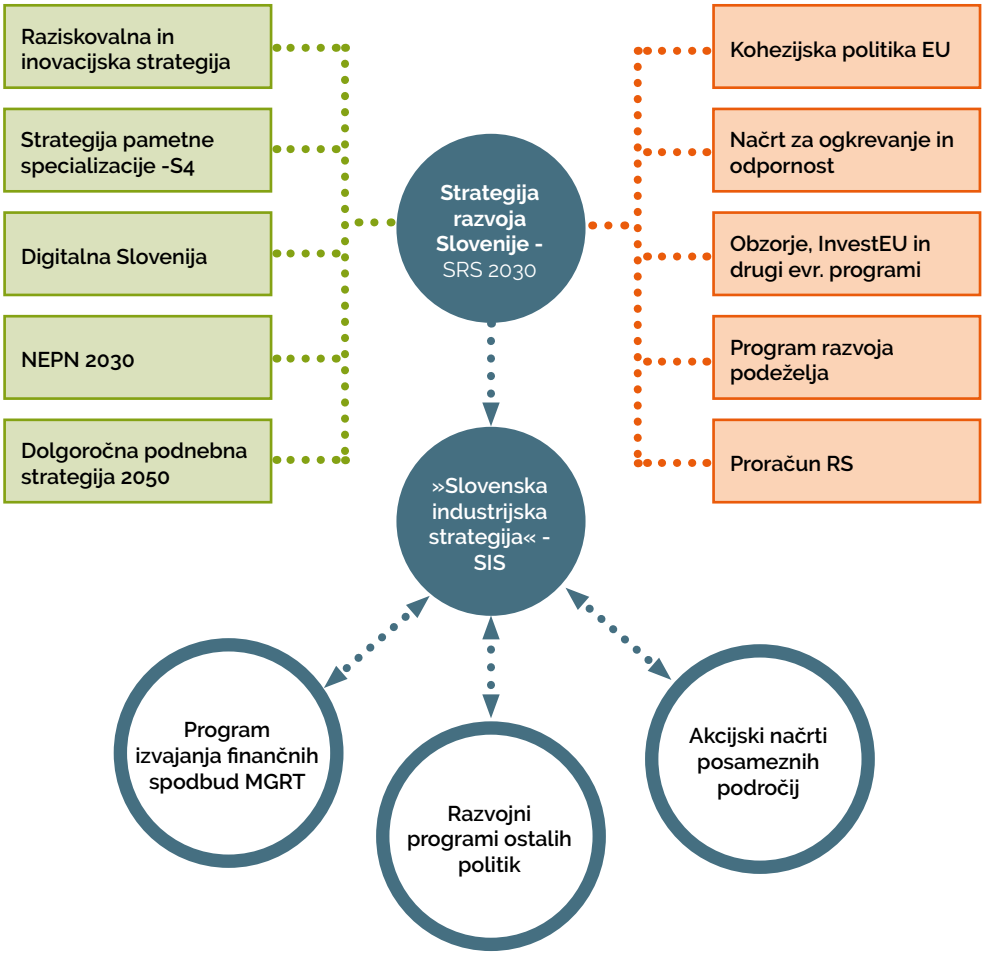
Pričujoča **Slovenska industrijska strategija** za obdobje do leta 2030 pomeni **nadgradnjo** v skladu z aktualnimi evropskimi in domačimi strateškimi dokumenti ter usmeritvami pod skupnim imenovalcem **»zeleni, ustvarjalni in pametni razvoj«**. Pri tem ostaja ključni cilj krepitev konkurenčnosti, produktivnosti in inovativnosti gospodarstva, kar se odraža tudi v večjem deležu visokotehnoloških proizvodov in storitev z visoko dodano vrednostjo, večjo

1 Vmesno spremljanje in vrednotenje delovanja SRIP-ov v obdobju 2017-2019, IER, FDV, FM UP, avgust 2019.

vključitvijo v mednarodne verige vrednosti ter boljšim položajem slovenskih podjetij znotraj teh verig vrednosti.

Slovenska industrijska strategija bo s spodbujanjem zelenega in digitalnega prehoda prispevala k izpeljavi Evropskega zelenega dogovora ter Načrta za okrevanje in odpornost po pandemiji COVID-19 skladno s priporočili in ukrepi EU na tem področju.[2]

Slika 1: Umestitev SIS v dokumente razvojnega načrtovanja



Vir: MGRT.

2 Priporočilo Sveta EU COM (2020) 524 final in Priporočilo EK COM (2020) 456 final, oboje z dne 27. 5. 2020.

2.1. Namen

Namen Slovenske industrijske strategije (v nadaljevanju SIS) je postaviti usmeritve za nadaljnji razvoj slovenske industrije v širšem smislu za obdobje od leta 2021 do leta 2030. Industrija v širšem smislu vključuje tudi z njo povezane storitve. Meje med industrijo in storitvami so namreč čedalje bolj zamegljene. Področja, ki so bila prej ločena, se zdaj prepletajo, storitve pa v vrednostnih verigah ustvarjajo čedalje večjo dodano vrednost procesom proizvodnje. Pri tem so pomembne predvsem različne, na znanju temelječe storitve, ki vplivajo na učinkovitost in konkurenčnost celotnega gospodarstva (npr. razvoj, dizajn, digitalne in informacijske storitve). Storitve prispevajo tudi čedalje večji delež dodane vrednosti v izvozu industrijskih proizvodov (do 50 %).

Industrijska politika se v zadnjih desetletjih v razvitih državah krepi. Krepi se tudi sistemski pristop k industrijski politiki, ki poudarja ustvarjanje trgov (npr. za nizkoogljične tehnologije in produkte), zasledovanje strateških ciljev ter povezovanje struktur, institucij in politik.

Slovenija se, tako kot celotna Evropska unija, sooča z mnogimi izzivi: tehnološke spremembe, digitalizacija, družbeno-politične spremembe, migracije, globalizacija, kopičenje (neobdelanih) odpadkov, vse težji dostop do strateških surovin, podnebne spremembe, izguba biotske raznovrstnosti in izzivi, povezani z zdravjem. Vsi ti izzivi predstavljajo na eni strani grožnjo, na drugi pa tudi priložnost, odvisno od tega, kako uspešno se z njimi soočamo. Slovenija potrebuje močno industrijsko bazo, ki se bo lahko soočala z mednarodno konkurenco, pa tudi z zgoraj navedenimi izzivi.

Evropski observatorij za grozde in spremembe v industriji je opredelil deset megatrendov, ki so zelo pomembni za industrijski razvoj v Evropi[3]. Ob tem izpostavljamo tudi vidik negotovosti napovedovanja prihodnjega razvoja, kar se je pokazalo v globalnih krizah, tudi sedanji, povezani s pandemijo COVID-19. V skladu s tem se pojavlja potreba po mehanizmu, s pomočjo katerega bi se povečali hitrost in odzivnost na dane izzive. Obravnavani megatrendi v študiji Evropskega observatorija za grozde in spremembe v industriji se razvrščajo v tri kategorije s posebnimi grožnjami in možnostmi (Priloga 3):

1. **Tehnološki megatrendi**, vključno z avtomatizacijo, integracijo predmetov in objektov, umetno inteligenco, področjem kvantnih tehnologij, kibernetsko varnostjo.
2. **Socialno-politični megatrendi**, ki zajemajo globalizacijo, geopolitiko ter demografske premike.
3. **Megatrendi okoljskega in pametnega gospodarstva**, ki so bolj specifični za kontekst EU, vključno z zelenim in krožnim gospodarstvom, urbanizacijo ter pametnimi mesti in pametno mobilnostjo.

V skladu s trendi in izzivi SIS naslavlja:

1. horizontalno naravo industrijske politike in potrebo po izboljšanju okvirnih pogojev in poslovnega okolja,

3 Vir: »How to tackle challenges in a future-oriented EU industrial strategy« na osnovi European Observatory of Clusters and Industrial Change (2019).

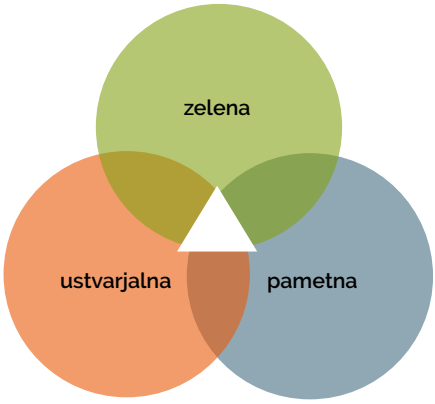
2. tematski pristop, ki pomeni odgovor na družbene izzive (obvladovanje podnebnih sprememb, onesnaževanje, prehod v nizkogljično krožno gospodarstvo, digitalna preobrazba),
3. krepitev strateških verig vrednosti, predvsem na prednostnih področjih Slovenske strategije pametne specializacije (S4) in
4. dvig odpornosti in odzivnosti na zunanje dejavnike, ki jih prinašajo globalni megatrendi in nepričakovane motnje (t. i. black swans).

2.2. Vizija in poslanstvo

Vizija:

Slovenska industrija je zelena, ustvarjalna in pametna.

Slika 2: Prikaz prepletanja treh področij



Zeleni, ustvarjalni in pametni razvoj se med sabo prepletajo in dopolnjujejo. Prehoda v nizkoogljično krožno gospodarstvo na primer ne bomo dosegli brez razumevanja primerjalnih prednosti na področju surovin, uvajanja sistemskega pristopa in brez visoke stopnje ustvarjalnosti, ob podpori pametnih rešitev, ki jih prinaša digitalizacija. Zato je treba usmeritve razvoja obravnavati, predvsem pa tudi izvajati, povezano. Vsaka od izvedbenih rešitev, ki jih bomo oblikovali na podlagi predlagane strategije, bo smiselno vključevala vse tri komponente in vidike ter tako prispevala k doseganju sinergijskih učinkov in bolj učinkoviti porabi javnih in zasebnih virov.

Poslanstvo:

Slovenska industrijska strategija bo z uravnoteženim spodbujanjem vseh treh komponent trajnostnega razvoja (družba, okolje, gospodarstvo) zagotavljala konkurenčnost gospodarstva in ustvarila pogoje za prestrukturiranje industrije s krepitvijo znanja, ustvarjalnosti in inovativnosti za nova in bolj kakovostna delovna mesta z večjo dodano vrednostjo ter prehod v zeleno, ustvarjalno in pametno gospodarstvo.

2.3. Cilji in kazalniki

Spodaj navedeni kazalniki predstavljajo vrednostne cilje, ki naj bi odražali dosegljive ciljne vrednosti v letu 2030.

Krovni kazalnik

Produktivnost dela, merjena z dodano vrednostjo na zaposlenega po delovnih urah, je ključni krovni kazalnik, na podlagi katerega bomo spremljali uspešnost izvajanja slovenske industrijske strategije. Odraža namreč finančne rezultate poslovanja ter vse podporne aktivnosti. Na ravni predelovalnih dejavnosti kot celote bo po 3,7-odstotni rasti produktivnosti dela v 2009–2018, v 2019–2020 prišlo do njene stagnacije, ki bo posledica ukrepov države za zaščito delovnih mest. V kasnejšem, 10-letnem obdobju, pričakujemo nadpovprečno rast tega kazalnika, ki bo posledica rastoče avtomatizacije in digitalizacije poslovanja, kar bo nujen predpogoj za ohranjanje konkurenčnosti slovenskega izvoza. Do 2030 naj bi produktivnost dela, merjena z dodano vrednostjo na zaposlenega, dosegla 66.000 EUR.

V večini dejavnosti poslovnega sektorja je bila v zadnjih letih rast produktivnosti primerljiva oziroma višja kot v povprečju EU, zaostanek pa ostaja velik v gradbeništvu in storitvah IKT. Glede na to, da je digitalna preobrazba eden ključnih elementov strategije, produktivnost pa v tej panogi zaostaja, je temu področju potrebno nameniti posebno pozornost (UMAR, PoR 2020).

	2018	2020	2030	2019–2020, ocena povprečne rasti	2021–2030
Produktivnost dela	43.679	43.711	65.832	0,0 %	4,2 %

Vira: Statistični urad RS (strukturna statistika), Analitika GZS. Opomba: leto 2018 - zadnji znani podatek v času priprave analize; leto 2020 - ocena; leto 2030 – napoved.

Drugi splošni kazalniki finančnega poslovanja

Med drugimi splošnimi kazalniki poslovanja navajamo ključne kazalnike poslovanja, ki smo jih opredelili v poglavju o napovedi. Izvoz bo še naprej poganjal rast prodaje, vendar njegov pomen v prodaji (t. i. izvozna usmerjenost) ne bo več naraščal tako kot v preteklem obdobju, ker pričakujemo stabilizacijo povpraševanja po industrijskih izdelkih tudi na domačem trgu.

	2018	2030
Prodaja (mrd EUR)	31,2	41,8
Izvoz (mrd EUR)	21,8	29,8
EBITDA (mrd EUR)	3,4	4,7
Investicije (mrd EUR)	2,0	2,3
Izdatki predelovalne dejavnosti za R&R (mrd EUR)	0,49	0,80
Uvrstitev na lestvici svetovne konkurenčnosti WEF	35. mesto (2019) med 141-imi državami	30. mesto

Viri: Statistični urad RS (strukturna statistika), Analitika GZS, EIS, The Global Competitiveness Report 2019, World Economic Forum. Opomba: leto 2018 - zadnji znani podatek v času priprave analize; leto 2030 – napoved.

Podkazalniki

I. Področje »zelenega« razvoja

Na področju zelenega razvoja je ključni kazalnik snovna produktivnost, merjena z razmerjem med BDP ter porabljenimi surovinami in materiali. To je tudi kazalnik uspešnosti izpeljave 8. cilja Strategije razvoja Slovenije 2030, prehoda v nizkoogljično krožno gospodarstvo.

	Slovenija, zadnji znani podatek	EU, zadnji znani podatek	2030, cilj
Snovna produktivnost (SKM/kg)[4] (UMAR, PoR 2020)	**1,9 (2018)**	**2,2 (2018)**	**3,50**
Krožna (sekundarna) raba materiala*	10,4 (2019)	11,9 (2019)	Povprečje EU v letu 2030
Delež zaposlenih v krožnem gospodarstvu glede na skupno število zaposlenih, v %*	2,02 % (2018)	1,71 % (2018)	3,5 %
% MSP, ki ponujajo zelene izdelke ali storitve**	23 % (2017)	24 % (2017)	Nad povprečjem EU v letu 2030
% MSP, ki so sprejela ukrepe za učinkovito rabo virov **	52 % (2017)	57 % (2017)	Povprečje EU v letu 2030
% MSP, ki so sprejela ukrepe za učinkovito rabo energije **	47 % (2017)	63 % (2017)	Povprečje EU v letu 2030

4 Navedeni cilj izhaja iz SRS 2030. Snovna produktivnost se izračuna z delitvijo BDP v standardu kupne moči z domačo porabo snovi - DPS).

	Slovenija, zadnji znani podatek	EU, zadnji znani podatek	2030, cilj
Skupne emisije toplogrednih plinov (NEPN)	Brez cilja v 2020 glede na 1990	-20 % v 2020 glede na 1990	-36 % glede na 2005
Delež energije iz obnovljivih virov (Eurostat)	22 % (2019)	19,7 % (2019)	27 %
»Eko-inovacijski« indeks	94 (2019)	100	110
Emisijska produktivnost, SKM/mio. kg CO_2 (UMAR, PoR 2020)	3,2 (2018)	3,4 (2017)	Povprečje EU v letu 2030
Število okoljskih certifikatov ISO 14001 na mio prebivalcev (UMAR, PoR 2020)	209 (2018)	172,5 (2018)	250 v letu 2030
Količina predelanega okroglega lesa v Sloveniji za ne-energetsko rabo v m^3	1,82 mio (2019)	/	3 mio

Viri: NEPN, Eurostat, SURS, UMAR, Eco-Innovation Scoreborard.

*Kazalniki, označeni z *, se nanašajo na metodologijo, ki izhaja iz spremljanja izvajanja Akcijskega načrta za krožno gospodarstvo EU 2015*[5].

*Kazalniki, označeni z **, se nanašajo na raziskavo Flash Eurobarometer 456: SMEs, resource efficiency and green markets, Fieldwork September 2017, Publication January 2018.*

II. Področje »ustvarjalnega« razvoja

Za področje ustvarjalnega razvoja je kot ključni kazalnik izbran inovacijski indeks, ki vključuje različne vidike ustvarjalnosti in inovativnosti.

	Zadnji znani podatek	2030, cilj
Inovacijski indeks (glede na razvitost EU)	**84,9 % (2020)**	**110,0 %**
Število veljavnih nacionalnih znamk	24.599 (julij 2020)	26.000
Število raziskovalcev v poslovnem sektorju	8.285 (2018)	12.000
Delež inovacijsko aktivnih podjetij	48,6 % (2016–2018)	55,0 %
Vključenost v podjetništvo (% od populacije)*	7,8 % (2019)	10,0 %
Zaznavanje poslovnih priložnosti (% odraslega prebivalstva v starosti od 18 do 64 let)*	3,6 % (2019)	4,0 %
Zaznavanje poslovnih priložnosti (% odraslega prebivalstva v starosti od 18 do 64 let)*	47,6 % (2019)	55,0 %
Število hitro rastočih podjetij v zadnjih petih letih	5.347 (2014–2018)	7.000 (2026-2030)
Delež zaposlenih v kreativni ekonomiji (glede na vse zaposlene)	7 % (2017)	10 %
Bruto dodana vrednost na zaposlenega v KKS (BDV)	45.527 EUR (2017)	5 % nad povprečjem v RS

*Viri: GEM (kazalniki, označeni z *, se nanašajo na metodologijo GEM), European Innovation Scoreboard 2019, Ajpes, Statistična analiza stanja KKS v Sloveniji 2008–2017, Tm View, napovedi: Analitika GZS, URSIL.*

5 Eurostat - Circular Economy Indicators,
Eurostat - Circular Economy Indicators - Monitoring framework.

III. Področje »pametnega« razvoja

Na področju pametnega razvoja, ki vključuje uvajanje naprednih tehnologij, kot ključni kazalnik izpostavljamo DESI indeks, ki meri stopnjo digitalizacije v gospodarstvu in družbi.

	Zadnji znani podatek	2030, cilj
DESI indeks	**51,2 točke (16. mesto),2020**	**9. mesto**
Delež izdatkov za RRD v BDP v poslovnem sektorju	1,40 % (2018)	2,00 %
Število patentnih prijav slovenskih prijaviteljev pri Evropskem patentnem uradu	121 (2019)	150
Število robotov na 10.000 zaposlenih v industriji	174 (2018)	250
Digitalni indeks (visok in zelo visok v podjetjih z več kot 10 zaposlenimi)	26 % (2018)	35 %
DESI - 2 Človeški kapital	48,3 (15.), 2020	8. mesto
DESI - Integracija digitalne tehnologije	40,9 (15.) 2020	8. mesto
Delež visokotehnoloških proizvodov v izvozu	19,5 % (2018)	25 %
Delež predelovalnih podjetij, ki imajo digitalno strategijo za preoblikovanje poslovanja podjetij	8 % (2019)	15 %

Viri: DG Connect, EPO, ARRS, International Federation of Robotics, 2019, Ajpes, Statistični urad RS, napovedi: Analitika GZS, UMAR (Poročilo o razvoju 2020).

Slovenska industrijska strategija bo hkrati prispevala k doseganju svetovnih ciljev trajnostnega razvoja, kot so opredeljeni z Agendo 2030 (»Sustainable Development Goals – SDGs«), še zlasti njenih ciljev:

1. Dostojno delo in gospodarska rast,
2. Industrija, inovacije in infrastruktura,
3. Trajnostna mesta in skupnosti,
4. Odgovorna uporaba in proizvodnja,
5. Podnebni ukrepi.

Spremljanje napredka pri doseganju ciljev trajnostnega razvoja preko izbranih kazalnikov, ki so relevantni za Slovenijo, beleži SURS na spletni strani stat.si.

2.4. Nabor ukrepov in institucionalni okvir

Za izvajanje SIS je na razpolago spodnji nabor ukrepov, ki se glede na področje razvoja razlikujejo po pomenu. S temi »standardnimi« ukrepi lahko spodbujamo tako zeleni in ustvarjalni kot tudi pametni razvoj, pri čemer je potrebno te ukrepe ustrezno oblikovati in usmeriti. Usmeritve se odslikavajo že v posameznih poglavjih zelenega, ustvarjalnega in pametnega razvoja, skupno in povezovalno pa so navedene v okviru poglavja »Usmeritve za povezan ze-

leni, ustvarjalni in pametni razvoj«, kjer so določeni tudi nosilci izvajanja in ocena potrebnih finančnih sredstev.

Nabor ukrepov/instrumentov po področjih

	Ukrepi / instrumenti
RRI	1. Raziskave, razvoj in inovacije 2. Demonstracijski in pilotni projekti 3. Vključevanje v mednarodne raziskovalno-razvojne in inovacijske projekte in programe 4. Mreženje in sodelovanje na področju RRI
PODJETNIŠTVO	5. Podporno okolje za podjetja 6. Promocija podjetništva in inovativnosti 7. Spodbujanje zagonskih podjetij in podjetij s potencialom hitre rasti 8. Podpora rasti in razvoju MSP 9. Netehnološke inovacije in poslovni modeli 10. Spodbujanje investicij
INTERNACIONALIZACIJA	11. Podpora internacionalizaciji
KADRI	12. Krepitev kompetenc, usposabljanje, prekvalifikacija, prilagajanje demografskim spremembam
POSLOVNO OKOLJE	13. Infrastruktura 14. Zakonodaja in poslovno okolje

Potreben je sistematičen pristop, ki povezuje vsa tri področja razvoja, hkrati pa je treba poskrbeti za ustrezen institucionalni okvir izvajanja SIS. V tem oziru je potrebno nosilce izvajanja SIS opolnomočiti tako s kadrovskega kot tudi s strokovnega vidika.

Institucionalni okvir izvajanja SIS tvorijo vsi resorji, na katere se nanašajo usmeritve posameznih področij. Pomembno vlogo na posameznih področjih pa imajo tudi naslednje institucije:

- Javna agencija Republike Slovenije za spodbujanje podjetništva, internacionalizacije, tujih investicij in tehnologije - SPIRIT Slovenija, javna agencija,
- Slovenski podjetniški sklad – SPS,
- Slovenski regionalno razvojni sklad – SRRS,
- Slovenska izvozna in razvojna banka - SID,
- Javna agencija za raziskovalno dejavnost Republike Slovenije – ARRS,
- Ekosklad idr..

3. PREDELOVALNE DEJAVNOSTI V SLOVENIJI IN EU

3.1. Predelovalne dejavnosti v Sloveniji v 2008–2018

V času po gospodarski krizi leta 2008 se je ponovno izkazalo, da je industrija vir odpornosti, inovacij in celo socialne stabilnosti. Kot je bilo že uvodoma poudarjeno, je slovenska predelovalna dejavnost v letu 2019 skupno prispevala 23,2 % k dodani vrednosti gospodarstva, kar jo uvršča na tretje mesto v EU-27, za Irsko in Češko. Povprečje EU-27 je 16,7 %. Trenutna povprečna dodana vrednost na zaposlenega v predelovalni dejavnosti znaša 44.000 EUR. Evropska unija se zaveda potrebe po »reindustrializaciji«, zato si je že leta 2012 zadala cilj doseči 20-odstotni delež industrije v BDP do 2020. Predelovalne dejavnosti ustvarijo skoraj tretjino prihodkov od prodaje (31,3 mrd EUR) in okoli dve tretjini celotnega izvoza (21,7 mrd EUR od skupno 30,9 mrd EUR v letu 2018). Po podatkih Statističnega urada za leto 2018 je bilo v industriji v Sloveniji aktivnih 21.158 podjetij. Kar 93 % industrijskih podjetij (19.671 podjetij) je bilo registriranih v predelovalnih dejavnostih, v njih pa je bilo zaposlenih malo manj kakor 201.722 oseb.

V nadaljevanju so opisani primerjalni kazalniki v zadnjem razpoložljivem letu (2018)[6] ter primerjava z letom 2008. Podrobnejšo analizo slovenske predelovalne dejavnosti v zadnjem desetletju vsebuje Priloga 1. Gospodarski subjekti iz predelovalnih dejavnosti so v letu 2018 ustvarili za 31,3 mrd EUR **prihodkov od prodaje** na osnovi prodajne vrednosti kupcem zaračunanih prodanih proizvodov ali trgovskega blaga in materiala ter opravljenih storitev. V 2018 so predelovalne dejavnosti ustvarile za 5,4 mrd EUR več prihodkov kot leta 2008 oziroma so ti nominalno porasli za 21 % oziroma realno za 11,4 %[7].

6 Seštevki po posameznih dejavnostih predelovalnih dejavnostih se pri nekaterih podatkih ne ujemajo s podatki za predelovalne dejavnosti skupaj zaradi zaupnosti podatkov; v takih primerih smo znotraj predelovalnih dejavnosti upoštevali le podatke za gospodarske družbe.

7 Za deflacioniranje upoštevan deflator skupni indeks cen industrijskih proizvodov pri proizvajalcih v predelovalnih dejavnostih.

Ključne skupine predelovalnih dejavnosti	Prihodek od prodaje, mio EUR	Izvoz, mio EUR	Dodana vrednost, mio EUR	Število zaposlenih	Bruto poslovni presežek (EBITDA), mio EUR	Dodana vrednost na zaposlenega
PREDEL. DEJ. SKUPAJ	**31.279**	**21.764**	**8.811**	**201.896**	**3.436**	**43.679**
Prehrambna	2.385	630	593	16.247	229	36.324
Tekstilna	898	661	263	9.166	83	28.741
Lesna	1.413	777	439	13.169	168	34.238
Papirna	1.297	743	300	5.705	100	36.556
Kemična	5.991	4.762	2.051	24.712	972	64.109
Nekovinska	1.014	589	336	6.967	150	48.051
Kovinska	6.433	4.293	1.748	42.712	642	40.933
Elektro	4.387	3.525	1.115	28.024	375	39.804
Strojna	6.978	5.479	1.795	41.193	642	43.593
Druge	484	304	170	4.315	71	39.440

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS, podatki leto 2018.

Prihodki od prodaje na domačem trgu so v letu 2018 znašali 9,4 mrd EUR in so bili v primerjavi z letom 2008 nižji za 682 mio EUR, kar predstavlja upad za 6,8 %. Znižanje prodaje so zaznamovali predvsem stečaji nekaterih večjih podjetij v lesni, tekstilni ter nekovinski industriji, kakor tudi prestrukturiranje teh panog. V zadnjih 10-ih letih (2018/2008) so se znotraj predelovalnih dejavnosti prihodki na domačem trgu zvišali le v strojni industriji (27 mio EUR), v drugih predelovalnih dejavnostih (16 mio EUR) in kovinski industriji (44.000 EUR).

Predelovalne dejavnosti so v 2018 beležile 21,7 mrd EUR **izvoza** ter so tako za 43,8 % oziroma za 6,6 mrd EUR presegle izvoz iz leta 2008. V zadnjih desetih letih (2018/2008) se je znotraj predelovalnih dejavnosti izvoz najbolj zvišal v strojni, kovinski, kemični, elektro industriji. Le tekstilna industrija v 2018 ni uspela doseči nivojev izvoza iz leta 2008.

V 2018 je bilo v predelovalnih dejavnostih 201.896 **zaposlenih oseb**[8], kar je bilo za 20.000 oseb oziroma za 9 % manj kot leta 2008. **Dodana vrednost v stroških faktorjev**[9] je v 2018 v predelovalnih dejavnostih znašala 8,8 mrd EUR, kar je bilo za 2,1 mrd EUR oziroma za 30,7 % več kot v letu 2008. **Bruto marža**[10] se je v zadnjih enajstih letih gibala na ravni med 25,6 in 29 %. V letu 2018 je bila v primerjavi z letom 2008 bruto marža višja za 2,1 odstotnih točk. **Dodana vrednost na zaposlenega** je v 2018 v predelovalnih dejavnostih znašala 44.000 EUR, kar je bilo za 43,5 % več oziroma za 13.200 več kot v letu 2008. Za primerjavo - BDP na prebivalca se je v tem obdobju zvišal za 17,7 %.

8 Pri pravnih osebah, samostojnih podjetnikih ali drugih registriranih fizičnih osebah.

9 Dodana vrednost v stroških faktorjev se izračuna kot bruto prihodek iz poslovnih dejavnosti po popravkih za subvencije za poslovanje in posredne davke. Dodana vrednost se v stroških faktorjev računa ‚bruto', ker se popravki vrednosti (kot je npr. amortizacija) ne odštejejo. Od leta 2010 naprej se pri izračunu dodane vrednosti upoštevajo tudi subvencije, dotacije, regresi, kompenzacije in drugi prihodki, ki so povezani s poslovnimi učinki.

10 Delež dodane vrednosti v prihodkih.

Poslovni subjekti so v letu 2018 za **investicije v opredmetena osnovna sredstva**[11] namenili slabi 2 mrd EUR, kar je bilo za 14 % več kot v letu 2008. Zadnji dve poslovni leti sta bili investicijsko zelo intenzivni, kar je povezano z visoko izkoriščenostjo kapacitet v predelovalnih dejavnostih, rastjo razpoložljivega dohodka in ugodno razpoložljivostjo finančnih virov.

Bruto domači izdatki za raziskave in razvoj[12] so v letu 2018 v predelovalnih dejavnostih znašali 488,6 mio EUR, kar je bilo za 159,3 mio EUR več kot v letu 2008 oziroma za 48,4 % več. V celotnem poslovnem sektorju so izdatki za raziskave in razvoj znašali 662,4 mio EUR. Izdatki RRD v predelovalnih dejavnostih so tako znašali 73,8 % izdatkov celotnega poslovnega sektorja. Sektor države je v letu 2018 nastopal med viri financiranja za RRD v poslovnem sektorju s 6,2-odstotnim deležem. Na ravni Slovenije so celotni bruto domači izdatki za RRD v Sloveniji v letu 2018 znašali 892,7 mio EUR oziroma 2,0 % BDP. Delež financiranja države je znašal 0,5 %. Cilj 2030 predvideva povečanje vlaganj v RRD do leta 2020 na najmanj 3 % BDP.

3.2. Predelovalne dejavnosti v Sloveniji, EU-27 in CEE-4 v 2008–2017

Predelovalne dejavnosti v Sloveniji so v 2017 beležile bistveno nižje prihodke na zaposlenega (152.000 EUR) kot v EU-27 (mediana) (191.000 EUR) ter malenkost višje, kot znaša v skupini primerljivih srednjeevropskih držav (v nadaljevanju CEE-4[13]) (mediana) (151,7 tisoč EUR). Predelovalna dejavnost je v Sloveniji ustvarila višjo **dodano vrednost na zaposlenega** (43,3 tisoč EUR), kot znaša mediana v državah CEE-4 (32,5 tisoč EUR) ter nekoliko nižjo, kot znaša mediana držav EU-27 (43,7 tisoč EUR).

Predelovalne dejavnosti v Sloveniji so v 2017 beležile višjo **bruto maržo,** kot znaša mediana v državah EU-27 ter mediana v CEE-4 (SLO 28,5 %, EU 23,8 %, CEE-4 22 %). Predelovalne dejavnosti v Sloveniji so v 2017 beležile nekoliko višjo **EBITDA maržo** (poslovni presežek/prihodkih), kot znaša mediana v državah EU-27 ter mediana držav CEE-4 (SLO 11,7 %, EU-27 10,2 %, CEE-4 10,8 %). V 10-letnem obdobju (2008–2017) so najvišjo EBITDA maržo beležile države CEE-4 (mediana), ki je bila višja od zabeležene v Sloveniji.

Delež bruto investicij v opredmetena osnovna sredstva v primerjavi s prihodki je bil nekoliko višji kot v državah CEE-4 ter višji kot v državah EU-27 (SLO 5,6 %, EU 4,2 %, CEE-4 5,2 %). Predelovalne dejavnosti v Sloveniji so v 2017 beležile višji strošek dela v dodani vrednosti, kot znaša mediana v državah EU-27 (60,5 %) oziroma mediana v CEE-4 (50,7 %).

11 Investicije v vsa nova in obstoječa opredmetena osnovna sredstva (zgradbe, stroje in opremo, patente, licence, itd.), katerih doba uporabnosti je daljša kakor eno leto, vključno z neproizvedenimi opredmetenimi osnovnimi sredstvi, kakor je zemljišče.

12 Skupni notranji izdatki za raziskave in razvoj, ki se izvajajo na ozemlju Republike Slovenije.

13 V to skupino držav spadajo Poljska, Češka, Madžarska in Slovaška, ki imajo podobno strukturo gospodarstva kot Slovenija in so na podobni ravni gospodarske razvitosti.

Odstopanje Slovenije[14] po oddelkih predelovalnih dejavnosti v primerjavi z mediano kazalnika pri EU-27, 2017

Ključne skupine predelovalnih dejavnosti	Bruto marža v o. t.[15]	Investicije /prihodkih v o. t.	EBITDA marža v o. t.[16]	Strošek dela v DV v o. t.	DV/ zaposlenega	Prihodki/ zaposlenega
PREDEL. DEJ. SKUPAJ	**4,7**	**1,5**	**1,5**	**2,3**	**-379**	**-38.048**
Prehrambna	3,0	0,0	0,4	3,8	2.714	-4.797
Tekstilna	-0,1	2,0	1,8	-6,9	3.316	-1.271
Lesna	2,8	2,4	0,8	0,0	2.096	0
Papirna	-2,6	-2,7	-2,4	2,0	-2.310	0
Kemična	8,8	1,6	4,0	2,6	-7.668	-56.751
Nekovinska	2,1	-0,3	1,7	-4,7	-1.538	-23.168
Kovinska	0,0	1,6	0,5	-0,7	0	-1.113
Elektro	-0,8	1,6	0,8	-0,3	-3.419	-45.981
Strojna	0,2	2,1	0,6	-2,1	0	-32.280
Druge	2,5	0,3	4,7	-9,3	13.999	30.145

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

Slovenija je pri glavnini kazalnikov prehitevala CEE-4, medtem ko v primerjavi z EU-27 kljub višji bruto marži zaostaja pri produktivnosti dela. Kljub temu je bila EBITDA marža v slovenskih predelovalnih dejavnostih predvsem zaradi večjega pomena farmacevtske industrije znotraj kemične industrije oziroma predelovalnih dejavnosti višja kot v EU-27.

Podrobnejšo primerjalno analizo vsebuje Priloga 2.

3.3. Evropski okvir

V letu 2020 se je gospodarstvo Slovenije, EU in širše po svetu soočilo s pandemijo COVID-19, ki je močno zaznamovala poslovanje. Povzročila je motnje v dobavnih verigah, industrijski proizvodnji, zunanji trgovini in pretoku kapitala. Šok, ki ga doživlja gospodarstvo, je veliko hujši od zadnje gospodarsko-finančne krize iz leta 2008. Ranljivost izhaja iz močne vpetosti Slovenije in EU v globalne verige vrednosti. Zaradi očitne gospodarske soodvisnosti Evrope je pomembno, da bo okrevanje šlo tudi v smeri krepitve evropske industrijske in strateške avtonomije. Z vidika posodabljanja in prestrukturiranja gospodarstva je na mestu razmislek o diverzifikaciji gospodarstva, da bo bolje pripravljeno na tveganja, ki jih prinaša vpetost v globalne verige vrednosti. Kot se je pokazalo med pandemijo COVID-19, je smiselno, da se

14 Za koliko je vrednost kazalnika v Sloveniji višja od mediane kazalnika držav EU-27.

15 Izračun dodane vrednosti v prihodkih.

16 EBITDA marža je izračun poslovnega presežka v prihodkih.

podjetja z identifikacijo tveganj in načrtovanjem ukrepov za njihovo obvladovanje pripravijo na nemoteno poslovanje tudi v času motenj.

Tako Slovenija kot celotna EU v dani situaciji pripravljata in izvajata ukrepe za blažitev krize in ponovno okrevanje gospodarstva. Da bi okrevanje postalo trajnostno, celostno, vključujoče in pravično za vse države članice, je Evropska komisija pripravila **Načrt za okrevanje in odpornost za Evropo**[17], v okviru katerega je predlagala oblikovanje novega instrumenta, t. i. »EU naslednje generacije«, ki prinaša precejšnja finančna sredstva tudi za Slovenijo. Na osnovi tega države članice EU pripravljajo nacionalne Načrte za okrevanje in odpornost, v okviru katerih je vsaj 37 % sredstev namenjenih za zeleni, 20 % pa za digitalni prehod gospodarstva. S tem je omogočeno uresničevanje Evropskega zelenega dogovora in pospeševanje digitalne preobrazbe.

Evropski zeleni dogovor[18] (v nadaljevanju EZD), predstavljen konec leta 2019, služi kot kažipot ukrepov za EU, ki naslavljajo okoljske in podnebne izzive sodobne družbe skozi različne družbene sektorje s ciljem, da bi do leta 2050 Evropa postala prva podnebno nevtralna celina na svetu. Gre za prispevek EU k izpolnjevanju Pariškega podnebnega sporazuma, Konvencije o biološki raznovrstnosti ter drugih mednarodnih zavez. Pariški sporazum države zavezuje k omejitvi dviga povprečne globalne temperature občutno pod dve stopinji Celzija do konca stoletja glede na predindustrijsko dobo in jih spodbuja k ukrepom za omejitev na 1,5 stopinje. Doseganje podnebno nevtralnega in krožnega gospodarstva zahteva pravočasno in celovito mobilizacijo industrije in širše družbe. Največjo pozornost namenja gospodarstvu in skupnim strategijam, ki dajejo usmeritve za njegov prihodnji razvoj. Del EZD je tudi t. i. »Mehanizem za pravični prehod«, ki bo spodbujal socialno pravičnost pri prehodu na podnebno nevtralno gospodarstvo v najbolj ranljivih premogovniških regijah in regijah z ogljično intenzivnim gospodarstvom. Preoblikovanje industrijskega sektorja in vseh vrednostnih verig je dolgotrajno in po oceni traja 25 let, celo generacijo. Da bo dosežena vizija podnebne nevtralnosti do leta 2050, je treba v naslednjih petih letih sprejeti potrebne odločitve in ukrepe. To je še posebno pomembno v kontekstu krepitve podnebnih ambicij EU, saj Evropska komisija predlaga vsaj 55-odstotno neto znižanje emisij toplogrednih plinov na ravni EU glede na leto 1990 že do leta 2030.

V letu 2020 je Državni zbor RS sprejel **Resolucijo o Nacionalnem programu varstva okolja za obdobje 2020–2030** (ReNPVO 2020–2030), s katero so opredeljene usmeritve, cilji, naloge in ukrepi deležnikov varstva okolja ter ukrepi za doseganje ciljev Strategije razvoja Slovenije 2030, ki med strateškimi usmeritvami za doseganje kakovostnega življenja prepoznava tudi ohranjeno zdravo naravno okolje. ReNPVO 2020–2030 podaja tudi usmeritve za načrtovanje in izvajanje politik drugih sektorjev, ki vplivajo na okolje.

Prioritete industrijske strategije je treba načrtovati z upoštevanjem financiranja, ki je na voljo v okviru **Večletnega finančnega okvira EU 2021 – 2027** in **Načrta EU za okrevanje in odpornost**. Za Slovenijo je skupno predvidenih 10,5 mrd EUR sredstev. Od tega je v okviru Večletnega finančnega okvira Sloveniji dodeljenih 4,5 mrd EUR – 2,9 mrd iz naslova Evropske kohezijske politike in 1,6 mrd iz naslova Skupne kmetijske politike. V okviru Načrta EU

17 Načrt okrevanja za Evropo.

18 COM(2019) 640 final.

za okrevanje in odpornost je za Slovenijo predvidenih 2,1 mrd EUR nepovratnih in 3,6 mrd EUR povratnih sredstev.

Sklad za pravični prehod[19] ki je del že omenjenega Mehanizma za pravični prehod, bo podpiral gospodarsko diverzifikacijo v najbolj ranljivih premogovniških regijah. To pomeni podporo produktivnim naložbam v mala in srednja podjetja, ustanavljanje novih podjetij, raziskave in inovacije, sanacijo okolja, čisto energijo, izpopolnjevanje in prekvalifikacijo delavcev, podporo pri iskanju zaposlitve in aktivno vključevanje v programe za iskalce zaposlitve ter preoblikovanje obstoječih ogljično intenzivnih obratov, če se bo z naložbami doseglo znatno zmanjšanje emisij in zaščita delovnih mest. Načrtovanje programov Sklada za pravični prehod za obdobje 2021–2027 bo Sloveniji pomagalo nasloviti nekatere izzive, ki jih prinaša prehod na podnebno nevtralno gospodarstvo. V Sloveniji sta upravičeni Savinjsko-šaleška regija in Zasavje.

Naložbe v zeleni prehod, kot so določene v **Nacionalnem energetskem in podnebnem načrtu Slovenije 2030** (s pogledom do 2040)**,** bodo povečale sedanji nizki delež obnovljivih virov energije, krepila se bo energetska infrastruktura, izvajali se bodo ukrepi za zmanjšanje onesnaženosti zraka, ki je v slovenskih krajih in mestih nad povprečjem EU, krepil se bo prehod v krožno gospodarstvo, podpora bo namenjena krepitvi socialnega podjetništva in pospeševanju prizadevanj za omejitev možnih učinkov za regije in sektorje, ki jih bo prehod najbolj prizadel.

V letu 2020 so bili predstavljeni **Nova industrijska strategija za Evropo**[20] **Strategija za MSP za trajnostno in digitalno Evropo**[21] ter **novi Akcijski načrt za krožno gospodarstvo**[22]. Konec leta 2020 je bila predstavljena še strategija za trajnostno in pametno mobilnost. Ozelenila se bo skupna kmetijska politika. Veliko pozornosti bo namenjene zamenjavi nevarnih snovi z manj oziroma ne-nevarnimi kemikalijami oziroma drugimi alternativami skladno s Trajnostno strategijo za kemikalije. Sledili bodo ukrepi za zmanjšanje onesnaževanja iz večjih industrijskih naprav.

Nova industrijska strategija za Evropo zasleduje tri ključne prednostne naloge, da bi Evropa zadržala vodilni položaj v industriji, in sicer:

1. ohraniti svetovno konkurenčnost evropske industrije in enake konkurenčne pogoje na domačem in svetovnem trgu,
2. zagotoviti podnebno nevtralnost Evrope do leta 2050 in
3. oblikovati digitalno prihodnost Evrope.

V letu 2021 je Evropska komisija industrijsko strategijo posodobila[23] zaradi potrebe po prilagoditvi začrtanih ukrepov novim okoliščinam, povezanih s pojavom pandemije Covid-19. Posodobljena strategija potrjuje dosedanje prednostne naloge in je usmerjena v krepitev konkurenčnosti EU industrije ter pomoči in spodbujanju MSP pri soočenju s ključnimi izzivi podnebne nevtralnosti in digitalizacije. Osredotoča se na okrepitev odpornosti enotnega

19 COM(2020) 460 final.

20 COM(2020) 102 final.

21 COM(2020) 103 final.

22 COM(2020) 98 final.

23 COM (2021)350 final.

trga, obravnavanje strateških odvisnosti EU in pospešitev dvojnega prehoda. Industrijska strategija EU poudarja potrebo po celovitih ukrepih za posodobitev in razogljičenje energijsko intenzivnih industrij, za podporo industrijam trajnostne in pametne mobilnosti, za spodbujanje energijske učinkovitosti ter zagotavljanje zadostne in stalne oskrbe z nizkoogljično energijo po konkurenčnih cenah. Pobude, poznane kot industrijska zavezništva, so prinesle dobre rezultate na področju baterij, plastike in mikroelektronike. Zavezništvom za čisti vodik in nizkoogljično industrijo sledijo še zavezništva za industrijske oblake in platforme ter zavezništvo za surovine.

Nova Strategija za MSP za trajnostno in digitalno Evropo poudarja, da so mala in srednja podjetja bistvena za konkurenčnost in blaginjo Evrope. Na podlagi nove strategije za MSP bo EU podprla ta podjetja tako, da bo:

1. spodbujala inovacije z novimi sredstvi in vozlišči za digitalne inovacije v okviru trajnostnega in digitalnega prehoda,
2. zmanjšala birokracijo z odpravo ovir na enotnem trgu in odprtjem dostopa do financiranja,
3. olajšala dostop do financiranja z vzpostavitvijo sklada za prve javne ponudbe MSP (pri čemer se bodo naložbe usmerjale preko novega javno-zasebnega sklada) in pobudo ESCALAR (mehanizem za povečanje skladov tveganega kapitala in privabljanje več zasebnih naložb).

Nov **Akcijski načrt EU za krožno gospodarstvo** kot del nove Industrijske strategije za Evropo in Evropskega zelenega dogovora predvideva ukrepe, s katerimi bi s svojo zasnovo trajnostni izdelki postali pravilo in jih bo lažje ponovno uporabiti, popraviti in reciklirati, v največji možni meri pa bodo vključevali reciklirane surovine namesto primarnih, z izjemo lesa. Pri tem je pomemben element, ki mu je v Sloveniji potrebno posvetiti bistveno več pozornosti, vsekakor industrijska simbioza, ko stranski proizvod ali odpadek enega postane surovina za drugega proizvajalca. Ukrepi se bodo osredotočili na sektorje, ki uporabljajo največ virov in kjer so možnosti za njihovo krožnost velike, predvsem na področjih elektronike in IKT, baterij in vozil, embalaže z zmanjšanjem njene prekomerne uporabe; plastike z novimi zahtevami glede vsebnosti recikliranih materialov in ukrepe za zmanjševanje mikroplastike v okolju ter vzpodbujanje uporabe biološko razgradljive plastike (Evropska strategija za plastiko v krožnem gospodarstvu). Na področju tekstilnih izdelkov se predvideva nova strategija za krepitev konkurenčnosti in inovativnosti za ponovno uporabo tekstila. Pripravljena bo tudi celovita strategija za trajnostno grajeno okolje, ki spodbuja načela kroženja za stavbe. Ustvariti je treba pogoje za dobro delujoč evropski trg sekundarnih surovin v okviru znamke »Reciklirano v EU«, ki jo načrtuje EU. Krožno gospodarstvo bo imelo neto pozitivne učinke na rast BDP in ustvarjanje delovnih mest, saj se lahko z izvajanjem ambicioznih ukrepov krožnega gospodarstva v Evropi do leta 2030 poveča BDP EU za dodatnih 0,5 % in ustvari približno 700.000 novih delovnih mest.

V povezavi s tem velja poudariti **vidik rabe surovin**. Evropska industrija se sooča z visoko uvozno odvisnostjo od surovin, nestabilnostjo njihovih cen in oteženim dostopom do surovin zaradi omejenosti, kar velja predvsem za t. i. kritične surovine. Od leta 1970 do leta 2017 se je letni svetovni obseg pridobivanja surovin potrojil in še narašča, kar je privedlo do pomanjkanja nekaterih kritičnih surovin. Poleg tega približno polovica vseh emisij toplogrednih plinov in več kot 90 % izgube biotske raznovrstnosti ter pritiska na vodne vire

izhaja iz pridobivanja naravnih virov in predelave materialov, goriva in hrane. Industrija EU je začela prehod v nizkoogljično krožno gospodarstvo, vendar še vedno ustvarja 20 % emisij toplogrednih plinov v EU. Ostaja preveč »linearna« in odvisna od pretoka na novo pridobljenih surovin, trgovanja z njimi, njihove predelave in, končno, njihovega odlaganja v obliki odpadkov ali emisij. Zgolj 12 % materialov, ki jih uporablja, izvira iz recikliranih materialov. Zeleni in krožni prehod je priložnost za razširitev trajnostnih gospodarskih dejavnosti, naravnanih na ustvarjanje delovnih mest. Vendar pa je preobrazba prepočasna. Evropski Zeleni dogovor bo podprl in pospešil prehod industrije EU na trajnostni model vključujoče rasti.

Septembra 2020 je tako Evropska komisija predstavila nov **Akcijski načrt EU na področju kritičnih surovin**[24] v katerem predlaga ukrepe za zmanjšanje odvisnosti EU od tretjih držav z diverzifikacijo oskrbe in izboljšanjem učinkovitosti virov in načeli krožnega gospodarstva. Posodobila je tudi seznam kritičnih surovin. Seznam vsebuje 30 za EU kritičnih surovin. Prvič je bil na seznam dodan element litij (Li), ki je bistven za prehod na e-mobilnost. Komisija EU je namreč ugotovila, da bo EU samo za baterije električnih avtomobilov in shranjevanje energije potrebovala do 18-krat več litija do leta 2030 in do 60-krat več do leta 2050. Akcijski načrt bo prispeval k trajnostni okrepitvi ključnih tržišč za e-mobilnost, baterije, obnovljive energije, obrambne namene in digitalne aplikacije.

Naložbe v raziskave in inovacije so ključni instrument za rast produktivnosti in dodane vrednosti, kot tudi pomemben del strategije za okrevanje in odpornost po pandemiji COVID-19. Tudi pred krizo je bila Slovenija ocenjena le kot »zmerna inovatorka«, kar pomeni, da bo treba bistveno pospešiti njena prizadevanja za dohitevanje najuspešnejših držav. Poslovni sektor je zaslužen za 75 % izdatkov za raziskave in razvoj. Upad gospodarske rasti zdaj ponovno ogroža raziskave in razvoj ter inovacije podjetij. Razmeroma nizka stopnja inovativnosti[25] zlasti v MSP, upočasnjuje razvoj in širjenje inovativnih poslovnih procesov in rešitev, ki so potrebne v razmerah za izhod iz krize zaradi epidemije. Treba bo vlagati v inovativna MSP, vključno z zagonskimi, katerih dejavnosti vključujejo nastajajoče tehnologije in prelomne inovacije, ter razviti nove modele za podporo njihovi rasti in razvoju, da bi lahko okrepila proizvodnjo. Sodelovanje med akademsko sfero in podjetji je večinoma omejeno na srednje- in visokotehnološke sektorje. Učinkovitost okolja za prenos znanja v okviru raziskovalnih organizacij in visokošolskih ustanov je precej neenakomerna in nezadostna. Stanje na tem področju bo treba izboljšati s povezavami med univerzami ter javnimi raziskovalnimi organizacijami in podjetji, kar bo ključno za uspešno pretvorbo znanja v inovacije, izboljšanje uspešnosti raziskav in inovacij ter spodbujanje gospodarske rasti. Za dosego ciljev na področju raziskav, inovacij in konkurenčnosti bo treba povečati vlaganja v raziskave in razvoj do leta 2030. Med drugim bomo podjetja usmerjali k financiranju in vključevanju v razvojno-raziskovalne programe in demonstracijske projekte, tudi z aktivno davčno politiko (davčne olajšave za raziskave in razvoj).

Digitalna preobrazba je prav tako eden od bistvenih elementov za okrevanje gospodarstva po krizi. Evropska komisija je 9. marca 2021 v dokumentu **»Evropsko digitalno desetletje: digitalni cilji za leto 2030«**[26] predstavila vizijo, cilje in možnosti za uspešno digitalno

24 COM(2020) 474 final.

25 Inovacijska dejavnost podjetij 2016-2018.

26 COM(2021) 118 final.

preobrazbo Evrope do leta 2030, ki je prav tako ključnega pomena za prehod na podnebno nevtralno, krožno in odporno gospodarstvo. Cilj je doseči digitalno suverenost v odprtem in povezanem svetu ter oblikovanje digitalne politike, ki ljudem in podjetjem omogoča izkoristek človeško usmerjene, trajnostne in uspešnejše digitalne prihodnosti. S tem namenom je Evropska komisija predlagala ustanovitev **digitalnega kompasa**, s katerim bi digitalne ambicije EU do leta 2030 konkretizirali. Sestavljajo ga štiri glavne točke, ki se nanašajo na znanja in spretnosti, digitalno preobrazbo podjetij, digitalizacijo javnih storitev in zagotovitev varne in trajnostne digitalne infrastrukture.

Potencial Slovenije na področju digitalne preobrazbe se je pokazal s hitro uvedbo sistemov dela in šolanja na daljavo ter rešitev prodaje preko spletnih trgovin, ki so jih nekatera slovenska podjetja uvedla na začetku krize. Večja digitalizacija poslovnih modelov in proizvodnih procesov bo te spremembe razširila na večji del gospodarstva. Slovenija lahko gradi na obstoječem znanju in odličnih zmogljivostih na področju robotike, umetne inteligence in blokovne tehnologije, da bi podprla širitev digitalizacije na manj napredne, tradicionalne panoge. Ponovna uporaba širokega nabora podatkov javnega sektorja in gospodarstva bo, skladno z EU strategijo Skupnih podatkovnih prostorov, lahko podprla razvoj inovacij in gospodarstva na podlagi uporabe velepodatkov. Podatki so ključni tudi za podjetja. Podatkovna ekonomija v Sloveniji predstavlja še popolnoma neizkoriščen potencial. Strategija mora vzpodbuditi in omogočiti razvoj rešitev v vseh dimenzijah (horizontalno, vertikalno in po časovni osi), t. j. povezljivost sistemov na osnovi strukturiranih podatkov v obstoječih IKT sistemih (analitika in optimizacija procesov, kibernetska varnost, IoT, povezljivost že

vgrajenih industrijskih in poslovnih sistemov, platforme, digitalni dvojčki,…), ki bodo za posameznika in podjetja hkrati tudi varna.

Okrevanje gospodarstva po krizi ni edini razlog za digitalno preobrazbo, temveč ta dviguje tudi produktivnost, konkurenčnost in krepi odpornost gospodarstva in družbe. Veliko pripomore tudi k procesni varnosti – preprečevanju nezgod in velikih industrijskih nesreč (sofisticirani sistemi za zaznavanje in odpravljanje procesnih napak, alarmiranje, ukrepanje,…). Digitalna preobrazba že dolgo ni več zgolj opcija, za katero bi se lahko odločili, temveč je nuja, ki jo mora Slovenija sprejeti na vseh ravneh - ne le v industrijski politiki, temveč tudi na ostalih nivojih življenja posameznikov. Prevelik zaostanek zaradi neustrezne obravnave in posledično prepočasne digitalne preobrazbe bi pomenil zaostanek na vseh zadanih nivojih, ki jih ta strategija zasleduje, še posebej pa na področju pozicioniranja Slovenije v mednarodnem okolju. Vključevanje digitalnih tehnologij v podjetja je sicer zadnja leta potekalo s podobno hitrostjo kot v EU. Za učinkovito sledenje hitremu napredku na področju uvajanja naprednih IKT-tehnologij za preboj med uspešnejše države EU so potrebna dodatna prizadevanja zlasti za zagotovitev povečanih potreb po kadrih z ustreznimi digitalnimi znanji. Prilagoditi je potrebno izobraževalni sistem in politike vseživljenjskega izobraževanja. Da bi lahko v polnosti izkoristili potencial digitalnih tehnologij, je hkrati potrebno prilagajati zakonodajno okolje. V tem oziru je pomembna uvedba digitalnega testa, ki bo preverjal primernost zakonodaje z digitalnega vidika.

3.4. Napovedi 2021–2030

Metodologija

Pri napovedih za predelovalno dejavnost smo uporabili **pristop od spodaj navzgor (»bottom-up«)**, ki predvideva napovedi gibanja prodaje, izvoza, dodane vrednosti, EBITDA, zaposlenih in investicij. Pri napovedih smo izhajali tako iz gibanj v zadnjem desetletju, iz odstopanj marž slovenskih panog glede na EU-27, kot tudi iz ocen konkurenčnih prednosti, ki jih uživajo določene panoge v Sloveniji. Napovedi smo oblikovali za dve obdobji, in sicer za dveletno (2019–2020)[27] ter desetletno (2021–2030). Ti dve obdobji smo razdelili, ker ocenjujemo, da bo epidemija COVID-19 precej negativno vplivala na vse ključne gospodarske agregate podjetij. V osnovnem scenariju Analitike GZS epidemija COVID-19 po letu 2021 ne bo imela večjega negativnega učinka na poslovanje predelovalne dejavnosti. Glede na potencial rasti določenih dejavnosti, ki v večji meri omogočajo zasledovanje ciljev krožnega gospodarstva, se ob izvedbi ustreznih ukrepov lahko pričakujejo večji pozitivni premiki od spodaj navedenih projekcij.

27 Zadnji razpoložljivi podatki v času priprave analize so za leto 2018.

Prodaja

Prodaja predelovalne dejavnosti bo leta 2020 upadla na okoli 30 mrd EUR, kar bo 1,3 mrd EUR manj kot leta 2018. Med dejavnostmi, kjer bo rast prisotna, bosta le prehrambna in kemična industrija. Rast pri prvi bo izvirala iz ugodnih trendov, ki so bili posledica COVID-19 (rast cen hrane, povečanje državnih zalog in zalog gospodinjstev), v drugi pa predvsem iz segmenta kemične industrije na področju generičnih zdravil. Močneje bodo prizadete ciklične dejavnosti, kot so tekstilna, lesna, kovinska, strojna in elektro industrija.

Ključne skupine predelovalnih dejavnosti	Prodaja, 2018 (000 EUR)	Prodaja, 2020 (000 EUR)	Prodaja, 2030 (000 EUR)	Letna sprememba prodaje v % 2019-2020	Letna sprememba prodaje v % 2021-2030
PREDEL. DEJ. SKUPAJ	**31.279.103**	**29.905.518**	41.806.234	**-2,2 %**	**3,4 %**
Prehrambna	2.384.590	2.505.310	3.175.858	2,5 %	2,4 %
Tekstilna	898.293	827.867	1.009.165	-4,0 %	2,0 %
Lesna	1.413.409	1.302.598	1.587.859	-4,0 %	2,0 %
Papirna	1.296.843	1.245.488	1.518.243	-2,0 %	2,0 %
Kemična	5.990.623	6.232.644	8.791.760	2,0 %	3,5 %
Nekovinska	1.014.271	954.328	1.186.333	-3,0 %	2,2 %
Kovinska	6.432.627	5.928.309	7.813.794	-4,0 %	2,8 %
Elektro	4.387.114	4.085.390	6.654.670	-3,5 %	5,0 %
Strojna	6.977.697	6.363.834	9.420.029	-4,5 %	4,0 %
Druge	483.629	459.750	648.523	-2,5 %	3,5 %

Vir: Statistični urad RS, napoved Analitike GZS. Opomba: leto 2018 - zadnji znani podatek v času priprave analize; leto 2020 - ocena; leto 2030 – napoved.

Primer strukturnih razlik znotraj dejavnosti: proizvodnja papirja in izdelkov iz papirja

Proizvodnja papirja in papirnih izdelkov je ločena na proizvodnjo vlaknin, papirja in kartona (sem spadajo vse večje papirne družbe) in pa na proizvodnjo izdelkov iz teh materialov. V drugo skupino spadajo družbe, ki se ukvarjajo pretežno s tiskom, ki je področje v dejavnosti, kjer bo prisotno poslovno prestrukturiranje v smeri zviševanje produktivnosti, tudi z zniževanjem števila zaposlenih. Te družbe so podvržene večji mednarodni konkurenci, tudi iz azijskih držav. Produktivnost dela v prvi dejavnosti znaša na osnovi podatkov Ajpesa pri gospodarskih družbah preko 70.000 EUR (2019), v drugi pa 38.000 EUR. Prodaja v prvi dejavnosti je znašala 60 % panožne v 2019, dodana vrednost pa 50 %. V napovedovalnem obdobju tako ocenjujemo, da se bo znotraj papirne industrije segment papirnic krepil po pomenu, segment tiska pa bo beležil nižjo rast poslovnih kategorij, v nekaterih celo negativno (zaposlovanje).

V drugem, 10-letnem obdobju, ocenjujemo, da bo povprečna rast prodaje znašala 3,4 % letno, pri čemer bo nadpovprečna v elektro, strojni in kemični industriji. V dejavnostih, ki so podvržene globalni konkurenci ter kjer Slovenija uživa šibkejše konkurenčne prednosti (tekstilna, papirna industrija), bo rast prodaje podpovprečna. V panogah, ki temeljijo na naravnih virih (les), pa bomo z ukrepi za vzpostavljanje pogojev za razvoj panog dosegli višjo rast od trenutno predvidene, ki bo opredeljena v poglavju »3.4. - Industrija, temelječa na lesu in ostalih naravnih obnovljivih materialih«. Celotna prodaja bo v 2030 za 12 mrd EUR višja kot v letu 2020 in bo narasla na 41,8 mrd EUR.

Izvoz

Epidemija COVID-19 bo v večji meri vplivala na vrednostni padec izvoza v 2019–2020 kot pa na znižanje prodaje na domačem trgu. Posledično naj bi se izvoz predelovalne dejavnosti v 2020 znižal za 1,1 mrd EUR glede na leto 2018. Kasnejša rast v naslednjem 10-letnem obdobju (3,7 %) naj bi prispevala h krepitvi izvoza na okoli 30 mrd EUR do leta 2030. Delež izvoza v celotni prodaji naj bi se povišal na 71 % (70 % v 2018). Izvoz naj bi najhitreje (nominalno gledano) naraščal v strojni, elektro in kemični industriji, ki naj bi skupaj prispevale h kar 75 % celotnega povišanja izvoza v obdobju 2021–2030 (+4,8 mrd EUR). Najbolj naj bi se okrepila izvozna usmerjenost v lesni (s 55 na 58 %) in kemični industriji (z 79 % na 81 %).

Ključne skupine predelovalnih dejavnosti	Izvoz, 2018 (000 EUR)	Izvoz, 2020 (000 EUR)	Izvoz, 2030 (000 EUR)	Letna sprememba izvoza v % 2019-2020	Letna sprememba izvoza v % 2021-2030
PREDEL. DEJ. SKUPAJ	**21.764.371**	**20.666.631**	**29.804.170**	**-2,6 %**	**3,7 %**
Prehrambna	630.020	642.683	830.751	1,0 %	2,6 %
Tekstilna	661.489	603.294	749.960	-4,5 %	2,2 %
Lesna	777.082	708.718	916.109	-4,5 %	2,6 %
Papirna	743.025	706.338	878.055	-2,5 %	2,2 %
Kemična	4.762.391	4.974.242	7.084.749	2,2 %	3,6 %
Nekovinska	588.995	548.486	688.529	-3,5 %	2,3 %
Kovinska	4.293.021	3.939.981	5.295.004	-4,2 %	3,0 %
Elektro	3.525.488	3.269.429	5.427.868	-3,7 %	5,2 %
Strojna	5.479.127	4.986.641	7.524.632	-4,6 %	4,2 %
Druge	303.581	286.819	408.512	-2,8 %	3,6 %

Vir: Statistični urad RS, napoved Analitike GZS. Opomba: leto 2018 - zadnji znani podatek v času priprave analize; leto 2020 - ocena; leto 2030 – napoved.

Dodana vrednost in bruto marža

Dodana vrednost se bo gibala precej podobno kot prodaja oziroma bo za njo rahlo zaostajala, kar je posledica naše ocene, da je izhodiščna bruto marža v slovenskem gospodarstvu bila že v letu 2018 nadpovprečno visoka tako glede na mediano EU-27 kot glede na zgodovinsko povprečje. Zato ocenjujemo, da je ob napovedani rasti prodaje in izvoza dovolj ambiciozen cilj, da bruto marža ostane na nivoju iz leta 2018 (28,2 %). V dejavnostih, kjer se bo dodana

vrednost povečevala hitreje od prodaje, se bo posledično okrepila bruto marža. Glede na leto 2018 bo v 2030 višja v papirni (+1,6 o.t.), tekstilni (+0,9 o.t.), lesni in kovinski industriji (+0,6 o.t.), znižala pa se bo v kemični (-0,7 o.t.) zaradi pritiska na cene generičnih zdravil in elektro industriji[28] (-0,4 o.t.)

Ključne skupine predelovalnih dejavnosti	Dodana vrednost, 2018 (000 EUR)	Dodana vrednost, 2020 (000 EUR)	Dodana vrednost, 2030 (000 EUR)	Letna sprememba dod. vr. v % 2019-2020	Letna sprememba dod. vr. v % 2021-2030
PREDEL. DEJ. SKUPAJ	**8.811.030**	**8.477.406**	**11.798.624**	**-1,9 %**	**3,4 %**
Prehrambna	593.469	617.445	790.382	2,0 %	2,5 %
Tekstilna	263.356	245.244	304.864	-3,5 %	2,2 %
Lesna	438.515	404.135	502.384	-4,0 %	2,2 %
Papirna	300.052	291.118	376.307	-1,5 %	2,6 %
Kemična	2.050.654	2.133.500	2.951.861	2,0 %	3,3 %
Nekovinska	336.260	317.693	394.927	-2,8 %	2,2 %
Kovinska	1.747.775	1.614.107	2.169.225	-3,9 %	3,0 %
Elektro	1.115.439	1.043.035	1.666.908	-3,3 %	4,8 %
Strojna	1.795.365	1.647.721	2.415.679	-4,2 %	3,9 %
Druge	170.145	163.407	226.086	-2,0 %	3,3 %

Vir: Statistični urad RS, napoved Analitike GZS. Opomba: leto 2018 - zadnji znani podatek v času priprave analize; leto 2020 - ocena; leto 2030 – napoved.

Zaposlenost

Povečevanje avtomatizacije in padec izvoza v 2020 zaradi epidemije COVID-19 naj bi prispevala k temu, da se bo zaposlenost v obdobju 2019–2020 v povprečju krčila. Podobno bo v desetletju kasneje, ko bo pritisk na dvig konkurenčnosti zahteval večja vlaganja in vitke, inovativne modele poslovanja. Svetli izjemi bosta strojna in elektro industrija, kjer bo visoka rast dodane vrednosti preprečevala padec zaposlenosti. Število zaposlenih naj bi se do leta 2020 skrčilo za 7.000 oseb glede na leto 2018, do leta 2030 pa se bo znižalo še za 15.000. Nominalna rast dodane vrednosti (najbolje odraža organsko rast poslovanja) bo preprečila še hitrejše znižanje števila zaposlenih, ki bo primarno posledica tako višanja stopnje avtomatizacije proizvodnje kot tudi bolj intenzivnega povezovanja industrije z drugimi deli gospodarstva[29].

Ključne skupine predelovalnih dejavnosti	Zaposleni, 2018	Zaposleni, 2020	Zaposleni, 2030	Letna sprememba zap. v % 2019-2020	Letna sprememba zap. v % 2021-2030
PREDEL. DEJ. SKUPAJ	**201.722**	**193.943**	**179.222**	**-1,9 %**	**-0,8 %**

28 Znižanje marže v nekaterih industrijah bo posledica konvergence marže k EU povprečju.

29 To pomeni še več povezovanja z domačim storitvenim sektorjem, outsourcingom določenih aktivnosti z visoko dodano vrednostjo (marketing, oblikovanje, PR).

Ključne skupine predelovalnih dejavnosti	Zaposleni, 2018	Zaposleni, 2020	Zaposleni, 2030	Letna sprememba zap. v % 2019-2020	Letna sprememba zap. v % 2021-2030
Prehrambna	16.338	16.338	14.046	0,0 %	-1,5 %
Tekstilna	9.163	8.800	6.624	-2,0 %	-2,8 %
Lesna	12.808	12.051	9.847	-3,0 %	-2,0 %
Papirna	8.208	7.883	6.441	-2,0 %	-2,0 %
Kemična	31.987	31.668	27.226	-0,5 %	-1,5 %
Nekovinska	6.998	6.721	5.778	-2,0 %	-1,5 %
Kovinska	42.698	40.590	34.896	-2,5 %	-1,5 %
Elektro	28.023	26.913	29.729	-2,0 %	1,0 %
Strojna	41.185	38.751	40.733	-3,0 %	0,5 %
Druge	4.314	4.228	3.902	-1,0 %	-0,8 %

Vir: Statistični urad RS, napoved Analitike GZS. Opomba: leto 2018 - zadnji znani podatek v času priprave analize; leto 2020 - ocena; leto 2030 – napoved.

Spremenjena struktura sodobnega gospodarstva

Dinamiki zmanjševanja zaposlenih v glavnini predelovalnih dejavnostih bo sledila vzporedna rast zaposlovanja v storitvenih sektorjih, ki so vezani na predelovalno dejavnost, še posebej v dejavnosti zaposlovanja napotene delovne sile, montaže, kreativnih industrij, pravnega, davčnega, poslovnega svetovanja, čiščenja in vrste drugih podpornih funkcij. Trendi izločanja podpornih funkcij iz matičnih družb bodo posledica optimizacije poslovnih modelov po vzorih najuspešnejših družb v tujini. Z drugimi besedami to pomeni, da se bo multiplikator zaposlovanja predelovalnih dejavnosti do 2030 povečeval (vsako delovno mesto v predelovalnih dejavnosti bo v večji meri prispevalo k novemu delovnemu mestu v storitvenem delu gospodarstva).

Investicije

Investicije se bodo po naši oceni v prvem obdobju znižale za petino, potem pa bodo zlagoma naraščale po povprečni letni stopnji 3,7 %. V prvem obdobju se bodo najbolj krčile v strojni, kovinski, tekstilni, lesni in papirni industriji. V obdobju 2019–2020 bodo investicije znašale 5,4 % letne prodaje, kar je nekoliko manj kot v obdobju 2008–2018 (5,5 % letne prodaje). V drugem obdobju bo do leta 2030 v predelovalni dejavnosti za investicije namenjenih v povprečju 5,6 % letne prodaje. Najbolj bodo naraščale v kemični in kovinski industriji, kjer bo uresničena polovica celotnih investicij. Relativno pa bodo najbolj narasle v tekstilni industriji, ker bodo potrebne za doseganje ustreznega dviga produktivnosti dela.

Ključne skupine predelovalnih dejavnosti	Investicije, 2018, v 000 EUR	Investicije, 2020, v 000 EUR	Investicije, 2030, v 000 EUR	Letna sprememba inv. v % 2019-2020	Letna sprememba inv. v % 2021-2030
PREDEL. DEJ. SKUPAJ	**1.975.153**	**1.612.974**	**2.348.692**	**-9,6 %**	**3,8 %**
Prehrambna	117.578	103.892	149.406	-6,0 %	3,7 %
Tekstilna	38.245	30.978	49.037	-10,0 %	4,7 %
Lesna	133.871	108.436	152.959	-10,0 %	3,5 %
Papirna	60.432	48.950	69.718	-10,0 %	3,6 %
Kemična	437.150	386.266	588.477	-6,0 %	4,3 %
Nekovinska	67.746	59.860	82.821	-6,0 %	3,3 %
Kovinska	423.567	343.089	512.760	-10,0 %	4,1 %
Elektro	203.590	172.319	245.431	-8,0 %	3,6 %
Strojna	468.673	338.616	468.502	-15,0 %	3,3 %
Druge	24.301	20.568	29.579	-8,0 %	3,7 %

Vir: Statistični urad RS, napoved Analitike GZS. Opomba: leto 2018 - zadnji znani podatek v času priprave analize; leto 2020 - ocena; leto 2030 – napoved.

EBITDA in EBITDA marže

EBITDA v 2020 bo za 6 % nižja od tiste v 2018, do 2030 bo naraščala po 3,7-odstotni rasti na 4,7 mrd EUR. V prvem obdobju (2019–2020) bo nominalni padec največji v strojni (40 % padca) in v kovinski industriji (31 % celotnega padca), vseeno pa naj bi v kemični industriji zrasla za 40 mio EUR zaradi večjega povpraševanja po generičnih zdravilih. V drugem obdobju (2021-2030) bo kemična industrija prispevala k rasti EBITDA v višini 27 %, strojna v višini 23 % in elektro industrija v višini 18 %. EBITDA marža v predelovalni dejavnosti se bo v 2030 iz 11,0 % v letu 2020 zvišala na 11,3 %.

Ključne skupine predelovalnih dejavnosti	EBITDA, 2018, v 000 EUR	EBITDA, 2020, v 000 EUR	EBITDA, 2030, v 000 EUR	Letna sprememba EBITDA v % 2019-2020	Letna sprememba EBITDA v % 2021-2030
PREDEL. DEJ. SKUPAJ	**3.435.310**	**3.282.032**	**4.721.170**	**-2,7 %**	**3,7 %**
Prehrambna	228.978	231.274	304.830	0,5 %	2,8 %
Tekstilna	83.271	78.350	105.295	-3,0 %	3,0 %
Lesna	167.568	141.830	181.554	-8,0 %	2,5 %
Papirna	100.046	95.106	134.157	-2,5 %	3,5 %
Kemična	971.961	1.011.228	1.399.112	2,0 %	3,3 %
Nekovinska	150.270	137.050	170.368	-4,5 %	2,2 %
Kovinska	642.121	594.247	814.262	-3,8 %	3,2 %
Elektro	374.832	345.445	607.066	-4,0 %	5,8 %

Ključne skupine predelovalnih dejavnosti	EBITDA, 2018, v 000 EUR	EBITDA, 2020, v 000 EUR	EBITDA, 2030, v 000 EUR	Letna sprememba EBITDA v % 2019-2020	Letna sprememba EBITDA v % 2021-2030
Strojna	642.159	579.548	908.671	-5,0 %	4,6 %
Druge	70.756	67.954	95.856	-2,0 %	3,5 %

Vir: Statistični urad RS, napoved Analitike GZS. Opomba: leto 2018 - zadnji znani podatek v času priprave analize; leto 2020 - ocena; leto 2030 – napoved.

Izdatki za raziskave in razvoj

Pri napovedi izdatkov za R&R smo sledili ciljni usmeritvi, da izdatki za R&R v zasebnem sektorju dosežejo 1,8 % BDP v letu 2030. Kemična industrija naj bi kljub podpovprečni rasti izdatkov za R&R (5,4 %) v obdobju 2021-2030 prispevala k 43-odstotnemu povečanju celotnih izdatkov za ta namen v predelovalni dejavnosti. Sledila naj bi ji elektro industrija s 26-odstotnim in strojna industrija z 18-odstotnim deležem. Na nacionalnem nivoju je do leta 2030 cilj povečanja vlaganj v raziskave in razvoj najmanj 3 % BDP, od tega najmanj 1 % BDP iz javnih sredstev.

Ključne skupine predelovalnih dejavnosti	Izdatki za R&R, 2018, v 000 EUR	Izdatki za R&R, 2020, v 000 EUR	Izdatki za R&R, 2030, v 000 EUR	Letna sprememba Izdatkov za R&R v % 2019-2020	Letna sprememba Izdatkov za R&R v % 2021-2030
PREDEL. DEJ. SKUPAJ	**488.636**	**446.144**	**800.364**	**-4,4 %**	**6,0 %**
Prehrambna	7.616	6.169	11.580	-10,0 %	6,5 %
Tekstilna	7.026	5.076	9.091	-15,0 %	6,0 %
Lesna	4.215	4.215	8.292	0,0 %	7,0 %
Papirna	4.642	3.760	6.734	-10,0 %	6,0 %
Kemična	212.255	220.830	373.649	2,0 %	5,4 %
Nekovinska	4.090	4.090	8.046	0,0 %	7,0 %
Kovinska	21.073	17.069	40.409	-10,0 %	9,0 %
Elektro	128.820	116.260	208.204	-5,0 %	6,0 %
Strojna	79.647	64.514	126.909	-10,0 %	7,0 %
Druge	4.610	4.161	7.451	-5,0 %	6,0 %

Vir: Statistični urad RS, napoved Analitike GZS. Opomba: leto 2018 - zadnji znani podatek v času priprave analize; leto 2020 - ocena; leto 2030 – napoved.

4. ZELENI RAZVOJ

Zeleni, trajnostni in krožni razvoj gospodarstva postaja trend in hkrati nujnost za ohranjanje dolgoročne mednarodne konkurenčnosti. Prehod v nizkoogljično krožno gospodarstvo smo v Sloveniji umestili med strateške razvojne prioritete. Vlada Republike Slovenije je konec leta 2017 sprejela **Strategijo razvoja Slovenije 2030** (v nadaljevanju SRS 2030), kjer je opredeljenih 12 ključnih ciljev, med katerimi je tudi nizkoogljično krožno gospodarstvo. Ta cilj bomo dosegli s spodbujanjem inovacij, novih poslovnih modelov, digitalno preobrazbo, učinkovito rabo surovin z zapiranjem snovnih tokov in energije ter prilagajanjem na podnebne spremembe. V skladu s tem bo potrebno prilagoditi vse politike, od raziskovalno-inovacijske do politike izobraževanja in zaposlovanja. Ključna je tudi prilagoditev in oblikovanje novih kompetenc na vseh nivojih izobraževanja in usposabljanja ter zagotovitev ustreznega **števil**a usposobljenih kadrov.

Prav tako je v tem kontekstu pomembno izvajanje ukrepov iz **Nacionalnega podnebno energetskega načrta 2030** (v nadaljevanju NEPN 2030). Ključni cilji NEPN-a 2030 so:

- **zmanjšanje skupnih emisij toplogrednih plinov za 36 %,** od tega za 20 % v sektorju ne-ETS (kar je 5 odstotnih točk nad sprejeto zavezo Slovenije),
- **vsaj 35-odstotno izboljšanje energetske učinkovitosti**, kar je višje od cilja. sprejetega na ravni EU (32,5 %),
- **vsaj 27 % obnovljivih virov energije**, kjer je Slovenija zaradi relevantnih nacionalnih okoliščin - v prvi vrsti okoljskih omejitev - morala pristati na nižji cilj od cilja na ravni EU (32 %), s prizadevanjem, da se ambicija zviša pri naslednji posodobitvi NEPN-a (2023/24),
- **3-odstotna vlaganja v raziskave in razvoj**, od tega 1 % javnih sredstev.

Izboljšanje energetske in snovne učinkovitosti v vseh sektorjih in posledično zmanjšanje rabe energije in drugih naravnih virov je tudi prvi in ključni ukrep na poti k podnebno nevtralni družbi. Izpolnjevanje NEPN-a nas vodi v zmanjševanje odvisnosti od fosilnih goriv; hkrati z NEPN-om podpiramo tudi trajnostne rešitve v prometu (javni trajnostni transport), v stavbah (ogrevanje in hlajenje, celovita prenova) in v industriji (v teku zaradi zagotavljanja konkurenčnosti). NEPN med drugim opredeljuje tudi cilje za zmanjšanje in opuščanje rabe premoga, do leta 2030 za 30 %. Najpozneje do leta 2021 bo sprejeta strategija za opuščanje rabe premoga in prestrukturiranje premogovnih regij v skladu z načelom pravičnega prehoda, ki bo določila natančni časovni načrt opuščanja rabe premoga v Sloveniji. NEPN določa preučitev uporabe možnosti novih jedrskih energij in najkasneje do leta 2027 sprejetje odločitve o drugem bloku Nuklearne elektrarne Krško (NEK). Poleg tega določa NEPN tudi postopno zmanjševanje subvencij fosilnim virom energije in njihovo ukinitev. NEPN določa tudi krepitev vlaganj v raziskave in razvoj ter več vlaganj v kadre, ki bodo pomembni za pre-

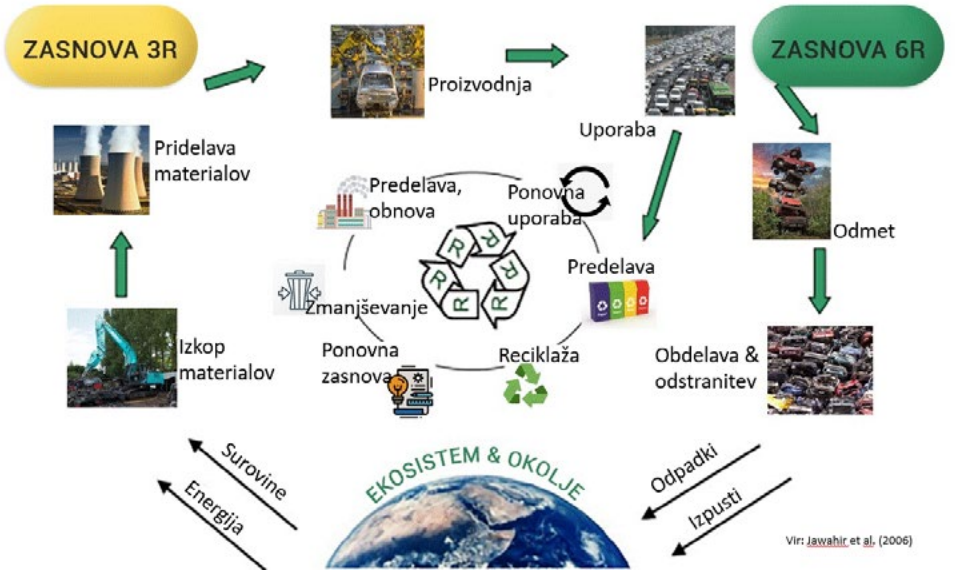
hod v podnebno nevtralno družbo. Eno izmed ključnih področij, ki jih izpostavlja NEPN, je tudi prehod v krožno gospodarstvo.

4.1. Prehod v nizkoogljično krožno gospodarstvo

Nov investicijski zagon mora temeljiti na zelenih načelih bolj odpornega in vključujočega podnebno nevtralnega modela za ohranjanje in izboljšanje biotske raznovrstnosti in kakovosti življenja za vse, kar je krovni cilj SRS 2030. Gre za spremembo linearnega ekonomskega modela, ki deluje po načelu »vzemi, porabi, zavrzi«, **v krožni ekonomski model**, ki temelji na čim daljšem ohranjanju vrednosti materialov in izdelkov, nadomeščanju produktov s storitvami, prehodu od lastništva k souporabi ter uporabi digitalizacije. Nove tehnologije, osnovane na digitalizaciji, obnovljivih virih energije in razvijajočih hibridnih tehnologijah, kot so dodajalne ali aplikativne tehnologije (3D tiskanje) z novimi in alternativnimi materiali, so podporne tehnologije za prehod v krožno gospodarstvo. Krožni koncept (poimenovan tudi 3R – »reduce, reuse, recycle«) stremi k cilju zapiranja snovnih tokov na način, da se količina odpadkov minimizira oziroma uporabi kot vir. Izdelki so zasnovani tako, da jih je možno popravljati, nadgrajevati, obnavljati in ponovno uporabiti, šele v skrajni fazi reciklirati. Zato je bistven gradnik prehoda v nizkoogljično gospodarstvo integracija eko dizajna v iskanje rešitev pri izdelkih, storitvah ali poslovnih modelih. Narava sama je krožni sistem, v katerem vse kroži, ni izgub in odpadkov. Pri uveljavitvi krožnega gospodarstva pa se morajo upoštevali tudi pozitivni vplivi ponora CO_2 v fazi nastajanja materiala. Pri tem je učinkovit predvsem kaskadni način uporabe lesa, s katerim lahko dosežemo celo negativen ogljični odtis.

Prehod v nizkoogljično krožno gospodarstvo pomeni priložnost za razvoj gospodarstva, saj prinaša konkretne finančne koristi podjetjem in gospodarstvu, spodbuja inovacije in znižuje negativen okoljski vpliv v dobaviteljski verigi. Odpravljanje odpadkov iz industrijskih verig preko ponovne uporabe materialov ustvarja prihranke v proizvodnji in manjšo odvisnost od primarnih, predvsem kritičnih surovin. Posebno pozornost je treba posvetiti tudi komunalnim odpadkom in izboljšati podporno okolje z infrastrukturo ter povečati samozadostnost države za ustrezno ravnanje s temi odpadki v skladu s hierarhijo ravnanja z odpadki.

Slika 3: Shematski prikaz krožnega gospodarstva



Vir: Jawahir st al. (2006)

Prehod v nizkoogljično krožno gospodarstvo torej terja boljše ravnanje z viri in se mora najprej osredotočiti na preprečevanje nastajanja odpadkov že od zasnove proizvodov (»circular and digital by design«) do izboljšanega zbiranja za povečanje/ohranitev čistosti tokov za njihovo izboljšano predelavo oziroma reciklažo. Pri tem je treba upoštevati cel življenjski cikel proizvoda skozi celotno verigo vrednosti.

Z uvajanjem načel nizkoogljičnega krožnega gospodarstva bomo izboljšali energijsko in snovno samozadostnost in zmanjšali odvisnost od tujih trgov. Pomembna bo infrastruktura za oskrbo z energijo, predvsem električno, tako za obdelavo odpadkov kot tudi za boljšo oskrbo s surovinskimi in energetskimi viri iz odpadnih tokov. Za prehod v krožno gospodarstvo je ključna tudi optimizacija z digitalizacijo in umetno inteligenco ter postopna elektrifikacija različnih postopkov, od elektrifikacije toplote in tehnoloških postopkov do proizvodnje vodika kot tudi zajema in shrambe ogljika, pri čemer je treba hkrati s tehnološkim razvojem prilagajati tudi zakonodajni okvir. Vse naštete tehnologije prihodnosti temeljijo na nizkoogljičnih in obnovljivih virih energije.

Pomemben del krožnega gospodarstva predstavlja t. i. biogospodarstvo, ki se v svetu krepi. Glede na definicijo Evropske komisije biogospodarstvo zajema vse sektorje in sisteme, ki temeljijo na pridobivanju in predelavi bioloških virov (genski viri, **živali, rastline, mikroorganizmi in pridobljena biomasa, vključno z organskimi odpadki), njihovih funkcijah in načelih. Biogospodarstvo** poleg primarne proizvodnje vključuje tudi vsa industrijska področja, katerih viri in postopki proizvodnje hrane, krme, zdravil in drugih proizvodov, energije in storitev temeljijo na naravnih virih biološkega izvora. V tem oziru je ključno izboljšanje dostopnosti ter trajnostna raba biomase kot primarnega, naravnega, obnovljivega surovinskega vira, ki vse bolj pogojuje mednarodno konkurenčnost velikega dela predelo-

valnih dejavnosti. Tako postaja trend prihodnosti npr. na področju plastičnopredelovalne industrije bioosnovana plastika, ki jo pridobivajo iz biopolimerov, te sestavine pa so produkt biorafinerij. V okviru tega je treba omeniti tudi pomen bioosnovane kemi**čn**e in farmacevtske industrije.

V skladu s pobudami na evropski ravni tudi Slovenija pripravlja načrt prehoda v krožno gospodarstvo. Gre za t. i. **Celoviti strateški projekt razogljičenja preko prehoda v krožno gospodarstvo**, ki je eden izmed ključnih nacionalnih projektov, ki bo prinesel pozitivne učinke na konkurenčnost gospodarstva, okolje, zaposlovanje in druge družbene vidike ter s tem višjo kakovost življenja. Projekt je sistemske narave in je usmerjen na vsa področja, ki so ključnega pomena za prehod v nizkoogljično krožno gospodarstvo. Projekt se pripravlja v partnerstvu z vodilnimi evropskimi institucijami na tem področju[30]. Tako bomo lahko v Slovenijo prenesli najbolj aktualno evropsko znanje za prehod v nizkoogljično krožno gospodarstvo, ga povezali z domačim znanjem in nadgradili.

Projekt med drugim zajema podporo ustanavljanju zagonskih podjetij, ki bodo delovala na področju nizkoogljičnih krožnih rešitev in podporo procesu inoviranja ter prehoda MSP v nizkoogljične krožne poslovne modele. Hkrati bodo vzpostavljeni sistemski pogoji za dvig usposobljenosti v različnih skupinah deležnikov (osnovne in srednje šole, visokošolske institucije, podjetja, javna uprava) za oblikovanje in izvajanje ustreznih rešitev, potrebnih za prehod v nizkoogljično krožno gospodarstvo. Tudi v tem kontekstu je dvig kompetenc in potreba po prekvalifikaciji in izkoriščanju priložnosti za ustvarjanje novih, zelenih delovnih mest ključnega pomena. V okviru projekta je predvidena tudi podpora razogljičenju v ključnih verigah vrednosti: **predelovalni industriji, gozdno-lesni verigi, prehranski verigi, grajenem okolju in mobilnosti**.

Prehod v nizkoogljično gospodarstvo in Evropski zeleni dogovor bosta od nekaterih panog zahtevala večje prilagoditve. Kemikalije imajo temeljno vlogo v večini industrijskih panog in bodo postale gradniki nizkoogljičnih, učinkovitih tehnologij, materialov in izdelkov. Nova evropska strategija na področju kemikalij za trajnostnost bo vzpodbudila inovacije in prilagoditve kemične industrije (vključno z gumarsko, plastičarsko in farmacevtsko industrijo), pa tudi vseh njenih odjemalcev vzdolž distribucijske verige. Za uspešen zeleni prehod bo ključnega pomena povečanje naložb in inovativnih zmogljivosti kemične industrije v zagotavljanje varnih in trajnostnih kemikalij, zmanjševanje onesnaževanja in obremenitev za zdravje in okolje ter doseganje strateške samostojnosti in samozadostnosti EU pri oskrbi z osnovnimi kemikalijami.

Za prehod v nizkoogljično družbo in krožno gospodarstvo mora država spodbuditi investicije v potrebna osnovna sredstva, hkrati pa mora vzpostavljati ustrezno zakonodajo in ostale potrebne pogoje.

30 S skupnostmi znanja in inovacij (KIC - Knowledge and Innovation Community) v okviru EIT (Evropskega inštituta za inovacije in tehnologijo) ter Skupnim raziskovalnim središčem (JRC) Evropske komisije.

4.2. Razogljičenje energetsko intenzivne industrije

Pomemben del slovenske industrije predstavlja energetsko intenzivna industrija - EII (kovinska, nekovinska, kemična in papirna). EII letno porabijo slabo šestino vse končne porabljene energije v Sloveniji. Te dejavnosti zaposlujejo okoli 27.500 oseb in ustvarijo 2,5 % BDP. Pomembne so tudi z izvoznega vidika, saj pretežni del svojih izdelkov izvozijo. Veliko večino energije v industriji porabi sorazmerno malo število podjetij. V letu 2016 je zgolj 20 podjetij porabilo polovico vse energije v industriji. Industrija je v letih 2005-2016 znižala neposredne emisije toplogrednih plinov za več kot 35 %, procesne emisije pa za več kot 20 %. Ne glede na to pa visok delež EII v strukturi slovenskega gospodarstva zaradi večje izpostavljenosti spremembam, ki bodo izhajale iz podnebno-energetskih politik, pomeni tudi primerjalno večjo ranljivost Slovenije. Zato je nujno pravočasno in učinkovito posodabljanje in prestrukturiranje slovenskega gospodarstva in podjetij v EII.

Energetsko intenzivna industrija v Sloveniji je sicer v primerjavi z napravami v EU energetsko zelo učinkovita in večinoma uporablja najboljše tehnologije, ki so na voljo (BAT). S tega vidika je za večji preskok v nizkoogljično krožno gospodarstvo zelo odvisen od razvoja novih prebojnih tehnologij, ki jih na trgu še ni ali so šele na začetku razvoja na področju elektrifikacije toplote in proizvodnih postopkov. Določene že razvite tehnologije, od proizvodnje in uporabe vodika do zajema in uporabe ter zajema in skladiščenja ogljika, pa še čakajo na cenovno sprejemljivo, ustrezno integracijo v proizvodne procese energetsko intenzivne industrije.

Potrebno se je izogniti zapiranju najučinkovitejših podjetij, saj bi se s tem emisije na globalni ravni povečale, ker bi uvažali izdelke iz manj učinkovitih naprav iz drugih delov sveta (carbon leakage – odliv ogljika). Industrijo je potrebno še bolj spodbuditi tako k nadaljnjemu zmanjševanju energetske intenzivnosti in upravljanju z energijo kot tudi zmanjševanju procesnih emisij z optimizacijo, digitalizacijo in uporabo umetne inteligence. Ta industrija potrebuje zanesljivo dobavo čiste energije in oskrbo s surovinami, kar pogojujeta ustrezna infrastruktura tako za oskrbo z energijo in za ravnanje z odpadki. Po oceni Evropske komisije bo ne glede na že izvedene in pričakovane ukrepe v zmanjšanje porabe elektrike v EII poraba elektrike v energetsko intenzivni industriji v EU narasla z 2,98 na 4,43 TWh. V tem oziru je potrebno nasloviti tudi vprašanje ranljivosti EII z vidika cenovne dostopnosti energije. V prihodnosti bo namreč industrija soočena z bolj zahtevnimi razmerami na trgu z energijo kot posledico pričakovanih gibanj na mednarodnih trgih in hkrati potrebnih vlaganj v obnovo proizvodnih in prenosnih oziroma distribucijskih zmogljivosti v Sloveniji.

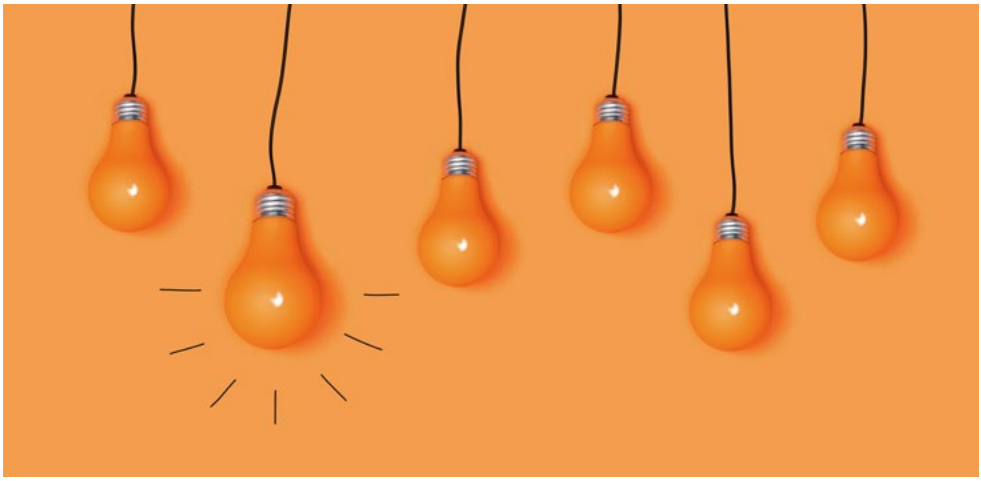
Pomen EII prepoznava tudi Evropski zeleni dogovor, kjer je zapisano, da je energetsko intenzivna industrija nepogrešljivi del gospodarstva, saj zagotavlja surovine za druge vrednostne verige, ki so pomembne za gospodarstvo EU. Pomemben vidik v tem oziru je tudi dostop do surovin (predvsem kritičnih surovin, ki jih bo treba bolje izločevati iz obstoječih odpadnih tokov). Za tehnološki preboj in posodobitve energetsko intenzivne industrije je treba izkoristiti vse možnosti, ki so na voljo na ravni EU (npr. Inovacijski sklad, Obzorje) ter na domači ravni preko mehanizma za okrevanje in odpornost ter za pravični prehod. Preko ukrepov bomo spodbujali raziskave, razvoj in inovacije ter prenos naprednih tehnologij, naložbe v uvajanje tehnologije in infrastrukture za cenovno dostopno čisto energijo, energetsko učinkovitost in zamenjavo energentov, povečanje snovne učinkovitosti in spodbujanje uvedbe

krožnih rešitev v industriji osnovnih materialov (uporaba sekundarnih surovin, nadomeščanje ogljično oziroma energetsko intenzivnih surovin in materialov s snovmi z nižjim odtisom). Prav tako bomo okrepili mednarodno sodelovanje za razvoj prebojnih tehnologij in uvajali možnosti optimizacije proizvodnje z avtomatizacijo, digitalizacijo, kvantnimi tehnologijami in umetno inteligenco.

Obstoječa proizvodnja se je že občutno racionalizirala predvsem z vidika zmanjšanja porabe energije na enoto in povečanja snovne produktivnosti. V skladu s širšimi evropskimi napovedmi se v prihodnjih letih pričakuje preboj in večjo cenovno dostopnost novih nizkoogljičnih tehnologij, ki bodo temeljito preoblikovale proizvodnjo v energetsko intenzivni industriji. Te tehnologije so predvsem:

- uporaba podnebno nevtralnega vodika (toplota in/ali procesi),
- uporaba biomase in biotehnologij,
- nadaljnja elektrifikacija toplote,
- nadaljnja elektrifikacija procesov (elektroliza, elektrokemija),
- zajemanje in uporaba ogljika (CCU – Carbon Capture and Utilisation),
- zajemanje in shranjevanje ogljika (CCS – Carbon Capture and Storage).

Zato bo treba pospeševati tako razvojno-inovacijske aktivnosti kot tudi pilotno-demonstracijske aktivnosti (npr. proizvodnja sintetičnega metana in vodika) in investicijske spodbude za ta namen. Prav tako je ključno povezovanje industrije v lokalne energetske skupnosti s pomočjo digitalizacije in implementacije pametnih platform, izkoriščanja odpadne toplote ter večanja samooskrbe iz obnovljivih virov energije. Izboljšanje energetske učinkovitosti je nujno, tudi s spodbujanjem uvajanja energetskega managementa v podjetjih, npr. preko uvedbe sistemov, skladnih z ISO 50001 (oz. ustreznih alternativ) tako v energetsko intenzivnih podjetjih kot tudi v energetsko manj intenzivnih podjetjih (v tistih, ki imajo strošek energentov na tretjem ali nižjem mestu na stroškovni lestvici). Hkrati je potrebno podjetja spodbuditi k izvedbi naložb, ki so identificirane v okviru energetskih pregledov.



4.3. Trajnostna mobilnost

Mobilnost bo tudi v prihodnosti temelj družbe in ekonomije, hkrati pa lahko, ob nadaljevanju obstoječega trenda, prav emisije toplogrednih plinov iz prometa ogrozijo doseganje podnebnih ciljev. Sektor prometa v Sloveniji predstavlja daleč največji vir emisij TGP in sicer kar 52,9 % v letu 2018. Delež sektorja je bil še leta 2005 samo 38-odstoten. Večina emisij je iz cestnega prometa. Promet je tudi edini sektor, v katerem so se emisije v obdobju 2005–2018 povečale, in sicer za 31,9 % (vir: Podnebno ogledalo 2020). Zeleno in digitalno bosta ključni področji razvoja mobilnosti v prihodnjem desetletju, če bomo želeli emisije iz sektorja prometa obvladati.

Na področju infrastrukture se poudarjata čisti promet in logistika, vključno z namestitvijo polnilnih postaj za električna vozila, spodbudami za železniški promet ter čisto mobilnost v mestih in regijah. Treba je torej spodbujati trajnostne oblike mobilnosti in temu prilagoditi tudi izgradnjo prometne infrastrukture, ki bo preferenčno spodbujala odmik od cestnega prevoza bodisi potnikov bodisi tovora. Področje se tesno povezuje s t. i. pametnimi mesti in skupnostmi, kar je podrobneje razdelano v Slovenski strategiji pametne specializacije (S4).

Na področju industrije pa je treba poudariti, da slovenska avtomobilska industrija predstavlja v celoti okvirno 10 % slovenskega bruto dodanega proizvoda in okvirno 20 % slovenskega izvoza. Na tem področju posluje okoli 285 podjetij, ki zaposlujejo 16.000 ljudi. Slovenski izvozniki, dobavitelji avtomobilski industriji, dosegajo vse mednarodne standarde in so kompetentni dobavitelji na globalnem trgu s ključnimi kupci v Nemčiji, kamor slovenska avtomobilska industrija izvozi 40 % svoje proizvodnje, sledijo Francija, Italija, Avstrija, Velika Britanija in Združene države Amerike.

Dejstvo je, da je pandemija COVID-19 močno prizadela avtomobilsko industrijo. Slovenija ima močne razvojne dobavitelje z ogromno akumuliranega znanja in razvojnimi potenciali, a so razmere težke, tudi zaradi prekinitve dobavnih verig. Tudi za avtomobilsko industrijo velja, da se bo morala še naprej posodabljati v smeri zelenega in digitalnega prehoda. Predvsem pa bo morala slediti tržnim trendom, ki gredo v smeri elektrifikacije vozil in spremembe poslovnih modelov (npr. »car-sharing«). Glede na akumulirano znanje in potenciale pa lahko priložnosti in razvojne projekte poišče tudi izven panoge.

4.4. Industrija, temelječa na lesu in ostalih naravnih obnovljivih materialih

Slovenija bo na svoji poti do osnovnega cilja iz Evropskega zelenega dogovora (do 2050 prehod v čisto družbo brez neto emisij toplogrednih plinov) izkoristila razvojni potencial, ki ga omogočajo domači naravni obnovljivi materiali, ki zagotavljajo nemoteno preskrbo s surovino, kratke dobavne poti in imajo pozitiven vpliv na blaženje podnebnih sprememb. Z večanjem zavedanja o pomenu ohranjanja okolja se iščejo alternative fosilnim virom, katerih uporaba ima velike, dolgoročno negativne posledice na naš življenjski prostor. Eden izmed

načinov je zagotovo v večji uporabi izdelkov, narejenih iz naravnih obnovljivih materialov, ki predstavljajo ponor CO_2.

Les je ključna strateška surovina oz. industrijski material v Sloveniji, ki je naravni in obnovljivi vir. V Sloveniji je letni prirast cca 9 mio m^3 lesa, medtem ko je letni posek cca 6 mio m^3[31], od česar se ga doma predela le 1,82 mio m^3 okroglega lesa (podatek za leto 2019); v tujino se ga skupaj s sekanci in lesnimi ostanki izvozi 2,87 mio m^3 (podatek za leto 2019, vir: SURS, Zavod za gozdove Slovenije[32]), nato pa uvaža polizdelke oziroma izdelke iz lesa; ostalo pa se porabi za energetske namene. Les je z vidika CO_2, ki se ga ustvari iz 1m^3 nekega materiala, v primerjavi z drugimi surovinami v bistveni prednosti. Medtem ko se pri pridelavi ostalih materialov spušča CO_2 v okolje (količina je odvisna od vrste materiala), se pri prirastu lesa ta skladišči in predstavlja do njegovega uničenja (kurjenje – gnitje) negativno vrednost ustvarjenega CO_2 za okolje. Študija »Climate effect of the forest-based sector in the European Union« iz leta 2020 ugotavlja, da evropski gozdovi in sektorji, ki temeljijo na lesu, skupno znižujejo bilanco v EU ustvarjenega CO_2 za kar 20 %. Pri gospodarjenju z gozdovi je treba dovolj pozornosti posvetiti tudi t. i. na naravi temelječim rešitvam (v angl. Nature based solutions). Študija »The solution is in nature« iz leta 2021 pri tem izpostavlja velik pomen gospodarjenja z gozdovi na način, ki pozitivno vpliva na varstvo biotske raznovrstnosti.

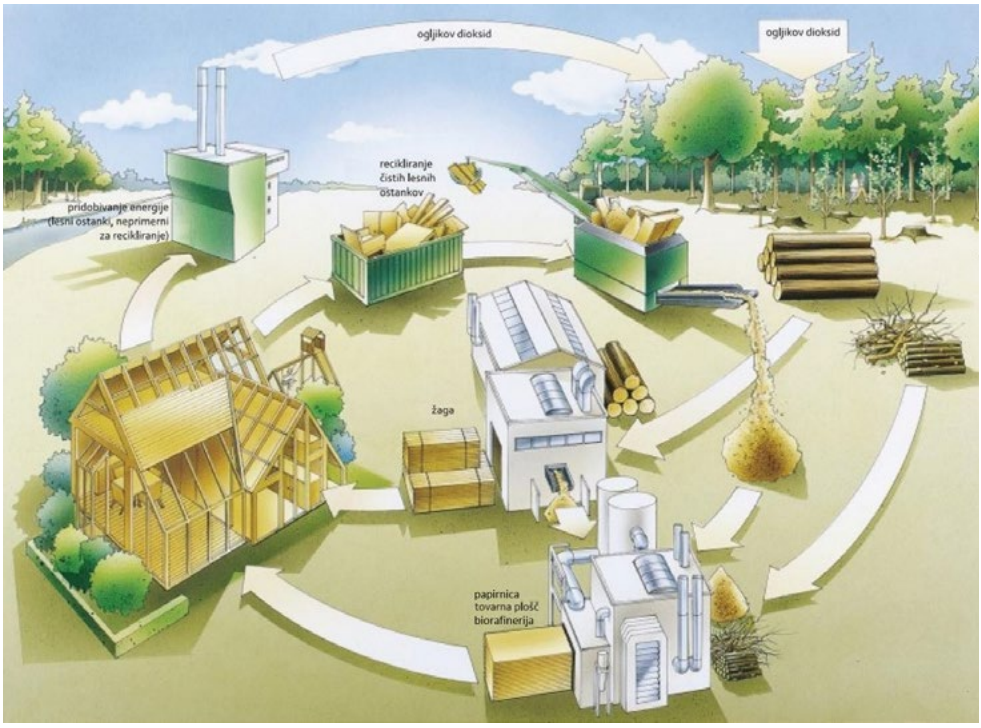
Les je material z vsaj dvema ali tremi uporabnostnimi cikli; gre za t. i. kaskadno rabo lesa: najprej ga uporabimo kot produkt (žagan les, gradbene komponente, pohištvo), drugič kot material v reciklirnem procesu (plošče ali papir) in slednjič za pridobivanje energije, kar prikazuje tudi spodnja slika. Les torej primarno prepoznavamo kot material za industrijsko predelavo in ne kot energent. Kot energent se uporablja le les, ki ni primeren za nadaljnjo industrijsko predelavo in odsluženi les.

V segmentu rabe naravnih obnovljivih materialov, ki skladiščijo ogljik, se pojavljajo velike možnosti predvsem na področju predelave lesa, ki ga ima Slovenija v zadostnih količinah (58 % ozemlja je poraščenega z gozdovi), kar predstavlja, ob trajnostnem upravljanju z gozdovi in izboljševanju stanja ohranjenosti biotske raznovrstnosti, zadosten potencial za dolgoročen razvoj, temelječ na domači surovini. Podnebne spremembe vplivajo na drevesno sestavo, zato je nujno prilagajanje lesne industrije na nove razmere. Smiselno je razmisliti tudi o alternativnih surovinah (bioodpadki iz kmetijstva, gozdarstva in komunale). Za prilagajanje na podnebne spremembe je treba tudi pri načrtovanju upravljanja z gozdovi upoštevati na naravi temelječe rešitve, vključno s preprečevanjem vnašanja in širjenja tujerodnih vrst, zlasti invazivnih. Slovenski gozdovi predstavljajo tudi neizmeren bazen genskih virov za raziskave in razvoj v različnih panogah (npr. farmacevtska in prehrambna industrija, biogoriva, industrija sinteznih spojin, obvladovanje škodljivcev itd.).

31 Številka velja za povprečni posek med leti 2015-2019, ko so bile velike naravne ujme, dejanski letni posek pa je sicer manjši, okoli 5 milijonov m^3 bruto.

32 Izvoz okroglega industrijskega lesa je po prvih neuradnih podatkih v letu 2020 znašal 1,4 mio m3.

Slika 4: Prikaz kaskadne rabe lesa



Vir: EPF – European Panel Federation; SGLP – Obvladajmo podnebne spremembe – uporabimo les, 2010.

Področje gradnje in opremljanja pametnih lesenih stavb je izjemna tržna priložnost, ki se bo z leti samo še večala. Če bi v EU povečali delež novozgrajenih hiš iz lesa za samo 10 %, bi to na letni ravni prispevalo k 25-odstotnemu znižanju količine CO_2. V tem kontekstu je pomembna preusmeritev na leseno gradnjo v okviru javnega naročanja. Naša vizija se pridružuje viziji združenj gozdno-lesnega sektorja EU, zapisani v Forest-based Industries 2050 (CEI Bois, 2019), ki predvideva, da bo delež konstrukcijskega lesa s sedanjih 10 % zrasel na 30 %, kar pomeni trikrat več gradnje z lesom, kot je imamo sedaj. Količina lesa v gozdovih pa tako v EU kot v Sloveniji to brez težav omogoča. Večja predelava lesa, posekanega v Sloveniji, lahko dodatno prispeva k znižanju emisij oz. povečanju ponorov v gozdovih v skladu z Uredbo LULUCF (EU 2018/841).

Vizija lesnopredelovalne industrije je zvišati nivo lesene gradnje z razvojnimi dejavnostmi in z izgradnjo demonstracijskih (pilotnih) stavb, v okviru katerih se bodo oblikovali novi poslovni modeli, ki bodo omogočali konkurenčen nastop konzorcijev pri investitorjih doma in na tujih trgih. S tem si bo tudi slovenska lesnopredelovalna industrija zagotovila tržišče za prodajo velikih količin lesa z visoko dodano vrednostjo. Poleg materialne rabe lesa se lahko les uporablja tudi za pridobivanje biospojin (bioderivatov), katerih produkti nadomeščajo sintetične kemikalije. Veliko manjvrednega lesa se v Sloveniji predela tudi v papirnicah, ki trenutno več kot 60 % potrebnega lesa še vedno uvažajo. Manj kvaliteten les ter lesni ostanki tako dosežejo višjo dodano vrednost, kot če se tak les uporabi za energetske namene.

S ciljem večanja predelave lesa doma bo nujna realizacija investicij tako v primarno predelavo lesa kot v vse ostale stopnje predelave lesa, kar je neposredno povezano s krepitvijo t. i. mehkega kapitala – to so raziskave, razvoj, inovacije, človeški viri itd.

Poleg lesene gradnje, v katero spada tudi leseno stavbno pohištvo, je v Sloveniji še vedno zelo prisotna pohištvena industrija. Ključni poudarek je na novih tehnologijah in poslovnih modelih v proizvodnih in razvojnih procesih, pri čemer je potrebno upoštevati načela krožnega in digitalnega razvoja (»creative and digital by design«).

Lesnopredelovalna industrija je v Sloveniji pomembna tudi z vidika velikega števila MSP, v okviru katerih je skoraj 1500 samostojnih podjetnikov, za katere je ključno prizadevanje za bolj prijazno poslovno okolje in spodbujanje potrošnje iz obnovljivih virov. Pri tem je treba izpostaviti tudi, da je v Sloveniji več kot 400.000 lastnikov gozdov. Treba je poskrbeti za njihovo mobilizacijo in povezovanje za intenziviranje gospodarjenja z gozdom in povečanjem rabe lesa v Sloveniji.

Les predstavlja izhodno surovino za številne tehnološko napredne sonaravne materiale in proizvode (kompoziti, modificiran les, izolacijski in polimerni materiali, tkanine, topila, utekočinjen les, karbonska vlakna, zdravila, piroliza – lesni plin itd.). Da bi izkoristili vse priložnosti na tem področju, je treba krepiti izobraževanje in raziskave biomaterialov (npr. na področju arhitekture, gradbeništva in strojništva). Ker so na les vezane še druge panoge, kot so gozdarstvo, celulozna in papirniška industrija, del gradbeništva, kreativne industrije (oblikovanje, arhitektura, raziskovalna umetnost,…), ima razvoj lesnopredelovalne industrije multiplikativne učinke, kar predstavlja velik potencial, ki ga je potrebno izkoristiti.

Osnovni cilji do leta 2030, vezani na izkoriščanje lesa, so povečanje predelanega okroglega lesa v Sloveniji za neenergetsko rabo na 3 mio m^3 letno, doseči 30-odstotni delež lesa v vseh novih javnih stavbah, razvoj novih načinov uporabe lesa, povečanje števila zaposlenih v panogah, povezanih z lesom (pri čemer se upošteva povečanje zaposlenih v storitvah, ki so povezane s temi panogami, česar ni upoštevanega v splošni analizi, npr. popravila, montaža,…), in povečanje prodajne realizacije v lesni industriji na 2,5 milijarde EUR letno.

Uresničitev zelenega preboja in trajnostni razvoj bomo dosegli z oblikovanjem spodbudnega okolja za dejavnosti, ki prispevajo k doseganju ciljev zelene Evrope. Predelave lesa se zato lotevamo sistematično ob upoštevanju potenciala, ki ga v sebi nosijo mikro, majhna in srednja podjetja.

5. USTVARJALNI RAZVOJ

Eden izmed stebrov sodobne družbe so raziskave, razvoj in inovacije (RRI). Vse troje v veliki meri temelji na povezovanju znanj, industrij in organizacij, ki v medsebojnem sodelovanju razvijajo ustvarjalne inovacije. Te vedno pogosteje izhajajo iz problema posameznika, družbe in/ali okolja in tudi ponujajo rešitev za specifičen problem. Drugače kot v preteklosti danes v uspešen in odprt RRI cikel pogosto vstopajo različne organizacije, vse od podjetij različnih velikosti in panog, institucij znanja, nevladnih organizacij (NVO) do kreativnih industrij (KI), ki so vir spodbud za razvoj gospodarstva ter tudi celotne družbe. Sodelovanje podjetij z institucijami znanja, NVO in s KI povečuje tako ustvarjalnost posameznikov kot inovativnost v podjetjih, omogoča njihov izboljšan nastop na domačih in tujih trgih, s tem pa povečanje prihodkov ter povečanje dodane vrednosti.

Tako ustvarjalnost kot inovativnost sta eni izmed ključnih lastnosti in veščin, ki izboljšujeta ekonomske in socialne kazalce v državi, povezovanje in sodelovanje pa predstavljata velik potencial za iskanje rešitev za velike družbene izzive sedanjosti: staranje prebivalcev, okolje, zdravje, hrana in varnost.

Mednarodne analize kažejo, da imajo podjetja, ki se v svojih poslovnih procesih povezujejo s KI, večji dobiček in hitrejšo rast. Podjetjem, ki investirajo v dizajn (v primerjavi s podjetji, ki NE investirajo v dizajn):

- se prihodek veča 22 % hitreje (Danish Design Centre (The Economic Effects of Design, 2003)),
- so za več kot 50 % bolj produktivna (Swedish Industrial Design Foundation, 2008) ter
- dosegajo za 200 % višje cene delnic (British Design Council, 2007).

Innobarometer, raziskava Evropske komisije iz leta 2016 na temo inovacijskih procesov v MSP kaže, da je v slovenskem gospodarstvu na področju vključevanja, oblikovanja in ustvarjalnosti v inovacijske procese podjetij še veliko neizkoriščenega potenciala. Raziskava je na vzorcu 501 slovenskega podjetja pokazala, da je delež slovenskih podjetij, za katera je oblikovanje po njihovem lastnem mnenju osrednjega pomena za njihovo poslovno strategijo, le 5 % (Danska, Avstrija: 21%, Velika Britanija: 17 %). Delež podjetij, ki po lastnih trditvah sploh ne uporabljajo oblikovanja, je v Sloveniji 43 %, povprečje v EU 27 je 37%.

Uporaba digitalnih orodij, kot so npr. orodja za industrijsko oblikovanje, razvoj izdelkov, proizvodnih naprav in objektov ter tehnološka orodja (CAD/CAM, 3D tisk) in s temi področji povezane simulacije (materiali, orodja, sestavi,…), močno krepijo učinkovitost ustvarjalne in inovacijske dejavnosti.

5.1. Skrb za ustvarjalno, podjetno in inovativno podporno okolje

Podjetniško in inovativno podporno okolje v Sloveniji je zelo pestro in živahno, a na drugi strani razpršeno, slabo pregledno in neusmerjeno. V tem okolju delujejo različni subjekti, katerih aktivnosti se mnogokrat podvajajo in ne ustvarjajo želene in pričakovane vrednosti. Zaradi tega Slovenija nujno potrebuje platformno okolje, ki bo ustvarjalo zdrav, spodbuden in povezovalen ekosistem, ki bo temeljil na ustvarjalnosti, podjetnosti in povezovanju. Znotraj takšnega ekosistema je potrebno vzpostaviti skupine, ki bodo izvajale programe na področjih (I) gospodarstva, (II) akademske in znanstveno-raziskovalne sfere, (III) javnega sektorja in (IV) širše družbe. Skupine morajo izvajati strukturirane programe, ki bodo za vsak segment ekosistema temeljili na ključnih področjih in zasledovali specifične cilje ter delovale platformno, povezovalno in komplementarno. S takšnim pristopom bo mogoče strukturirano in učinkovito nasloviti glavne izzive sodobne družbe in države.

Platformno organiziran ekosistem potrebuje neodvisnega, korektnega in povezovalnega koordinatorja, ki bo vodil krovni program in povezoval glavne subjekte ter konzorcije, ti pa bodo izvajali specifične programe za dvig inovativnosti in podjetnosti vsak na svojem področju.

Tako programi kot izvajalci se morajo medsebojno dopolnjevati, povezovati, informirati in izobraževati. Skrbeti morajo za ustvarjalno, podjetno in inovativno podporno okolje, da bo Slovenija privlačen kraj za razcvet talentov, hitro rastočih in ostalih podjetij, ki bodo ustvarjala visoko dodano vrednost, nova delovna mesta in hkrati posodabljala gospodarstvo v smeri krožnega in digitalnega prehoda.

Podjetniško in inovativno podporno okolje mora predstavljati vključujoče okolje, ki sloni na sodelovanju podjetij z dobavitelji, kupci, konkurenco, univerzami, znanstveno-raziskovalnimi organizacijami, inštituti, KI, NVO in drugimi javnimi in zasebnimi organizacijami. Ta mreža pomaga podjetjem premostiti ovire, ki se nanašajo na vire financiranja, človeški kapital, socialni kapital in druge vire, povezane s specifiko določenega podjetja ali trga. V tem okviru je treba izpostaviti subjekte socialne ekonomije, ki jih je treba obravnavati na enak način kot vse ostale subjekte v podpornem okolju, izvajalce posameznih ukrepov pa usposobiti za delo z njimi.

Kakovost podpornega okolja je bistvenega pomena za prelivanje znanja, ki generira razvoj. Zato je potrebno graditi na podjetniško-inovacijski infrastrukturi, ki bo omogočala, spodbujala ter razširjala sistem odprtih inovacij v podjetja in organizacije vseh oblik, da medsebojno sodelujejo, se povezujejo, izmenjujejo znanje, izkušnje ter izume, licencirajo tuje rešitve ter vseskozi spodbujajo ustanavljanje novih podjetij.

Kljub različnim kazalnikom in analizam inovativnosti (npr. European Innovation Scoreboard, Global Innovation Index,…) pa te analize ne izkazujejo realnega stanja inovativnosti v slovenskem gospodarstvu, saj zaobjemajo širok nabor kazalcev, ki v veliki meri niso vezani na gospodarstvo. Za dejanski in realen vpogled v stanje inovativnosti v slovenskem gospodarstvu je potrebno razviti in letno izvajati analizo inovativnosti med slovenskimi podjetji vseh velikosti, ki bo dala vpogled v posamezne dele inovativnosti in stopnje inovacijske kul-

ture ter s tem omogočala nasloviti bistvene pomanjkljivosti, na katere bo država pozorna, podjetja pa tudi podprla z različnimi finančnimi in nefinančnimi ukrepi.

Oblikovali, vzpostavili in krepili bomo **celostno in povezano podporno okolje za inovativnost**, ki bo platformno zgrajeno iz subjektov/konzorcijev, ki bodo izvajali programe inovativnosti na ključnih področjih inovacijskega ekosistema: (I) gospodarstvo in njihove reprezentativne zbornice/združenja, (II) akademska in znanstveno-raziskovalna sfera, (III) javni sektor in (IV) **širša družba**. Pri tem je ključna vloga tako Javne agencije SPIRIT Slovenija kot deležnikov podpornega okolja na nacionalni ravni.

V tem okviru bomo krepili:

1. **Mrežo slovenskih poslovnih točk (t. i. SPOT),** katerih namen je nudenje brezplačnih podpornih storitev za podjetnike in potencialne podjetnike, med drugim nudenje storitev podjetniškega svetovanja, informiranja in podjetniškega usposabljanja ter obogaten nabor storitev s področja internacionalizacije in tujih investicij. SPOT bo prispeval k vsem trem področjem industrijske strategije (zeleni, ustvarjalni in pametni razvoj).
2. **Subjekte inovativnega okolja (t. i. SIO**) za učinkovite storitve za podjetništvo in inovacije ter oblikovanje uravnotežene programske podpore za zagon, rast, razvoj in ohranitev podjetij. S tem bomo prispevali k:
    - povečevanju števila novoustanovljenih podjetij, predvsem tistih, ki dosegajo višjo dodano vrednost v primerjavi s slovenskim povprečjem,

- povečevanju stopnje preživetja novoustanovljenih podjetij,
- premagovanju ovir hitro rastočih podjetij.

3. **Podporno okolje na področju ustvarjalnosti**, ki bo osnovano na podpori ustvarjalnosti v smislu razvoja kulturno-kreativnih sektorjev (KKS) ter povezovanja KKS s preostalim gospodarstvom. Trenutno je slednje podprto v okviru Centra za kreativnost, Mreže centrov raziskovalnih umetnosti in kulture.
4. **Podporno okolje za zagonska in scale-up podjetja (t. i. Startup Plus Program):** program na enem mestu združuje vso ključno podporo, ki jo potrebujejo inovativna start-up podjetja za hitro globalno rast. Ta poleg finančnih spodbud sklada (subvencije, konvertibilna posojila, lastniško investiranje) zajema intenziven mentorski program ter usposabljanje v več različnih kakovostnih in specializiranih vsebinskih programih.
5. **Inovacijska stičišča (t. i. »innovation hubs«):** krepili bomo tako digitalna kot tudi ostala inovacijska stičišča, ki so namenjena inovacijskemu sodelovanju in povezovanju javnega in zasebnega sektorja ter so platforma za sodelovanje različnih igralcev in skupin, ki hočejo doseči boljše rezultate inovacij, bistven poudarek pa je na konkretni vsebini. Še posebej je treba okrepiti inovacijsko sodelovanje in povezovanje v kohezijski regiji Vzhodna Slovenija. Sodobna mednarodno primerljiva inovacijska stičišča nudijo tako vsebinsko kot tudi infrastrukturno podporo razvojno-raziskovalnim projektom MSP s ciljem uspešne mednarodne komercializacije znanja in tehnologij.
6. **Pisarne za prenos znanja:** njihov namen je povezovanje javnih raziskovalnih organizacij in gospodarstva. Njihova dejavnost vključuje pripravo, posredovanje in prilagajanje tehnološko in tržno ustrezne ponudbe raziskovalcev iz JRO podjetjem na podlagi identifikacije tehnoloških, raziskovalnih in razvojnih potreb gospodarstva. Pisarne usmerjajo raziskovalce k zadovoljevanju potreb gospodarstva, v podjetjih dvigajo zavest o dostopnosti raziskovalnih kapacitet in podjetja usmerjajo k uporabi storitev, ki jih raziskovalne organizacije lahko ponudijo. Raziskovalce je potrebno usposobiti z znanji o trgu, kupcih in podjetništvu.

V okviru podpornega okolja so pomembna tudi strateška razvojno-inovacijska partnerstva – t. i. SRIP-i, ki pa so izpostavljeni v okviru naslednjega poglavja.

5.2. Promocija ustvarjalnosti, podjetnosti in inovativnosti

Za ustvarjanje pozitivne inovacijske mikroklime mora Slovenija nadaljevati s premiki na področju krepitve **kulture ustvarjalnosti, podjetništva in inovativnosti**. Program spodbujanja mladih k razvoju ustvarjalnosti, podjetnosti in inovativnosti (v nadaljevanju UPI) je prinesel določene rezultate. S tem programom se želi pri mladih razvijati osebnostne lastnosti, ki so pomembne za podjetništvo – od ustvarjalnosti, samoiniciativnosti, sprejemanja tveganj in odgovornosti do samozavesti in javnega nastopanja. Prizadevali si bomo, da se kulturo ustvarjalnega, podjetnega in inovativnega načina razmišljanja in poznavanja intelektualne lastnine vpelje v vse dele izobraževalnega sistema (kroskurikularno) od vrtcev do fakultet ter tudi v podjetja za vzgojo ustreznih kadrov.

Skrbeti je treba za **promocijo podjetništva** in **izvajanje ukrepov za spodbujanje podjetništva med posebnimi ciljnimi skupinami** (npr. mladi, ženske, družinsko podjetništvo). Ključna je tudi promocija in internacionalizacija industrije skozi koherentno delovanje podpornih mrež ter organizacijo konferenc, posvetov, seminarjev in delavnic v Sloveniji in v mednarodnem okolju.

V Sloveniji že več kot dvajset let uspešno poteka **nagrajevanje in promocija najboljših slovenskih inovacij**, ki temelji na regijskem izboru najboljših inovacij in se zaključi z izborom najboljših nacionalnih inovacij. Priznanja za inovativnost ne pomenijo zgolj potrditve za nagrajence in njihovo promocijo doma in po svetu, ampak jih tudi povezujejo med sabo, zato je smiselno projekt nadaljevati, pospeševati in ga nadgraditi z dodatnimi vsebinskimi aktivnostmi.

5.3. Podpora zagonu, rasti, razvoju in ohranitvi podjetij

V tem okviru je potrebno spodbujanje ustanovitve in zagona nastajajočih inovativnih podjetij, podjetij v fazi hitre rasti (scale-up), razvoj ostalih podjetij in uspešen prenos idej podjetnih posameznikov in skupin v tržno uspešne podjeme, ki imajo pozitiven gospodarski in družbeni pomen. Spodbude bodo usmerjene v nišne trge in bodo podpirale zeleni in digitalni prehod.

Prav tako je ključnega pomena, da imajo podjetja, zlasti MSP, v obeh kohezijskih regijah dostop do ugodnih virov financiranja, saj je to ena najtežje premostljivih ovir za vsa podjetja. V tem oziru je potrebno krepiti dolžniške in lastniške vire financiranja. Prav tako so z vidika rasti, razvoja in ohranitve podjetij pomembne spodbude tako malih vrednosti (npr. t. i. vavčerji), preko katerih imajo podjetja dostop do storitev s področja digitalizacije, varstva intelektualne lastnine, certifikatov, usposabljanja in zunanjih storitev na drugih pomembnih področjih, kot tudi velikih razvojno- inovacijskih projektov, ki so strateškega pomena za državo.

Pomembno je podpirati raziskave in razvoj ter investicije preko davčnih olajšav; podjetja je treba aktivno motivirati k vlaganju v nove produkte, ki morajo biti svetovno konkurenčni. Dodatno je potrebno vzpodbujanje prijave patentov in zaščite znamk ter podpora uvajanja konkretnih novih tehnologij, ki spodbujajo ustvarjalnost in s tem konkurenčnost (npr. umetna inteligenca, VR).

Eden od pomembnih stebrov prenosa znanja in tehnologij, ki prispeva h gospodarski rasti, so tudi odcepljena podjetja (spin-out in spin-off podjetja) javnih raziskovalnih organizacij. Ta podjetja kreirajo nova delovna mesta in imajo velik potencial, da postanejo inovativna in hitro rastoča, zato je potrebno tudi v Sloveniji vzpostaviti evropsko primerljivo normativno okolje za ustanavljanje takih podjetij.

5.4. Krepitev netehnoloških inovacij

Spoprijemanje podjetij, zlasti MSP, z izzivi zelenega in digitalnega prehoda gospodarstva terja širše razumevanje pojma inovacije, ki se ne more omejevati le na tehnologijo, ampak vključuje vse vrste inovacij, od najpogosteje prisotnih produktnih in procesnih do marketinških, organizacijskih in družbenih. Obstoječa mala podjetja niso nujno inovativni startupi v klasičnem smislu. V takšnih podjetjih je treba z ukrepi spodbujati tudi inovativne poslovno-upravljavske rešitve ter ustvarjalnost v najširšem smislu.

Netehnološke inovacije, ki temeljijo na inoviranju procesov, storitev in predvsem poslovnih modelov, so pogosto tiste, ki ustvarjajo razliko med posameznimi proizvodi in ustvarjajo dodano vrednost. Dejstvo je, da inovacije mnogokrat ne izhajajo iz raziskav in razvoja, temveč temeljijo na problemu uporabnika ter uporabi obstoječih tehnologij, produktov. Inovacija je lahko nov poslovni model, ki na primer izhaja iz upoštevanja uporabniških izkušenj, uporabe digitalnih tehnologij (npr. platforma za souporabo) ali vključevanja storitev (poprodajne storitve, popravila ipd.).

Ključne so tudi t. i. **»družbene inovacije«,** pri čemer gre za nove ideje (produkte, storitve, modele), ki hkrati učinkovito odgovarjajo na potrebe družbe in ustvarjajo nove družbene odnose in sodelovanja. Gre za inovacije, ki poleg splošnih koristi za družbo povečujejo tudi zmogljivost družbe za ukrepanje. Ključna razlika med inovacijo in družbeno inovacijo je torej ta, da družbena inovacija poleg ekonomske vrednosti naslavlja tudi potrebe in izzive družbe ter ustvarja družbeni učinek. V tem oziru je treba krepiti tudi socialno ekonomijo, ki ima ključno vlogo pri ustvarjanju delovnih mest in socialni vključenosti.

Ključno je povezovanje s KKS, predvsem z oblikovanjem, arhitekturo in dizajn managementom ter drugimi procesi, ki vzpodbujajo razvoj netehnoloških inovacij. **Dizajn management** je primer instrumenta krepitve ustvarjalnosti in izboljšanja konkurenčnosti v podjetjih, ki se je izkazal za izjemno uspešnega. V Sloveniji smo to podprli preko dveh kompetenčnih centrov za dizajn management - KCDM (v obdobjih 2013-2015 ter 2017-2019). V 2,5 leta trajajočem projektu KCDM 2.0 (2017-2019) je bilo v usposabljanja vključenih 37 podjetij in njihovih skupno 1.433 zaposlenih. Rezultati po koncu projekta so izjemno dobri. S pomočjo izboljšav poslovnih procesov in produktov se je rast dobička v podjetjih v projektu povečala v povprečju za 104 %, dodana vrednost na zaposlenega pa v povprečju za 12 %.

6. PAMETNI RAZVOJ

Pametna industrija, ki jo lahko imenujemo tudi Industrija 4.0, je postala trend, ki je strateška prioriteta v mnogih industrijskih podjetjih. Pri tem podjetja združujejo napredno povezljivost, avtomatizacijo, tehnologije oblakov, senzoriko, različne proizvodne procese, inteligentne algoritme, IoT (internet stvari) in umetno inteligenco. Bistvo je popoln nadzor nad celotnim poslovnim procesom preko digitalne platforme. Pri tem gre lahko za proizvodnjo, logistiko, upravljanje z viri, sledenje materialom in podobno. Prav tako kot tehnologija pa so pomembni tudi poslovni procesi, ki se z uvedbo digitalizacije spremenijo. Enako velja za verige vrednosti.

Za pametno industrijo, ki jo je potrebno čim hitreje prilagoditi enotnemu digitalnemu trgu EU, je pomembna krepitev digitalizacije poslovanja, storitev, produktov in poslovnih modelov, pospešeno vlaganje v raziskave, razvoj in inovacije, mreženje in povezovanje različnih akterjev, krepitev kompetenc ter nenazadnje pospeševanje mednarodnega povezovanja podjetij. Ključno na teh področjih ostaja razumevanje trga, produkta in problema uporabnika, ki ga z naprednimi tehnološkimi rešitvami rešujemo. Izzive družbe je namreč potrebno reševati s sodobnimi tehnologijami in razviti produkte, ki bodo pomagali družbi in bodo posledično uspešni na trgu. Treba je vzpodbuditi podjetja, da si kreirajo lastne digitalne strategije, ki dopolnjujejo poslovne strategije in jih implementirajo.

Pospešena avtomatizacija s sabo prinaša tudi manjšo potrebo po tradicionalnih delovnih mestih. S tega vidika je treba nasloviti tudi prekvalifikacijo delavcev, ustvarjanje kompetenc za poklice prihodnosti, morebitne prilagojene oblike dela in delovnika (skrajšan delovni čas, delo od doma, souporaba,…), ter spremembe, ki izhajajo iz krožnih poslovnih modelov (povečanje storitev »reuse«, »remanufacturing«,...). Digitalizacija mora podpirati tudi zeleni in ustvarjalni prehod.

Odpornost digitalizirane industrije na kibernetske grožnje in napade je ključna za njeno dolgoročno uspešnost in preživetje. Zato je v pametni industriji potrebno zagotavljati visok nivo kibernetske varnosti, tako z ustreznimi sistemi kot tudi postopki in izobraževanjem ter osveščanjem.

Evropska komisija je januarja 2021 izdala poročilo z naslovom »**Industry 5.0: Towards a sustainable, human-centric and resilient European industry**«[33], ki se posebej osredotoča na industrijskega delavca kot človeka. Industrija 5.0 dopolnjuje obstoječo paradigmo Industrije 4.0 s poudarjanjem raziskav in inovacij kot gonila za prehod na trajnostno, osredotočeno na človeka/posameznika in odporno evropsko industrijo.

Industrija 5.0 poskuša zajeti vrednost novih tehnologij za dosego blaginje, ki presega cilje delovnih mest in rasti, hkrati pa spoštuje planetarne meje in v središče proizvodnega procesa

33 https://ec.europa.eu/info/publications/industry-50_sl.

postavlja blaginjo industrijskega delavca. Namen je, da se upošteva današnje pereče socialne omejitve in nikogar ne pusti zadaj. To predpostavlja vrsto ustreznih ukrepov tako za spoštovanje človekovih pravic, kakor tudi zagotavljanja varnega digitalnega delovnega okolja. Industrijski delavec dobiva novo vlogo - ne sme se ga smatrati za strošek, ampak za investicijo, ki bo omogočila razvoj tako podjetju kot delavcu. Delodajalec mora biti zato zainteresiran za vlaganja v veščine, sposobnosti in tudi dobro počutje zaposlenega. Pomemben predpogoj Industrije 5.0 je, da mora tehnologija služiti ljudem in ne obratno. V kontekstu industrije to pomeni, da se tehnologija uporablja in proizvodnja prilagaja potrebam in raznolikosti industrijskih delavcev, namesto, da se mora delavec prilagajati stalno razvijajoči se tehnologiji. Delavec mora biti opolnomočen in njegovo delovno okolje mora biti vključujoče. Zato bi moral biti delavec tesno vključen v sooblikovanje in uvajanje novih tehnologij, vključno robotike in umetne inteligence. Roboti naj bi za večjo varnost delovnega mesta prevzemali veliko število ponavljajočih se in enostavnih opravil.

6.1. Krepitev digitalizacije in pametnih rešitev

Posodabljanje gospodarstva mora iti v smeri uporabe najbolj sodobnih tehnologij, najvišje procesne varnosti, zvišanja stopnje avtomatizacije in robotizacije, uporabe digitalnih tehnologij ter umetne inteligence, kar posledično prispeva tudi k učinkovitejši rabi virov in energije. Uvajanje pametnih tovarn naj bi kar 10-krat povečalo produktivnost, hkrati pa omogočalo personalizacijo produktov, rešitev. Uvajanje digitalnih rešitev mora potekati na več ravneh. Na ravni EU in ravni države se prilagaja zakonodaja, pravila kibernetske varnosti in varstva potrošnikov ob hkratnem uvajanju digitalne tehnologije v poslovanje podjetij na vseh področjih. Nova zakonodaja pa mora imeti ocenjen vpliv na digitalno. Ti procesi že spreminjajo podobo industrije in način poslovanja. To dokazujejo slovenska podjetja, ki sodelujejo z vodilnimi podjetji na svetovnem trgu tudi z uvajanjem pametne avtomatizirane proizvodnje in uporabo umetne inteligence. Pri tem mora biti v skladu z razvijajočim se konceptom Industrije 5.0 v ospredju opolnomočeni človek - delavec.

Ukrepi na področju digitalizacije omogočajo podjetjem preprost in hiter prodor na tuji trg oziroma razširitev poslovanja na obstoječem tujem trgu, krajši čas določenih operacij, procesov, optimizacijo in učinkovitejše iskanje virov oziroma učinkovitejšo nabavo, nižje stroške administracije, povečano preglednost nad poslovnimi procesi ter posledično povečano prodajo na tujih trgih, izboljšanje konkurenčnega položaja, poenostavitev distribucijske poti, razširitev trga in dosega poslovanja ter posledično večje prihodke, izboljšanje interakcij s strankami, natančnejše in lažje dostopne informacije o samem podjetju, dobaviteljih, kupcih, ciljnih trgih, povečanje hitrosti poslovanja, povečanje tržnega deleža in racionalizacijo poslovnega modela. Za to pa bomo potrebovali tudi močno nacionalno digitalno infrastrukturo, ki vključuje aktivno povezovanje in sodelovanje različnih akterjev s ciljem postaviti Slovenijo na zemljevid uspešnih in referenčnih držav na področju pametne in zelene industrije. Hitre in zanesljive širokopasovne povezave (fiksne in mobilne), tudi na podeželju, so nujne za razvoj ključnih spletnih socialnih in gospodarskih storitev. Uvedba 5G je odvisna od pravočasne dodelitve spektra 5G.

Nasloviti želimo ne samo digitalnega preoblikovanja klasičnih podjetij, ampak želimo nuditi podporo hitrejšemu razvoju digitalnih podjetij. Izboljšanje digitalnih znanj in spretnosti delavcev bi lahko razmeroma hitro povečalo njihovo zaposljivost in podprlo gospodarsko okrevanje po krizi zaradi pandemije COVID-19. Uvedba uporabniku prijaznih storitev e-uprave in digitalnih javnih storitev bi pomagala dodatno zmanjšati upravno breme za podjetja. Čeprav so na voljo že številne javne spletne storitve, bodo za njihovo uporabo s strani posameznikov in podjetij potrebna prizadevanja za povečanje zaupanja ljudi v spletne transakcije in njihovo varnost (npr. uvedba nacionalnega elektronskega identifikatorja, zagotavljanje kibernetske varnosti in varovanja zasebnosti).

Pametna industrija bo upoštevala tudi Nacionalni program spodbujanja razvoja in uporabe umetne inteligence v RS do leta 2025 (NpUI), ki je usklajen s SRS 2030. NpUI med globalne izzive uvršča tudi industrijsko 4.0 revolucijo tako, da se vzpostavljajo novi modeli gospodarskega poslovanja ter celotnega družbenega in okoljskega razvoja.

Digitalna preobrazba hkrati pomeni tudi preobrazbo industrije v industrijo 4.0, s čimer bo Slovenija lahko konkurirala v evropskem in svetovnem prostoru. V proizvodnem podjetju bo potrebno digitalno transformacijo in digitalizacijo opredeliti na dveh ravneh, na ravni digitalizacije proizvodov, storitev in ustvarjanja digitalnih poslovnih modelov (smart) ter z digitalizacijo procesov in poslovanja. To bo predstavljalo prihranek na vseh ravneh poslovanja, dvig produktivnosti in konkurenčnosti na globalnem trgu. Pri razvoju je treba upoštevati načela vgrajene kibernetske varnosti.

Poleg posodabljanja gospodarstva z digitalizacijo poslovanja in uvajanjem pametnih rešitev v lastno poslovanje pa moramo spodbujati tudi razvoj poslovanja gospodarstva v smeri uporabe novih tehnologij, kot so IoT, umetna inteligenca, digitalne platforme in podobno, za nove digitalizirane storitve, produkte in poslovne modele. Pri tem temeljimo na poznavanju trga, konkurence, lastnih kupcev in uporabnikov in se osredotočamo na sodobno uporabniško izkušnjo. Uspešen in hiter razvoj v tej smeri, ki je za konkurenčnost nujen, lahko spodbudimo

z razvojem lastnih digitalnih kompetenc zaposlenih v podjetju ter s povezovanjem v nova razvojna partnerstva in verige vrednosti z razvojnimi podjetji IKT sektorja in institucijami znanja za razvoj produktov z višjo dodano vrednostjo ali višjo stopnjo integracije. Na ta način bomo lahko povezovali multidisciplinarna znanja za kreiranje sodobnih digitalnih storitev, produktov in poslovnih modelov, kar bo poleg produktivnosti drugi nujni pogoj za konkurenčnost gospodarstva, dvig dodane vrednosti in uspešno internacionalizacijo oziroma povečevanje izvoza na zahtevne trge z višanjem deleža visokotehnoloških proizvodov. Na ta način lahko slovenska industrija širi izvozne trge in postaja odpornejša.

6.2. Spodbujanje razvojno-raziskovalnega in inovacijskega ciklusa

Industrijska strategija skupaj z Raziskovalno in inovacijsko strategijo usmerja ukrepe v spodbujanje celotnega razvojnega, raziskovalnega in inovacijskega ciklusa od TRL 1-9 s poudarkom na prioritetnih področjih, ki izhajajo iz Slovenske strategije pametne specializacije (S4), kar se bo sistemsko krmililo preko novega Zakona o znanstveno-raziskovalni in inovacijski dejavnosti. Tako bomo dosegli tudi preusmeritev industrije od prakse dobavljanja komponent v nišno usmerjenega soustvarjalca tehnološko visoko razvitih izdelkov. Pri zasnovi izdelkov je potrebno upoštevati krožne in digitalne vidike (»circular & digital by design«). Bistveno pri tem je, da se prioritet ne opredeljuje »od zgoraj navzdol«, pač pa na osnovi partnerstva med gospodarstvom, institucijami znanja, državo in drugimi deležniki.

Pri tem je bistvenega pomena, da se vzpostavi sistem uporabe raziskovalne opreme, ki obsega dopolnitev že vzpostavljene evidence razpoložljive raziskovalne opreme ter vzpostavitev povezave med uporabniki in lastniki opreme.

Med vlaganji v raziskave in razvoj bo, poleg podpore zelenemu in digitalnemu prehodu, dan poseben poudarek reševanju drugih družbenih izzivov (npr. pandemij). Za to področje bodo na voljo sredstva, ki izhajajo iz Sklada EU za okrevanje in odpornost in iz programov Obzorja.

Spodbujati bi bilo treba uporabo evropskega patenta z enotnim učinkom, ko bo ta sistem začel veljati. Z njegovo uporabo bi še posebej MSP lahko za nižjo ceno varovala svoje izume v tistih državah EU, ki bodo sodelovale v sistemu evropskega patenta z enotnim učinkom.

6.3. Mreženje in povezovanje

Mreženje in povezovanje, predvsem na področju raziskav, razvoja in inovacij, je ključnega pomena. V povezavi s tem se bo nadaljeval razvoj koncepta strateških razvojno-inovacijskih partnerstev (SRIP-ov), ki na vsakem od prednostnih področij S4 združujejo ključne deležnike iz gospodarstva, raziskovalne sfere in ostale deležnike. Ti skupaj z državo ne samo sooblikujejo razvojno politiko, ampak tudi organizirajo celovit razvojno-inovacijski ekosistem

po posameznih področjih S4. V praksi to pomeni vzpostavljanje različnih organizacijskih mostov (skupnih omizij, kjer različni akterji sodelujejo pri oblikovanju strategij in razvojnih programov) ter verig vrednosti tako doma kot z vključevanjem v mednarodne verige in mednarodne razvojno-inovacijske platforme s pripravo zahtevnejših razvojnih projektov, z vzpostavljanjem skupnih nastopov in mednarodno promocijo.

Zastaviti je treba ambiciozne cilje za internacionalizacijo znanja in rešitev, kjer bi bila slovenska podjetja s podpro celotnega ekosistema (država, raziskovalni sektor, nevladni sektor) sposobna ponuditi celovite visokotehnološke rešitve za večja okolja.

Pomembne so tudi druge oblike povezovanja in mreženja, na primer grozdi, digitalna inovacijska stičišča, kompetenčni centri in druge neformalne oblike povezovanja.

Digitalna inovacijska stičišča (t. i. »Digital Innovation Hubs«, akronim DIH) in podobni subjekti so izjemnega pomena za kreiranje celotnega ekosistema sodelovanja številnih različnih deležnikov in ciljnih skupin. To je prepoznala tudi Evropska komisija, ki v okviru Digitalnega programa Evrope[34] temu področju namenja veliko pozornost in tudi finančna sredstva, saj želi vzpostaviti mrežo Evropskih digitalnih inovacijskih stičišč (EDIH). Slovenija je v skladu s smernicami EK to področje opredelila v smernicah Digitalna inovacijska stičišča v Sloveniji po 2020[35]. Ključni namen takšnega sodelovanja med deležniki zasebnega, javnega, raziskovalnega, akademskega in lokalnega okolja je digitalna preobrazba, ki mora doseči prav vsa področja vsakodnevnega življenja. Potrebno je krepiti poznavanje naprednih digitalnih tehnologij, ozavestiti priložnosti in nevarnosti, usposobiti posameznike, kakor tudi omogočiti podjetjem dostop do infrastrukture za testiranje naprednih digitalnih tehnologij (op.: laboratorijska oprema oziroma testirno okolje je predrago za MSP-je). Ključna smernica tukaj je, da so takšne storitve blizu uporabnika, kar pa je v Sloveniji, zaradi majhnosti države, prednost. Pomembna dodana vrednost EDIH mreže bo tudi mednarodno povezovanje in iskanje novih poslovnih priložnosti, prenos dobrih praks, prenos znanja in iskanje skupnih rešitev.

6.4. Krepitev in razvoj novih kompetenc, prekvalifikacija, nove oblike dela

Uresničevanje pametne industrije mora biti usmerjeno v krepitev kompetenc zaposlenih. Pomembno vlogo na tem področju predstavlja platforma za napovedovanje potreb po kompetencah, ki bo na podlagi spremljanja trendov in potreb trga dela omogočila pravočasna usposabljanja in izobraževanja sodelavcev za prihajajoče nove naloge, ki jih narekuje nenehen industrijski razvoj. Na podlagi nenehnega spremljanja vrzeli v kompetencah zaposlenih se bodo tako lahko oblikovali ustrezni programi izobraževanja in usposabljanja, ki bodo krepili kompetence, potrebne za delo in razvoj na področju zelenega, pametnega, digitalnega in ustvarjalnega. Predvsem pa bo potrebno z ukrepi omogočiti pridobivanje in krepitev interdisciplinarnih ter »mehkih« kompetenc.

34 Digital Europe Programme.

35 Smernice Digitalna inovacijska stičišča v Sloveniji po 2020 .

Z ukrepi za prekvalifikacijo in dokvalifikacijo zaposlenih, ki bodo zaradi digitalizacije in vpeljave industrije 4.0 potrebovali nove kompetence, se bo zmanjšalo število brezposelnih oseb na trgu dela. Vendar morajo biti ukrepi celostni in zajeti celotno vertikalo in se začeti že v osnovnih šolah z ustreznimi izobraževalnimi vsebinami in kakovostno karierno orientacijo, s pomočjo katere se bo usposobilo učence, dijake, študente in kasneje odrasle za razvoj in načrtovanje kariere. Ukrepi naj spodbujajo pridobivanje kompetenc s področja pametnega in digitalnega v različnih oblikah (npr. »job shadowing«). Prav tako je zaposlenim potrebno omogočiti različne oblike opravljanja dela, predvsem glede na trend personalizacije delovnega mesta, kjer je to ustrezno. Novi načini in oblike dela zahtevajo višji nivo razvitosti kompetenc, ki omogočajo sodelovanje in učinkovito opravljanje delovnih nalog. Preskok v digitalno je mogoč le, če imajo kadri razvite digitalne kompetence[36] ter z njihovo pomočjo učinkovito opravljajo delo.

Nadalje morajo ukrepi zajeti ohranjanje obstoječega visoko izobraženega kadra ter privabljanje istega iz tujine ter omogočati prožno prehajanje kadra iz institucij znanja in izobraževalnega sistema v gospodarstvo in obratno; s slednjim spodbujamo povezavo znanja in prakse ter interdisciplinarnost. Pravočasno odkrivanje in ohranjanje talentov v gospodarstvu, institucijah znanja in izobraževalnih institucijah, razvoj karier zaposlenih z namenom prekvalifikacije in dokvalifikacije, je ključnega pomena za razvoj.

Eden najpomembnejših, predvsem pa najuspešnejših instrumentov z vidika pomena mreženja podjetij na področju skupnih ter ciljanih vlaganj v znanja, spretnosti in kompetence zaposlenih so kompetenčni centri za razvoj kadrov (v nadaljevanju KOC). KOC-i so bili ob svojem začetku leta 2010 prvi primer uspešnega povezovanja podjetij na področju vlaganj v znanja zaposlenih. S sprejemom S4 leta 2015 so postali osrednji instrument podpore vlaganjem v znanja in veščine zaposlenih za potrebe pametne specializacije. KOC-i dopolnjujejo delovanje SRIP-ov na področju razvoja človeških virov oz. znanj in spretnosti, s čimer je dosežen celovitejši pristop v trikotniku razvoja človeških virov, spodbujanja inovativnosti in konkurenčnosti ter vlaganj v raziskave in razvoj.

KOC-i zagotavljajo poklicno specifična usposabljanja in izobraževanja, ki so prepoznana kot nujna za razvoj in konkurenčnost posamezne panoge oziroma področja delovanja. Pomembna prednost izvajanja KOC-ev je, da podjetja sama oblikujejo vsebine izobraževanja oz. usposabljanja in imajo fleksibilnost pri izbiranju izvajalcev izobraževanj. V programskem obdobju 2014-2020 je pri izvajanju KOC-ev, ki so oblikovani kot mreže podjetij, skupaj sodelovalo več kot 600 podjetij z zabeleženimi več kot 50.000 vključitvami v usposabljanja (samo v okviru razpisa 2019-2022 je v desetih podprtih KOC-ih vključenih kar 327 podjetij, načrtovanih pa 22.352 vključitev v najrazličnejša usposabljanja, ki bodo z razvojem ključnih kompetenc okrepila konkurenčnost slovenskih podjetij). Kompetenčni centri bodo tudi v prihodnje namenjeni nadgradnji znanj, veščin in spretnosti zaposlenih, razvoju kompetenčnih modelov in krepitvi povezovanja podjetij ter izmenjavi dobrih praks na področju razvoja kadrov, s posebnim poudarkom na razvoju znanj na področju pametne specializacije, z namenom podpore podjetjem pri digitalni preobrazbi in prehodu na industrijo 4.0.

36 Digitalne kompetence so ključnega pomena za izobraževanje, delo in aktivno participacijo v digitalni družbi. EK je v sodelovanju z državami članicami pripravila Okvir digitalnih kompetenc za državljane (trenutna verzija DigComp 2.1. in se redno posodablja), ki vsebuje 21 kompetenc na področjih: informacijska pismenost, komunikacija in sodelovanje, izdelava digitalnih vsebin, varnost in reševanje problemov.

6.5. Internacionalizacija

Namen internacionalizacije je spodbuditi večjo odprtost v mednarodno okolje. Hiter napredek od podjetij zahteva nenehno prilagajanje, povečevanje učinkovitosti, zniževanje stroškov in iskanje novih priložnosti na domačem ter tujih trgih. Tako postaja internacionalizacija poslovanja tudi za večino MSP-jev nujna za preživetje. V ta namen se pripravlja Program spodbujanja investicij in internacionalizacije slovenskega gospodarstva. Program v središče postavlja tri strateška področja: trajnost, inovativnost in digitalizacijo. Z ukrepi bomo skušali omiliti posledice pandemije COVID-19 in delovali v smeri dinamične, odporne in konkurenčne Slovenije. Glavni cilji programa so diverzifikacija izvoza, povečanje števila izvoznikov (MSP-jev), pozicioniranje v globalnih verigah vrednosti, zmanjšanje zaostanka pri vhodnih tujih neposrednih investicijah za drugimi državami EU, ciljna usmerjenost ter izboljšanje učinkovitosti ekosistema.

Pomembna je tudi internacionalizacija na področju raziskav, razvoja in inovacij. Zato je potrebno:

- pospeševanje vključevanja v evropske in globalne razvojno-raziskovalne in tehnološke projekte, pobude in programe (npr. Obzorje, Eureka, Evropska vesoljska agencija – ESA, Evropska obrambna agencija - EDA, CERN, FAIR, CTA, Life+ programi),
- spodbujanje sodelovanja z različnimi evropskimi in mednarodnimi institucijami (npr. European Institute of Technology - EIT/ Knowledge and Innovation Communities - KICs, Biobased industry Joint Undertaking - BBI JU),
- krepitev sodelovanja z obstoječimi in novimi mrežami podpornega okolja ter ostalimi deležniki v tujini (npr. mreža European Enterprise Network – EEN, EU DIH network),
- identificiranje in spremljanje tehnoloških dosežkov/trendov na evropskem in globalnem trgu ter prenos dobrih praks iz Slovenije in v Slovenijo, ki obsega mednarodne gospodarske dogodke, mrežo Innovation Radar, mrežo ekonomskih predstavnikov v tujini, mednarodne mreže s področja KKS in podjetništva, kot so npr. European Creative Business Network (ECBN), Creative Business Network in druge.

Z namenom izvoza znanja in storitev na tuje trge ter hitrejše diverzifikacije slovenskega gospodarstva se bo preučila možnost izvedbe pilotno-demonstracijskih projektov na področju internacionalizacije. V prvi fazi se bo izvedla študija izvedljivosti (ali je posamezen produkt/storitev primeren za posamezen tuji trg); v kolikor študija izkaže izvedljivost poslovanja, bi se lahko podjetje v drugi fazi vključilo v izbor za izvedbo pilotno-demonstracijskega projekta na posameznem tujem trgu.

7. USMERITVE ZA POVEZAN ZELENI, USTVARJALNI IN PAMETNI RAZVOJ

Kot je navedeno v poglavju 2.4, je nabor ukrepov za izvajanje SIS v veliki meri standardiziran. Vendar pa je pri posameznih ukrepih ključno, da so pravilno usmerjeni in da v izvedbenem delu podprejo zeleni, ustvarjalni in pametni razvoj. Primer ukrepa so raziskave, razvoj in inovacije, ki so osnovno gonilo razvoja gospodarstva, vendar je pomembno, kam in kako so usmerjene, da bodo podprle želeno smer razvoja. Orodje ekonomske politike za doseganje ciljev pa so tako materialne kot nematerialne spodbude. Ključne so tudi tiste, ki usmerjajo potrošnjo in s tem določajo tržno obnašanje, ki bo temeljilo na odgovornem povpraševanju. Pregled izvajanja usmeritev SIS 2021 - 2030 bo spremljal MGRT kot nosilni resor na dveletni ravni.

Usmeritve po posameznih sklopih ukrepov	nosilni resor/ji	ocena finančnih sredstev[37] 2021-2030
1. Raziskave, razvoj in inovacije (RRI): 1.1. Povečanje deleža za RRD na 3 % BDP, od tega javni del na 1 %. 1.2. Ohranitev 100-odstotnih davčnih olajšav DDPO za vlaganja RRI. 1.3. Povezovanje celotnega razvojnega cikla od TRL-1 do TRL-9 - usklajeno zaporedno financiranje projektov od zgodnjih faz razvoja do uvedbe na trg. 1.4. Razvoj in krepitev raziskovalne infrastrukture. 1.5. Vzpostavitev sistema uporabe raziskovalne opreme, ki obsega dopolnitev že vzpostavljene evidence razpoložljive raziskovalne opreme ter vzpostavitev povezave med uporabniki in lastniki opreme; v okviru tega tudi spodbujanje odprtega inoviranja. 1.6. Pospeševanje prenosa tehnologije in znanja za pospešeno komercializacijo rezultatov raziskav in razvoja. 1.7. Krepitev števila (mladih) raziskovalcev v gospodarstvu in podpora raziskovalcem na začetku kariere. 1.8. Upoštevanje krožnih in digitalnih vidikov pri zasnovi izdelkov (»circular and digital by design«) – vključenost zahteve v javne razpise. 1.9. Krepitev RRI na področjih novih in alternativnih ter naravno obnovljivih materialov, izdelkov, storitev in tehnologij z upoštevanjem sodobnih pristopov (analiza življenjskega cikla - LCA, digitalni dvojčki ipd.). 1.10. Razvoj najsodobnejših tehnologij in produktov po usmeritvah nove RISS in Slovenske strategije pametne specializacije (prednostna vlaganja v nišna področja z največjim potencialom rasti in preboja na mednarodne trge).	MGRT, MIZŠ, SVRK	4 mrd € (vključno z davčnimi olajšavami za RRI in povratnimi viri)

37 Ocena finančnih sredstev temelji na potrebah in predvidenih virih iz naslova Večletnega finančnega okvira EU (kohezijska politika 2021-2027), Načrta za okrevanje in odpornost, Sklada za podnebne spremembe in proračuna RS.

Usmeritve po posameznih sklopih ukrepov	nosilni resor/ji	ocena finančnih sredstev[37] 2021-2030
2. Demonstracijski in pilotni projekti 2.1. Podpora pilotno-demonstracijskih projektov (npr. za proizvodnjo sintetičnega metana in vodika) in demonstracijskih centrov, ki prispevajo k zelenemu, ustvarjalnemu in pametnemu prehodu in preko katerih bo mogoča promocija rešitev in znanja. 2.2. Demonstracijski in pilotni projekti na področju internacionalizacije, katerih namen je izvoz znanja in storitev na tuje trge ter hitrejša diverzifikacija slovenskega gospodarstva. 2.3. Vzpostavitev pilotnih primerov kaskadne rabe lesa oz. naravno obnovljivih materialov za zapiranje snovnih tokov in izboljšanje snovne izrabe odpadkov: povratna logistika, sortiranje, spremljanje tokov itd.. 2.4. Demonstracijski in pilotni projekti v energetsko intenzivni industriji za uvajanje novih nizkoogljičnih tehnologij za izboljšanje energetske in snovne učinkovitosti, ohranjanje konkurenčnosti in preprečitev »odliva ogljika«. 2.5. Demonstracijski in pilotni projekti za spodbujanje nadomeščanja surovin fosilnega izvora (biorafinerija, ki bi podpirala razvoj bioosnovanih materialov na osnovi biomase).	MGRT, MIZŠ, MOP, MZI, MJU	250 mio €
3. Vključevanje v mednarodne raziskovalno-razvojne in inovacijske projekte in programe 3.1. Pospeševanje vključevanja v evropske in globalne raziskovalno-razvojne in inovacijske projekte, pobude in programe ter mednarodne raziskovalne infrastrukture. 3.2. Spodbujanje sodelovanja z različnimi evropskimi in mednarodnimi institucijami ter mrežami podpornega okolja. 3.3. Identificiranje in spremljanje tehnoloških dosežkov/trendov na evropskem in globalnem trgu ter prenos dobrih praks.	MGRT, MIZŠ	30 mio €
4. Mreženje in sodelovanje na področju raziskav, razvoja in inovacij 4.1. Nadgradnja strateških razvojno-inovacijskih partnerstev (SRIP-ov) ter vpeljava novih tehnologij in dobrih praks na različna področja in s tem pospešenega sodelovanja in razvoja deležnikov po posameznih področjih. 4.2. Pospeševanje drugih oblik sodelovanja poslovnih subjektov z raziskovalno-razvojnimi institucijami in drugimi deležniki. 4.3. Vzpostavitev platforme za pospeševanje sodelovanja obstoječih in novih deležnikov četverne vijačnice v okviru S4, in sicer s pomočjo vzpostavitve oziroma nadgradnje infrastrukturnih, raziskovalno-razvojnih in vsebinskih pogojev inovacijskega podpornega okolja. 4.4. Pospeševanje razvojnih partnerstev za krepitev digitalnih produktov, storitev in poslovnih modelov.	MGRT, MIZŠ, SVRK, MJU	25 mio €

Usmeritve po posameznih sklopih ukrepov	nosilni resor/ji	ocena finančnih sredstev[37] 2021-2030
5. Podporno okolje za podjetja 5.1. Vzpostavitev povezovalnega, vključujočega in komplementarnega platformnega ekosistema, ki bo izgrajen iz subjektov ter programov na temeljnih področjih celotne družbe (gospodarstvo, akademska in znanstveno-raziskovalna sfera, javni sektor, lokalne skupnosti in širša družba). 5.2. Krepitev podpornega okolja za krožno gospodarstvo in digitalizacijo, kar vključuje podporo razvoju digitalne ekonomije z ustvarjanjem novih verig vrednosti, inoviranjem produktov, rešitev in novih poslovnih modelov. 5.3. Nadaljnji razvoj in nadgradnja storitev podpornih subjektov predvsem v smeri zelenega, ustvarjalnega in pametnega razvoja.	MGRT, MJU	50 mio €
6. Promocija podjetništva in inovativnosti 6.1. Promocija inovativnosti in podjetniške kulture kot pozitivne vrednote (npr. preko javnih medijev, sodelovanja na dogodkih, poslovnih srečanjih in sejmih s področja podjetništva, obrti in inovacij, izbora in nagrajevanja najboljših slovenskih inovacij ipd.). 6.2. Celovita promocija in nagrajevanje ustvarjalnosti, podjetništva in inovativnosti (UPI). 6.3. Promocija strateških razvojno-inovacijskih partnerstev in pametne specializacije (promocija razvojnih prebojev, ki so rezultat uvajanja pametne specializacije). 6.4. Promocija podjetništva v posebnih ciljnih skupinah. 6.5. Promocija in odpiranje novih tržnih poti na domačem in tujih trgih. 6.6. Krepitev znamk, vključno s krepitvijo pozicioniranja Slovenije kot zelene, ustvarjalne in pametne dežele (ambasadorji »green. creative.smart«).	MGRT	10 mio €
7. Spodbujanje zagonskih podjetij in podjetij s potencialom hitre rasti 7.1. Spodbujanje ustanavljanja novih inovativnih podjetij (startupov) in podjetij s potencialom hitre rasti ter hitro rastočih (scale-up) podjetij. Poseben poudarek bo dan zagonu »krožnih in digitalnih« podjetij. 7.2. Spodbujanje povezovanja podjetij z mentorskimi sistemi in poslovnimi mentorji. 7.3. Spodbujanje povezovanja zagonskih podjetij z »zrelimi« podjetji.	MGRT	40 mio €

Usmeritve po posameznih sklopih ukrepov	nosilni resor/ji	ocena finančnih sredstev[37] 2021-2030
8. Podpora rasti, razvoju in ohranitvi podjetij, predvsem MSP 8.1. Krepitev dolžniških virov financiranja (subvencioniranje obrestnih mer, mikrokrediti, mikrogarancije, krediti in mezzanine krediti, garancije,…). 8.2. Krepitev lastniških virov financiranja (krepitev in učinkovito delovanje skladov semenskega in tveganega kapitala) ter razvoj drugih sodobnih oblik financiranja. 8.3. Uvajanje spodbud malih vrednosti (t. i. vavčerjev) za posebne vsebine, ki podpirajo zeleni, ustvarjalni in pametni razvoj. 8.4. Pospeševanje digitalne in krožne preobrazbe podjetij: spodbujanje uvajanja sodobnih digitalnih tehnologij v poslovanje podjetij, ustvarjanje novih produktov, storitev in poslovnih modelov ter ustvarjanje razvojnih partnerstev za te namene. 8.5. Spodbude za krepitev lesno-predelovalne panoge. 8.6. Izboljšanje energetske učinkovitosti v podjetjih, tudi preko uvajanja energetskega managementa, uvedbe sistema ISO 50001 in drugih pomembnih standardov ter certifikatov na področju okolja in energije.	MGRT, MOP, MZI, MJU	150 mio € + povratna sredstva
9. Netehnološke inovacije in poslovni modeli 9.1. Podpora netehnološkim inovacijam in inoviranju poslovnih modelov (procesne in organizacijske inovacije, nove poslovno-upravljavske rešitve, novi poslovni modeli ter inovativne metode internacionalizacije podjetij na osnovi skupnih vlaganj znanja, tehnologij in kapitala). 9.2. Razvoj in prenova poslovnih modelov in procesnih izboljšav za pospeševanje prehoda v krožno in digitalno gospodarstvo, tudi z uporabo najsodobnejših tehnologij (optimiziranje poslovnih tokov, optimizacija pretoka materialov in njegove rabe, avtomatizacija linij, souporaba,…). 9.3. Podpora dizajn managementu ter povezovanju kulturno-kreativnih sektorjev in podjetij.	MGRT	60 mio €
10. Spodbujanje investicij 10.1. Spodbujanje strateško pomembnih začetnih investicij domačih in tujih vlagateljev. 10.2. Podpora investicijam za uvajanje Industrije 4.0 in nizkoogljičnega krožnega gospodarstva. 10.3. Zeleno javno naročanje pri investicijah.	MGRT	300 mio €
11. Internacionalizacija 11.1. Pospeševanje internacionalizacije v skladu s Programom spodbujanja investicij in internacionalizacije slovenskega gospodarstva. 11.2. Omogočanje in povečanje internacionalizacije preko digitalizacije. 11.3. Spodbujanje skupnega nastopanja podjetij v verigah vrednosti na svetovnem trgu.	MGRT, MZZ	100 mio €

Usmeritve po posameznih sklopih ukrepov	nosilni resor/ji	ocena finančnih sredstev[37] 2021-2030
12. Krepitev kompetenc, usposabljanje, prekvalifikacija, prilagajanje demografskim spremembam 12.1. Razvoj platform za krepitev kompetenc zaposlenih in vodstvenega kadra v vseh vejah industrije in na področju krožne in digitalne transformacije gospodarstva nasploh. 12.2. Krepitev kompetenc, potrebnih za zeleni, ustvarjalni in pametni razvoj, upoštevajoč globalne trende.	MGRT, MDDSZ, MIZŠ	30 mio €
13. Infrastruktura 13.1. Razvoj potrebne infrastrukture, ki omogoča razvoj zelene, ustvarjalne in pametne industrije (sodobne fiksne in mobilne povezave, npr. 5G, blockchain, razvoj objektov za povečanje snovne in energetske učinkovitosti in rabe, odprte standardizirane podatkovne platforme, e-identiteta, infrastruktura za e-poslovanje med podjetji…). 13.2. Povezovanje industrije v lokalne energetske skupnosti in izkoriščanje odpadne toplote. 13.3. Vlaganje v infrastrukturo za povečanje samooskrbnosti glede ravnanja z odpadki. 13.4. Podpora energetsko samooskrbnim industrijam.	MGRT, MOP, MZI, MJU	300 mio €
14. Zakonodaja in poslovno okolje 14.1. Spodbujanje trajnostne proizvodnje in potrošnje; v okviru tega tudi ozaveščanje javnosti o pozitivnih učinkih uporabe naravnih obnovljivih virov. 14.2. Ustvarjanje spodbudnega gospodarskega okolja (jasna, konsistentna in izvedljiva zakonodaja, hitri postopki za pridobivanje dovoljenj, spodbuden fiskalni okvir itd.) za investicije v nizkoogljično krožno gospodarstvo. 14.3. Ustvarjanje in krepitev trgov za sekundarne surovine in pospeševanje industrijske simbioze. 14.4. Zeleno oziroma krožno javno naročanje, v okviru katerega se podpira tudi uporaba naravnih/obnovljivih virov (npr. spodbujanje lesene gradnje z zelenimi javnimi naročili). 14.5. Spodbujanje standardizacije (aktivno vključevanje v sooblikovanje ter podpora uporabi mednarodnih standardov), uporabe mednarodnih certifikatov in varstva intelektualne lastnine. 14.6. Vzpostavitev evropsko primerljivega normativnega okolja za ustanavljanje odcepljenih podjetij.	Vsi resorji	-

PREGLED FINANČNIH SREDSTEV MGRT V LETIH 2020-2022

Predvidena integralna sredstva za leta 2020 - 2022 za izvedbo ukrepov iz naslova MGRT za navedene ukrepe predstavljajo več kot 91 milijonov evrov, ki jih dopolnjujemo z ukrepi iz povratnih sredstev. Dodatno k izvajanju posameznih ukrepov prispevajo tudi druga ministrstva (MIZŠ, MOP, MJU, MZI) iz naslova njihovih proračunskih sredstev.

Z evropskimi kohezijskimi sredstvi bomo spodbujali predvsem RRI, investicije, podjetništvo in krožno gospodarstvo in v obdobju 2020 – 2022 bo za to namenjenih več kot 265 mio EUR iz OP EKP 2014 - 2020. Zelo pomemben segment spodbud pa so tudi povratna sredstva v oblikah kreditov, garancij in kapitalskih vložkov.

V naslednjem finančnem obdobju 2021 – 2027 bomo zagotavljali sredstva za ukrepe iz Sklada za okrevanje in odpornost v planirani višini 427 milijonov evrov in iz Večletnega finančnega okvira (okvirno 450 milijonov evrov) ter Sklada za pravični prehod (okvirno 235 mio EUR). Vsa ta sredstva EU še niso potrjena s strani Evropske komisije, zato končna vrednost sredstev še ni znana.

Obstaja tveganje, da vse aktivnosti ne bodo izvedene v obsegu, ki bi zagotavljal doseganje zastavljenih ciljev, v kolikor ne bodo zagotovljene zadostne spodbude s strani države. Večina ukrepov sicer temelji na predvidenih sredstvih iz naslova MGRT, vendar vezano na večletne sklade, načrte in programe EKP. Vsekakor pa v navedena predvidena sredstva niso vključena posamezna oziroma dodatna sredstva drugih deležnikov ekosistema (predvsem zasebnih).

Predvidena finančna sredstva za izvajanje ukrepov (nacionalni proračun - realizacija 2020, sprejeti 2021 in 2022, OP EKP - realizacija 2020, pravice porabe 2021, 2022)

	FINANČNA SREDSTVA 2020 (V €)	FINANČNA SREDSTVA 2021 (V €)	FINANČNA SREDSTVA 2022 (V €)	VIR
Raziskave, razvoj in inovacije (RRI)	20.512.122	21.352.629	15.049.437	EKP
Demonstracijski in pilotni projekti	23.969.999	23.369.594	15.221.773	EKP
Vključevanje v mednarodne raziskovalno-razvojne in inovacijske projekte in programe	9.810.346	13.152.217	11.725.663	EKP in integrala
Mreženje in sodelovanje na področju raziskav, razvoja in inovacij	1.947.220	3.922.838	3.453.106	EKP in integrala
Podporno okolje za podjetja	11.165.308	12.289.594	12.019.780	EKP in integrala
Promocija podjetništva in inovativnosti	323.191	270.000	270.000	integrala
Spodbujanje zagonskih podjetij in podjetij s potencialom hitre rasti	1.980.559	2.160.000	2.160.000	EKP
Podpora rasti, razvoju in ohranitvi podjetij, predvsem MSP	28.421.058	26.498.677	4.582.939	EKP
Netehnološke inovacije in poslovni modeli	3.638.858	3.081.470	4.066.820	EKP
Spodbujanje investicij	7.803.120	12.325.891	15.000.000	integrala
Internacionalizacija	14.965.086	17.813.082	14.413.600	EKP in integrala
Krepitev kompetenc, usposabljanje, prekvalifikacija, prilagajanje demografskim spremembam	36.210	550.000	553.346	integrala
SKUPAJ	124.573.077	136.785.992	98.516.464	

8. PREGLED PRISPEVKA POSAMEZNIH SKLOPOV UKREPOV K POSAMEZNEMU ZASTAVLJENEMU CILJU

Pregled prispevka posameznih sklopov ukrepov je narejen na osnovi tabele v 6. poglavju in posameznih zastavljenih ciljev v poglavju 1.3.

KLJUČNI izbrani cilji 2030 sklopi ukrepov	Produktivnost dela (cilj 2030 je 66 tisoč EUR dodana vrednost na zaposlenega)	Izvoz (2030 cilj 29,8 mrd EUR)	ZELENO Snovna produktivnost (2030 cilj je 3,50 SKM/kg)	USTVARJALNO Inovacijski indeks in dvig na lestvici EII med vodilne inovatorke (2030 cilj je doseči 110% v EU)	PAMETNO DESI Indeks (2030 cilj je doseči 60 točk, 10. mesto)
VLAGANJA V RAZISKAVE IN TEHNOLOŠKI RAZVOJ					
1. Raziskave, razvoj in inovacije (RRI): Davčna olajšava za RR in finančne spodbude s poudarkom na projektih, ki izražajo možnost hitre komercializacije inovacij v obliki novih produktov in storitev ali patentov (TRL 6-9).	x	x	x	x	x
2. Demonstracijski in pilotni RRI projekti: Spodbude za podporo najbolj obetavnim projektom, ki doprinašajo k razvoju novih tehnologij s poudarkom na zeleno in digitalno.	x	x	x	x	x
3. Vključevanje v mednarodne raziskovalno-razvojne in inovacijske projekte in programe: spodbujanje oblikovanja in vključevanja v mednarodne RRI projekte z namenom prodora na tuje trge.	x	x		x	

KLJUČNI izbrani cilji 2030 sklopi ukrepov	Produktivnost dela (cilj 2030 je 66 tisoč EUR dodana vrednost na zaposlenega)	Izvoz (2030 cilj 29,8 mrd EUR)	ZELENO Snovna produktivnost (2030 cilj je 3,50 SKM/kg)	USTVARJALNO Inovacijski indeks in dvig na lestvici EII med vodilne inovatorke (2030 cilj je doseči 110% v EU)	PAMETNO DESI Indeks (2030 cilj je doseči 60 točk, 10. mesto)
4. Mreženje in sodelovanje na področju raziskav, razvoja in inovacij: upravljanje in povezovanje vzpostavljenih mrež deležnikov inovacijskega ekosistema v Sloveniji z določenimi merljivimi parametri uspeha (novi produkti, novi patenti, nova mednarodna sodelovanja podjetij).	✕	✕		✕	
SPODBUJNJE PODJETNIŠTVA					
5. Podporno okolje za podjetja: ukrepi za spodbujanje start- in scale-upov, dostop do ključnih informacij na enem mestu, ukrepi za digitalno transformacijo, ukrepi za razvoj novih poslovnih modelov.	✕		✕		✕
6. Promocija podjetništva in inovativnosti: komunikacijske kampanje, podpora konferencam, srečanjem in sejmom, programi nagrajevanja podjetništva in inovativnosti, ambasadorji podjetništva.	✕		✕	✕	✕
7. Spodbujanje zagonskih podjetij in podjetij s potencialom hitre rasti: spodbude za nova podjetja, mentorske sheme, povezovanje.	✕	✕		✕	✕

KLJUČNI izbrani cilji 2030 sklopi ukrepov	Produktivnost dela (cilj 2030 je 66 tisoč EUR dodana vrednost na zaposlenega)	Izvoz (2030 cilj 29,8 mrd EUR)	ZELENO Snovna produktivnost (2030 cilj je 3,50 SKM/kg)	USTVARJALNO Inovacijski indeks in dvig na lestvici EII med vodilne inovatorke (2030 cilj je doseči 110% v EU)	PAMETNO DESI Indeks (2030 cilj je doseči 60 točk, 10. mesto)
8. Podpora rasti, razvoju in ohranitvi podjetij, predvsem MSP: ugodno dolžniško financiranje (krediti, garancije, obrestne mere), semenski in tvegani kapital, spodbude za lesnopredelovalno panogo in energetsko transformacijo.	x	x	x	x	x
9. Netehnološke inovacije in poslovni modeli: podpore pri uvajanju alternativnih poslovnih modelov (digitalno poslovanje, trajnostno poslovanje,…), nove metode internacionalizacije, avtomatizacija proizvodnih procesov.	x	x	x	x	x
SPODBUJANJE INVESTICIJ IN INTERNACIONALIZACIJE					
10. Spodbujanje investicij: spodbude strateškim investicijam in investicijam z večjim potencialom rasti dodane vrednosti s poudarkom na zelenem in digitalnem.	x	x	x	x	
11. Internacionalizacija: nastopi na tujih trgih, vzpostavljanje predstavništev, krepitev delegacij, spodbujanje skupnega nastopa podjetij na tujih trgih.	x	x			x

KLJUČNI izbrani cilji 2030 sklopi ukrepov	Produktivnost dela (cilj 2030 je 66 tisoč EUR dodana vrednost na zaposlenega)	Izvoz (2030 cilj 29,8 mrd EUR)	ZELENO Snovna produktivnost (2030 cilj je 3,50 SKM/kg)	USTVARJALNO Inovacijski indeks in dvig na lestvici EII med vodilne inovatorke (2030 cilj je doseči 110% v EU)	PAMETNO DESI Indeks (2030 cilj je doseči 60 točk, 10. mesto)
VLAGANJE V KADRE					
12. Krepitev kompetenc in usposabljanje: podpora modelom za napovedovanje kompetenc in krepitev znanj ter izobraževalnih potreb za poklice prihodnosti s poudarkom na zelenem, ustvarjalnem in pametnem razvoju.	x	x	x	x	x
POSLOVNO OKOLJE					
13. Infrastruktura: podpora izgradnji 5G, e-storitve, lokalne energetske skupnosti.	x	x	x	x	x
14. Zakonodaja in poslovno okolje: stabilnost in predvidljivost ter evropsko primerljiva normativna ureditev.	x		x		

9. ZAKLJUČEK

Industrijska strategija postavlja usmeritve za prehod gospodarstva v zeleno, ustvarjalno in pametno gospodarstvo ter s tem dvig konkurenčnosti. V trenutku nastajanja te strategije se svet sooča s pandemijo koronavirusa; s tem povezani izzivi so večji kot kadarkoli prej. Največji izziv tega trenutka je zagotovo gospodarsko, socialno in splošno okrevanje držav. Vse to terja spremembe v razmišljanju in delovanju na vseh področjih. Razmišljanje izven ustaljenih okvirjev je postalo nujnost. To brez strukturne prenove evropskega in seveda tudi slovenskega gospodarstva v smeri trajnostnega, vključujočega in regionalno bolj uravnotežega razvoja ne bo mogoče. Prav tako je treba ujeti val četrte industrijske revolucije. Slovenija ima priložnost, da s pomočjo razpoložljivih evropskih sredstev zagotovi potrebna vlaganja v raziskave in razvoj, inovacije, digitalizacijo, izobraževanje, pa tudi usposabljanja za številne poklice prihodnosti. Prioriteta pri investiranju evropskih sredstev je zagotovitev dolgoročne konkurenčnosti slovenskega gospodarstva.

V novi industrijski strategiji 2021 - 2030 določamo cilje za razvojni preboj slovenske industrije in poti do njih. Cilji industrijske strategije do leta 2030 so doseči 66.000 evrov dodane vrednosti na zaposlenega, preiti v krožno gospodarstvo in močno okrepiti inovacijski zagon podjetij. Za izvajanje strategije bo v naslednjih letih na voljo vrsta ukrepov, ki bodo usmerjeni v krepitev zelenega, ustvarjalnega in pametnega razvoja, in ki bodo podjetjem pomagala spreminjati poslovne procese in krepiti njihov dolgoročni položaj na globalnem trgu. S to strategijo se povezujemo v širšo zgodbo industrijske strategije EU, s katero se vzpostavlja skupna zaveza EU, njenih držav članic in regij, industrije, MSP-jev in vseh drugih zainteresiranih strani za prenovljeno partnerstvo. S tem bo Evropi omogočeno, da kar najbolje izkoristi industrijsko preobrazbo v smeri zelenega in digitalnega prehoda ter hkrati povečuje strateško avtonomijo gospodarstva.

V EU je že dolga leta uveljavljeno načelo »Pomisli najprej na male« (ang. ‚Think small first'), kar pomeni, da je treba pri sprejemu zakonodaje najprej pomisliti na mikro podjetja, ki nimajo veliko virov, da bi se lahko prilagajala spremembam. S to industrijsko strategijo želimo uvajati načelo »Pomisli najprej zeleno, ustvarjalno in pametno« (ang. ‚Think Green, Creative and Smart first'), kar pomeni, da želimo, da se pri vsakem ukrepu, vsakem razvoju novega izdelka, storitve ali poslovnega modela, pri zagonu novega podjetja, pri novih investicijah,… najprej pomisli, kako in na kakšen način bi lahko prispevali k zelenemu, ustvarjalnemu in pametnemu razvoju. Na ta način bomo krepili položaj in mednarodno konkurenčnost industrije ter zagotovili, da ostane vitalni del slovenskega gospodarstva.

SEZNAM UPORABLJENIH KRATIC

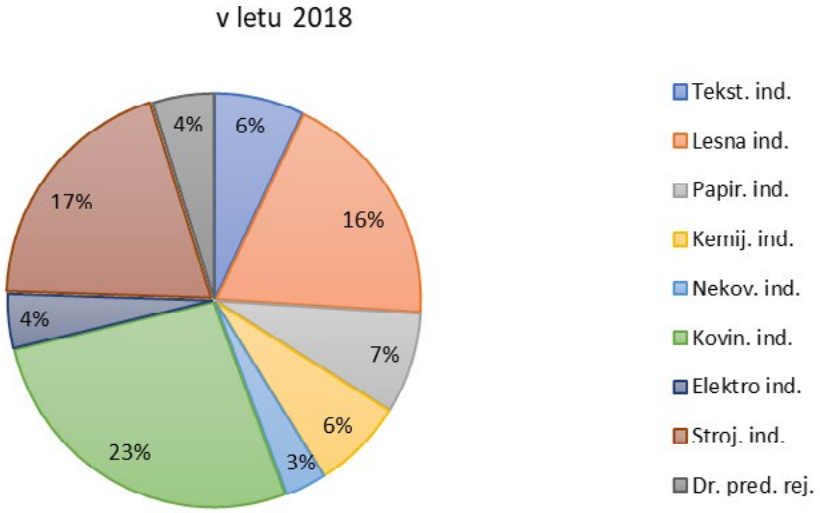
ARRS	Javna agencija za raziskovalno dejavnost Republike Slovenije
BAT	Najboljše tehnologije, ki so na voljo, angl. Best available technologies
BDP	Bruto družbeni proizvod
BDV	Bruto dodana vrednost
CCS	Zajemanje in shranjevanje ogljika, angl. Carbon Capture and Storage
CCU	Tehnologije zajema in ponovne uporabe ogljika, angl. Carbon Capture and Utilisation
CEE – 4	Skupina štirih srednjeevropskih držav - Češka, Madžarska, Poljska, Slovaška
DESI indeks	angl. The Digital Economy and Society Index (DESI)
DPS	Domača poraba snovi
DV	Dodana vrednost
EBITDA	Prihodek pred obrestmi, davki in amortizacijo
EII	Energetsko intenzivna industrija
EK	Evropska komisija
ETS	Sistem EU za trgovanja z emisijami, angl. Emission trading system
EU	Evropska unija
EZD	Evropski zeleni dogovor
GZS	Gospodarska zbornica Slovenije
IKT	Informacijske in komunikacijske tehnologije
IoT	Internet stvari, angl. Internet of Things
JRO	Javne raziskovalne organizacije
KCDM	Kompetenčni center za dizajn management
KI	Kreativne industrije
KKS	Kulturno-kreativni sektor
LCA	Analiza življenjskega cikla, angl. life cycle assesment
LULUCF	Sprememba rabe zemljišč in gozdarstvo, angl. Land Use Land Use Change and Forestry

MDDSZ	Ministrstvo za delo, družino, socialne zadeve in enake možnosti
MF	Ministrstvo za finance
MGRT	Ministrstvo za gospodarski razvoj in tehnologijo
MIZŠ	Ministrstvo za izobraževanje, znanost in šolstvo
MJU	Ministrstvo za javno upravo
MOP	Ministrstvo za okolje in prostor
MSP	Mala in srednje velika podjetja, angl. Small and medium enterprises
MzI	Ministrstvo za infrastrukturo
NEPN	Nacionalni energetsko podnebni načrt
NVO	Nevladne organizacije
RRD	Raziskovalno-razvojna dejavnost
RRI	Raziskave, razvoj in inovacije
R & R	Raziskave in razvoj
S4	Slovenska strategija pametne specializacije
SID	Slovenska izvozna in razvojna banka
SIO	Subjekti inovativnega okolja
SIP	Slovenska industrijska politika
SIS	Slovenska industrijska strategija
SKM	Standard kupne moči
SPIRIT	Javna agencija Republike Slovenije za spodbujanje podjetništva, internacionalizacije, tujih investicij in tehnologije
SPOT	Mreža slovenskih poslovnih točk
SPS	Slovenski podjetniški sklad
SRIP	Strateško razvojno-inovacijsko partnerstvo
SRRS	Slovenski regionalno razvojni sklad
SRS 2030	Strategija razvoja Slovenije 2030
SURS	Statistični urad Republike Slovenije
SVRK	Služba vlade za razvoj in evropsko kohezijsko politiko
TGP	Toplogredni plini
TRL	Nivo tehnološke pripravljenosti, angl. Technology Readiness Level
UPI	Ustvarjalnost, podjetnost in inovativnost

Priloga 1: Predelovalne dejavnosti v Sloveniji v obdobju 2008–2018

Število subjektov

Na področju predelovalnih dejavnosti je bilo konec 2018 aktivnih 19.705 podjetij (pravnih oseb oziroma družb, fizičnih oseb oziroma s. p.-jev ter normiranih s. p.-jev, ki so izkazali prihodek ali stroške dela). V zadnjih desetih letih se je število podjetij povečalo za 1,3 % na leto, v zadnjih petih letih pa za 1,7 % na leto. V 2018 je bil med predelovalnimi dejavnostmi v primerjavi z letom 2008 porast števila podjetij največji v prehrambni (1.513 zaposlenih), strojni (517 zaposlenih), lesni (459 zaposlenih) ter kovinski industriji (295 zaposlenih). Število podjetij se je znižalo v tekstilni, papirni, kemični, elektro in nekovinski industriji (od 282 v tekstilni do 18 v nekovinski industriji). V letu 2018 je največ podjetij delovalo v kovinski industriji (23 % vseh), sledijo strojna (17 %), lesna (16 %) ter prehrambna industrija (13 %).

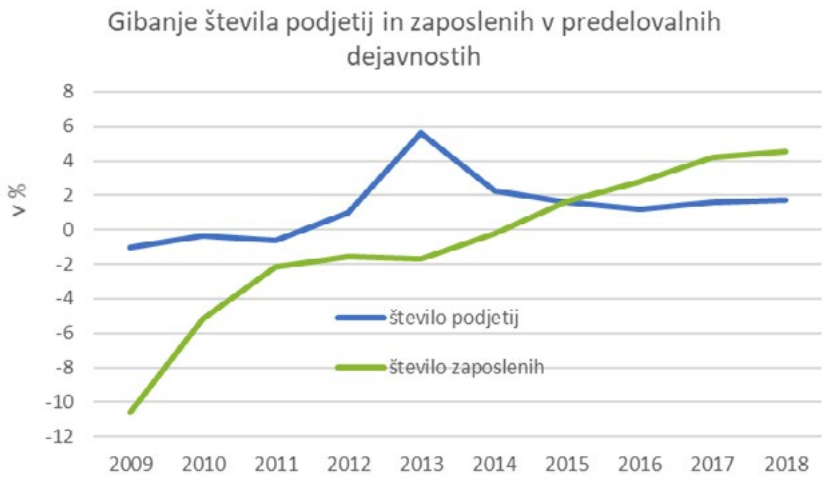


Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Opis metodologije

Poslovanje predelovalnih dejavnosti je analiza na podlagi podatkov o poslovanju poslovnih subjektov Ajpesa (Letni računovodski izkazi gospodarskih družb, gospodarskih javnih služb, malih samostojnih podjetnikov, zadrug, društev, itd.) kot tudi podatkov iz davčnega obračuna akontacije dohodnine od dohodka iz dejavnosti, davka na dodano vrednost in davka od dohodkov pravnih oseb, ki jih zbira FURS.

V prehrambno industrijo so vštete dejavnosti C10 Proizvodnja živil in C11 Proizvodnja pijač; v tekstilno industrijo C13 Proizvodnja tekstilij, C14 Proizvodnja oblačil, C15 Proizvodnja usnja, usnjenih izdelkov; v lesno industrijo C16 Obdelava in predelava lesa, C31 Proizvodnja pohištva; v papirno industrijo C17 Proizvodnja papirja in izdelkov iz papirja, C18 Tiskarstvo in razmnoževanje posnetih nosilcev zapisa; v kemično industrijo C19 Proizvodnja koksa in naftnih derivatov, C20 Proizvodnja kemikalij, C21 Proizvodnja farmacevtskih surovin, C22 Proizvodnja izdelkov iz gume in plastike; nekovinski mineralni izdelki C23; v kovinsko industrijo C24 Proizvodnja kovin, C25 Proizvodnja kovinskih izdelkov; v elektro industrijo C26 Proizvodnja računalnikov, elektronskih in optičnih izdelkov, C27 Proizvodnja električnih naprav; v strojno industrijo C28 Proizvodnja drugih strojev in naprav, C29 Proizvodnja motornih vozil, C30 Proizvodnja drugih vozil in plovil, C33 Popravila in montaža strojev in naprav; v druge dejavnosti C32 druge predelovalne dejavnosti.

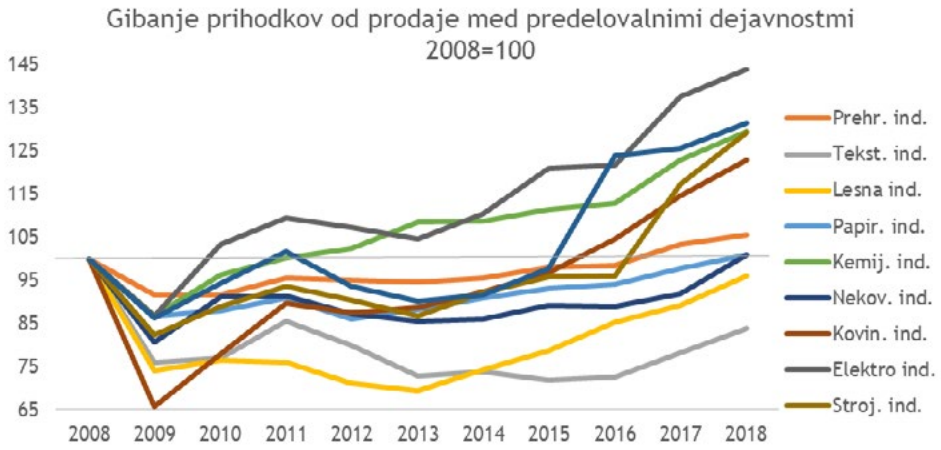


Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Prihodek od prodaje v predelovalnih dejavnostih

Gospodarski subjekti iz predelovalnih dejavnosti so v letu 2018 ustvarili za 31,3 mrd EUR prihodkov od prodaje na osnovi prodajne vrednosti kupcem zaračunanih prodanih proizvodov ali trgovskega blaga in materiala ter opravljenih storitev. V 2018 so predelovalne dejavnosti ustvarile za 5,4 mrd EUR več prihodka kot leta 2008 oziroma so ti porasli za 21 %. V zadnjih enajstih letih so predelovalne dejavnosti v povprečju ustvarile 25,4 mrd EUR prihodkov od prodaje, v zadnjih petih letih pa zaradi konjunkture in večje vpetosti v mednarodne tokove v povprečju 27,4 mrd EUR prihodka od prodaje.

V zadnjih desetih letih (2018/2008) so se v predelovalnih dejavnostih prihodki najbolj zvišali v strojni (1,6 mrd EUR), kemični (1,3 mrd EUR), elektro (1,3 mrd EUR) ter kovinski industriji (1,2 mrd EUR). Tekstilna in lesna industrija v 2018 še nista prišli na nivo iz leta 2008, tako zaradi stečajev mnogih podjetij, kakor tudi zaradi prestrukturiranja (zniževanja proizvodnje pri obstoječih družbah). Kriza je leta 2009 prizadela vse panoge v predelovalnih dejavnostih, vendar je večina panog presegla nivo predkriznega leta.

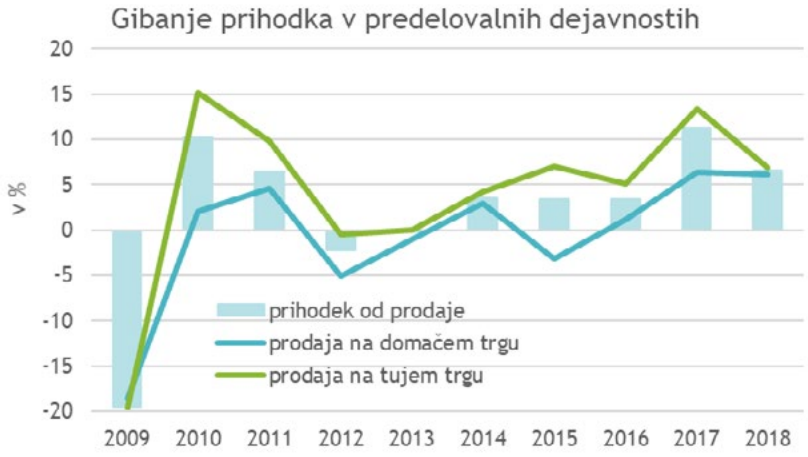


Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V obdobju zadnjih petih let (2014–2018) so prihodki v predelovalni dejavnosti vsako leto v povprečju porasli za 5,6 % letno. Znotraj predelovalnih dejavnosti so najbolj porasli v strojni industriji (za 8,3 % letno), drugih predelovalnih dejavnostih (za 7,8 % letno), lesni ter kovinski in elektro industriji (6,7 % oziroma 6,6 % letno).

Prihodek od prodaje	Vred. 2018, mio EUR	Ø Vred. 2008–2018, mio EUR	Vred. razlika 2018–2008, mio EUR	Sprem. v % 2018/2008	Ø Vred. 2014–2018, mio EUR	CAGR[38] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**31.279**	**25.360**	**5.450**	**21,1 %**	**27.446**	**5,6 %**
Prehrambna	2.384	2.196	125	5,5 %	2.263	2,2 %
Tekstilna	895	846	-173	-16,2 %	812	2,9 %
Lesna	1.415	1.191	-58	-3,9 %	1.247	6,8 %
Papirna	1.297	1.188	10	0,8 %	1.226	2,7 %
Kemična	6.048	5.010	1.375	29,4 %	5.473	3,6 %
Nekovinska	1.014	907	9	0,9 %	919	3,4 %
Kovinska	6.431	4.951	1.198	22,9 %	5.559	6,7%
Elektro	4.387	3.454	1.337	43,8 %	3.870	6,6 %
Strojna	6.995	5.275	1.583	29,3 %	5.739	8,3 %
Druge	484	380	115	31,3 %	420	7,8 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Prodaja na domačem trgu

Prodaja v predelovalnih dejavnostih na domačem trgu se je v zadnjem desetletnem obdobju najbolj povečala v zadnjih dveh letih (2017 in 2018). Višja je bila tako zaradi višje potrošnje prebivalstva kot podjetij. Čisti prihodki so se drastično zmanjševali v letu 2009, sledila pa sta še dva cikla zmanjšanja prodaje na domačem trgu in sicer v letih 2012-2013 ter v letu 2015. Prihodki od prodaje na domačem trgu, ki so v 2018 znašali 9,4 mrd EUR, so se v zadnjih

38 Povprečna letna rast (geometrijsko povprečje).

desetih letih znižali v povprečju za 0,7 % na leto. V zadnjih enajstih letih so predelovalne dejavnosti v povprečju ustvarile 8,6 mrd EUR prihodkov od prodaje na domačem trgu. V 2018 so predelovalne dejavnosti v primerjavi z letom 2008 beležile 682 mio EUR manj prihodkov od prodaje na domačem trgu, kar predstavlja upad za 6,8 %.

V zadnjih desetih letih (2018/2008) so se znotraj predelovalnih dejavnosti prihodki na domačem trgu zvišali le v strojni industriji (27 mio EUR), drugih predelovalnih dejavnostih (16 mio EUR) in kovinski industriji (44.000 EUR). Vse ostale dejavnosti pri prodaji na domačem trgu še niso dosegle nivojev iz leta 2008. Največji zaostanek beležijo predvsem nekovinska (244 mio EUR), tekstilna (188 mio EUR) ter prehrambna industrija (124 mio EUR).

V obdobju zadnjih petih let (2014–2018) so prihodki na domačem trgu vsako leto v povprečju porasli za 2,6 % letno. Med predelovalnimi dejavnostmi so prihodki na domačem trgu v povprečju najbolj porasli v lesni industriji (za 5,9 % letno), elektro in kovinski industriji (za 3,9 in 3,8 % letno), papirni (za 3,6 % letno) ter kemični industriji (za 3 % letno).

Prihodki na domačem trgu	Vred. 2018, mio EUR	Ø Vred. 2008–2018, mio EUR	Vred. razlika 2018–2008, mio EUR	Sprem. v % 2018/2008	Ø Vred. 2014–2018, mio EUR	CAGR[39] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**9.364**	**8.639**	**-682**	**-6,8 %**	**8.628**	**2,6 %**
Prehrambna	1.638	1.630	-124	-7,0 %	1.620	0,1 %
Tekstilna	212	238	-188	-46,9 %	203	1,5 %
Lesna	754	650	-14	-1,9 %	668	5,9 %
Papirna	585	534	-73	-11,1 %	514	3,6 %
Kemična	1.271	1.166	-35	-2,7 %	1.164	3,0 %
Nekovinska	403	434	-244	-37,7 %	370	1,2 %
Kovinska	2.223	1.913	0	0,0 %	1.993	3,8 %
Elektro	829	764	-48	-5,4 %	772	3,9 %
Strojna	1.311	1.185	27	2,1 %	1.201	1,4 %
Druge	138	123	16	13,3 %	122	3,3 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Prodaja na tujem trgu

Po začetku krize v letu 2009 in drastičnem upadu tako domačega povpraševanja kot izvoza so predelovalne dejavnosti hitro nadoknadile izgube pri izvozu. Predelovalne dejavnosti so v 2018 beležile 21,7 mrd EUR izvoza ter so tako za 43,8 % oziroma za 6,6 mrd EUR presegle izvoz iz leta 2008.

V zadnjih desetih letih (2018/2008) se je znotraj predelovalnih dejavnosti izvoz najbolj zvišal v strojni, kovinski, kemični, elektro in nekovinski industriji. Le tekstilna industrija v 2018 ni uspela doseči nivojev izvoza iz leta 2008. V obdobju zadnjih petih let (2014–2018) se je izvoz v predelovalni dejavnosti vsako leto v povprečju povečal za 7,3 % letno. Med predelovalnimi dejavnostmi je izvoz v povprečju najbolj porasel v drugih predelovalnih dejavnostih (za 9,9

39 Povprečna letna rast (geometrijsko povprečje).

% letno), lesni (9,6 % letno) in kovinski industriji (za 9,4 % letno), kakor tudi elektro in strojni industriji (8,9 in 8,8 % letno).

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Znotraj predelovalnih panog so v 2018 največji izvozniki v strojni industriji, ki skupaj dosegajo 5,5 mrd EUR izvoza oziroma 25 % izvoza celotne predelovalne panoge, sledijo še kemična s 4,8 mrd EUR, kovinska s 4,3 mrd EUR in elektro industrija s 3,5 mrd EUR izvoza. Slednje izvozijo kar 83 % celotnega izvoza predelovalne panoge.

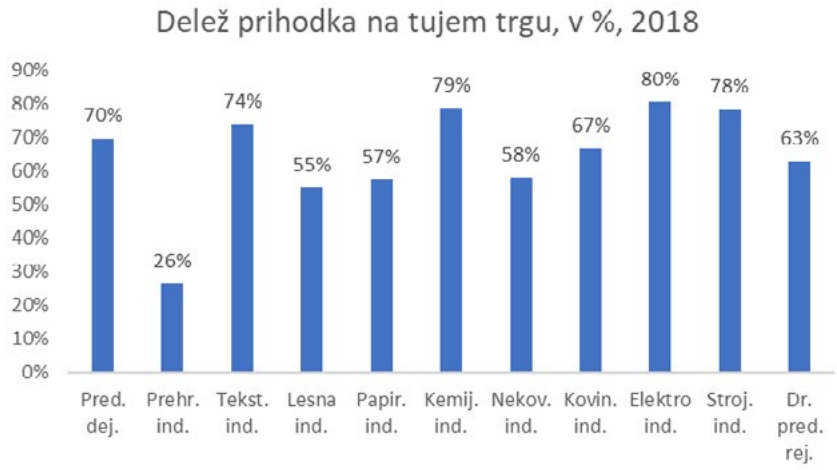
Prihodek na tujem trgu	2018, mio EUR	Ø 2008–2018, mio EUR	2018-2008, mio EUR	Sprem. v % 2018/2008	Ø 2014–2018, mio EUR	CAGR[40] v obdobju 2014–2018)
PREDEL. DEJ. SKUPAJ	**21.764**	**16.406**	**6.634**	**43,8 %**	**18.627**	**7,3 %**
Prehrambna	630	470	243	62,7 %	548	7,4 %
Tekstilna	661	581	-21	-3,1 %	578	2,9 %
Lesna	777	571	203	35,3 %	652	9,6 %
Papirna	743	629	197	36,1 %	696	3,8 %
Kemična	4.762	3.861	1.391	41,3 %	4.322	3,9 %
Nekovinska	589	459	181	44,4 %	532	5,4 %
Kovinska	4.293	3.010	1.427	49,8 %	3.582	9,4 %
Elektro	3.525	2.534	1.266	56,0 %	2.953	8,9 %
Strojna	5.479	4.089	1.603	41,4 %	4.512	8,8 %
Druge	304	201	143	89,1 %	253	9,9 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Podjetja v predelovalnih dejavnostih so v 2018 dosegla 70-odstotni delež prihodkov na tujih trgih v prihodkih od prodaje predelovalnih dejavnosti. Tako so z aktivnejšim povezovanjem

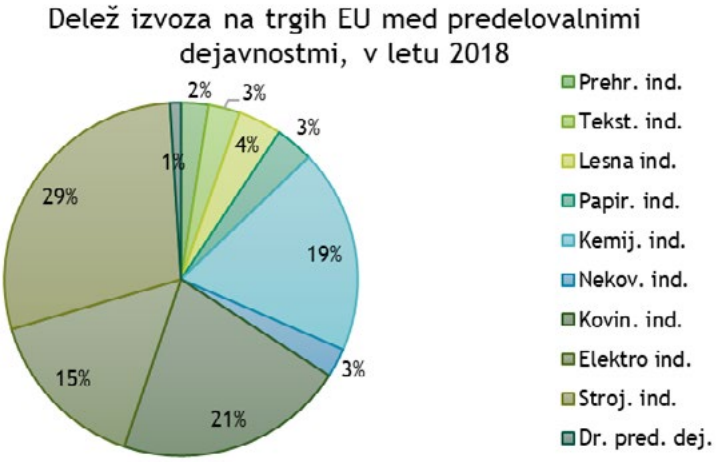
40 Povprečna letna rast (geometrijsko povprečje).

in iskanjem novih trgov predelovalne dejavnosti delež izvoza v prihodkih zvišale z 59 % v 2008. Najbolj **izvozno usmerjena** je bila v 2018 elektro industrija (z ustvarjenim 80-odstotnim deležem izvoza), ki ji sledijo kemična (79 %), strojna (78 %) in tekstilna industrija (74 %). Najmanj izvozno usmerjena pa je prehrambna industrija (26 %).



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

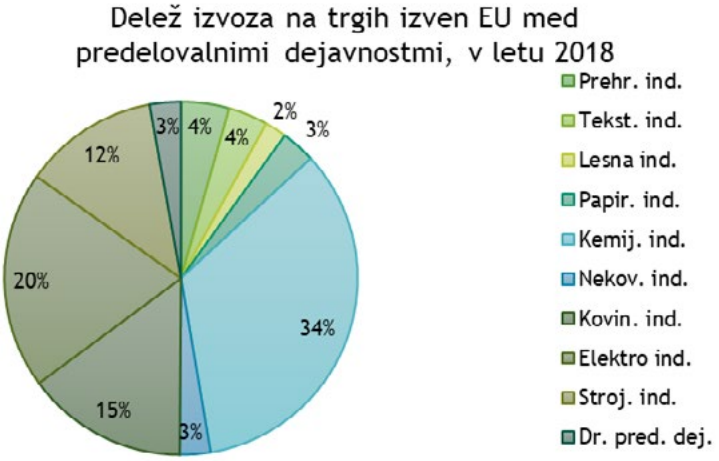
Prodaja na tujih trgih EU (kjer zajemamo le podatek družb in s.p-jev, ki sicer predstavljajo večino izvoza) je za predelovalne dejavnosti najpomembnejša, saj so na tem trgu v 2018 ustvarili kar 80 % celotnega izvoza oziroma 17,2 mrd EUR izvoza blaga in storitev. Izvozni trg EU je najpomembnejši za strojno industrijo, saj je med predelovalnimi dejavnostmi ta v 2018 v EU izvozila 29 % celotnega izvoza EU, sledijo kovinska (21 %), kemična (19 %), elektro industrija (15 % oziroma 4,9 mrd EUR izvoza), medtem ko papirna, tekstilna in prehrambna industrija v EU izvozijo med 3,5-2,5 % celotnega izvoza predelovalnih dejavnosti v EU.



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Prihodki od prodaje na trgu EU so se v zadnjih desetih letih zvišali v povprečju za 4,5 % na leto. V letu 2008 so prihodki od prodaje na trgih EU znašali 11,1 mrd EUR (izvoz na Hrvaško še ni bil vključen) in v 2009 upadli na 9 mrd EUR, leta 2011 presegli nivo predkriznega leta, nato pa smo, ob ugodnih ekonomijah EU, pospešeno izvažali na te trge. V zadnjih petih letih so predelovalne dejavnosti na trgih EU v povprečju ustvarile 14,6 mrd EUR prihodkov od prodaje. V zadnjih petih letih (2018/2014) so se prihodki na trgu EU med predelovalnimi dejavnostmi v povprečju zvišali za 8,5 % na leto, relativno najbolj v prehrambni industriji (13,6 % na leto), ki je sicer med vsemi predelovalnimi dejavnostmi med najmanj izvozno usmerjenimi. Po rasti v zadnjih petih letih sledijo še lesna (v povprečju 11,8 % na leto), elektro, strojna in kovinska industrija (10 % na leto).

Čisti prihodki od prodaje na trgih izven EU (kjer zajemamo le podatek družb in s.p.-jev) je za predelovalne dejavnosti manj pomemben kot EU, se pa delež izvoza na trge izven EU z leti krepi. V 2018 so predelovalne dejavnosti izvozile na trge izven EU 20 % celotnega izvoza oziroma 1,5 mrd EUR izvoza blaga in storitev. V 2018 so največji izvozniki na trge izven EU v kemični industriji, ki dosegajo 1,5 mrd EUR izvoza oziroma 34 % izvoza celotne predelovalne panoge izven EU, sledijo še elektro (20-odstotni delež), kovinska (15-odstotni delež) in strojna industrija (12-odstotni delež). V obdobju zadnjih petih let (2014–2018) so prihodki z izvozom na trge izven EU v predelovalni dejavnosti vsako leto v povprečju porasli za 3,1 % letno. Med predelovalnimi dejavnostmi je izvoz na trge izven EU v povprečju najbolj porasel v drugih predelovalnih dejavnostih (14 % letno), tekstilni (za 9 % letno), kovinski (8,7 % letno), elektro industriji (za 5,4 % letno), upadel pa v papirni, lesni in prehrambni industriji (od 3 v lesni do 1,5 % na leto prehrambni industriji).



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

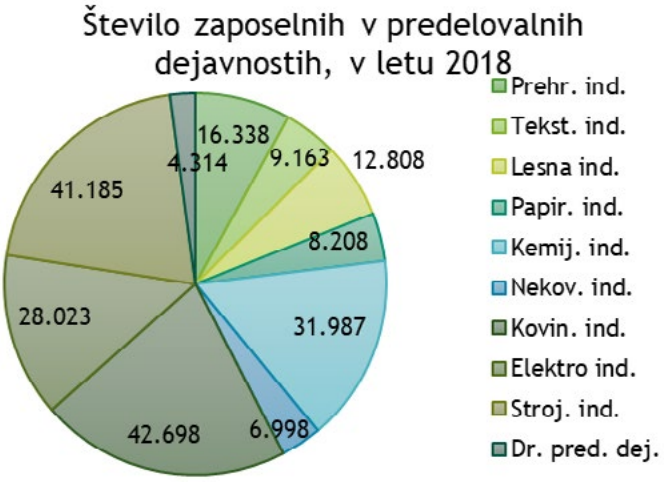
Prihodek na tujem trgu	2018, mio EUR trg EU	Ø 2004–2018, mio EUR trg EU	Ø Sprem. v %/ leto (2014–2018) trg EU	2018, mio EUR trg izven EU	Ø 2004–2018, mio EUR trg izven EU	CAGR41 v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**17.239**	**14.595**	**8,5 %**	**4.526**	**4.031**	**3,1 %**
Prehrambna	431	358	13,6 %	199	189	-1,4 %
Tekstilna	498	456	1,3 %	164	122	9,0 %
Lesna	687	563	11,8 %	90	89	-1,9 %
Papirna	601	542	5,9 %	142	154	-2,9 %
Kemična	3.216	2.896	5,5 %	1.547	1.427	0,9 %
Nekovinska	462	409	6,3 %	127	123	2,5 %
Kovinska	3.625	3.047	9,6 %	668	535	8,7 %
Elektro	2.625	2.172	10,2 %	901	781	5,4 %
Strojna	4.920	4.000	9,8 %	559	512	2,1 %
Druge	174	153	7,3 %	130	100	14,0 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Število zaposlenih

V 2018 je bilo v predelovalnih dejavnostih 202.000 zaposlenih oseb, ki delajo pri delodajalcu (pri pravnih osebah, samostojnih podjetnikih ali drugih registriranih fizičnih osebah), ki so prejemali plačo ter so bili na podlagi pogodbe o zaposlitvi obvezno socialno zavarovani, kar je za 20.000 oseb oziroma za 8,9 % manj kot leta 2008. V tem času je število zaposlenih najbolj poraslo v kemični (+5.081 zaposlenih), strojni (+2.066 zaposlenih. predvsem v popravilih in montaži strojev in naprav) in elektro industriji (+847 zaposlenih), zmanjšanje pa so beležili predvsem v tekstilni (-11.731 oseb), lesni (-9.219 zaposlenih), papirni industriji (-3.337 zaposlenih). V zadnjih enajstih letih (2008–2018) je bilo v povprečju 189.708, v zadnjih petih letih (2014–2018) pa 187.546 zaposlenih. V zadnjih petih letih se je število zaposlenih povečalo za 2,6 % na leto, najbolj v kemični, kovinski in strojni industriji, največje zmanjšanje pa so doživeli v papirni, pa tudi tekstilni ter nekovinski industriji.

41 Povprečna letna rast (geometrijsko povprečje).

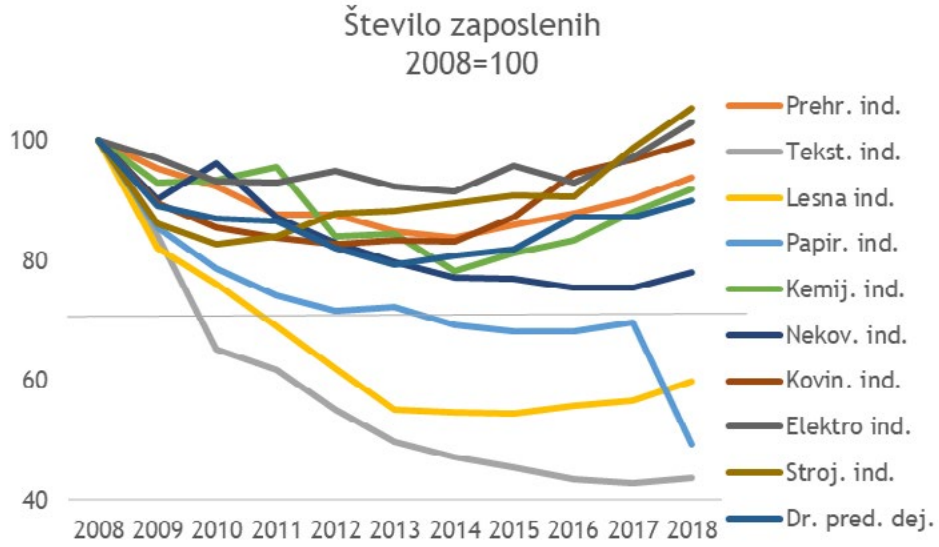


Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Število zaposlenih	Vred. 2018, mio EUR	Ø Vred. 2008–2018, mio EUR	Vred. razlika 2018–2008, mio EUR	Sprem. v % 2018/2008	Ø Vred. 2014–2018, mio EUR	CAGR42 v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**201.896**	**189.724**	**-19.586**	**-8,8 %**	**187.581**	**2,6 %**
Prehrambna	16.247	15.565	-1.054	-6,1 %	15.288	2,1 %
Tekstilna	9.166	12.142	-11.728	-56,1 %	9.325	-2,5 %
Lesna	13.169	14.536	-8.858	-40,2 %	12.398	1,6 %
Papirna	5.705	8.467	-5.840	-50,6 %	7.495	-7,3 %
Kemična	24.712	23.804	-2.194	-8,2 %	22.752	1,7 %
Nekovinska	6.967	7.459	-1.958	-21,9 %	6.840	-0,4 %
Kovinska	42.712	38.378	-79	-0,2 %	39.496	3,7 %
Elektro	28.024	25.965	848	3,1 %	26.115	2,2 %
Strojna	41.193	35.704	2.074	5,3 %	37.161	3,6 %
Druge	4.315	4.149	-484	-10,1 %	4.099	2,6 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

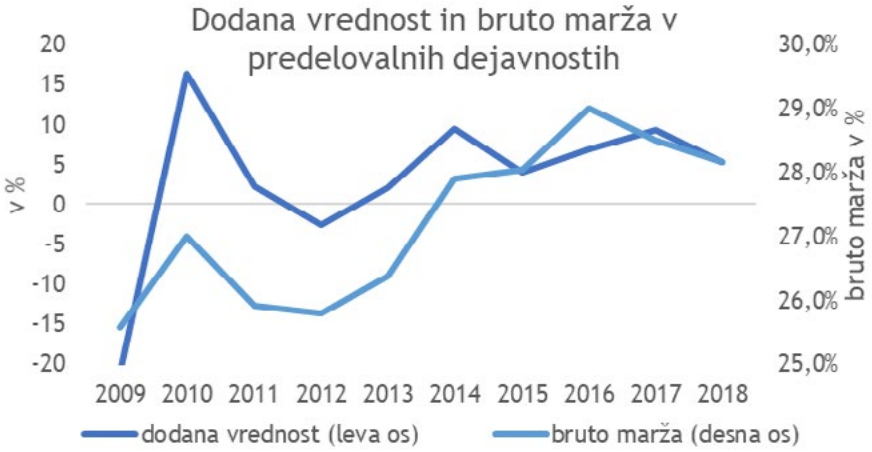
42 Povprečna letna rast (geometrijsko povprečje).



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

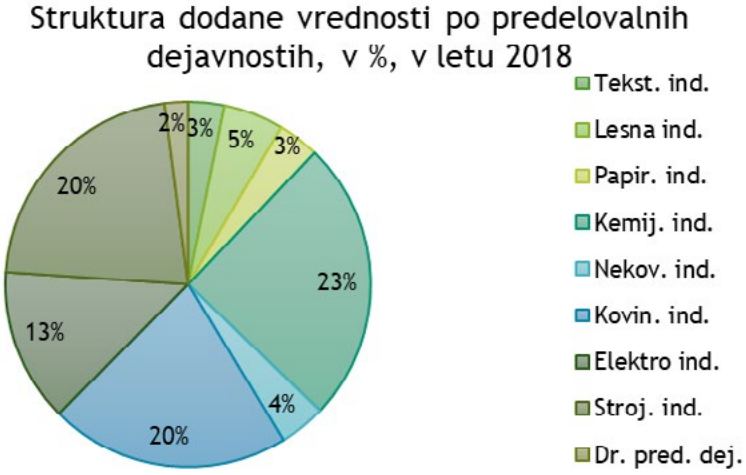
Dodana vrednost in bruto marža

Dodana vrednost v stroških faktorjev je enako kot bruto prihodek iz poslovnih dejavnosti po popravkih za subvencije za poslovanje in posredne davke. Ustvarjena dodana vrednost, ki predstavlja razliko med prodajnimi prihodki ter nekaterimi drugimi poslovnimi prihodki (kosmati donos iz poslovanja) ter stroški blaga, materiala in storitev in drugimi poslovnimi odhodki, je v 2018 v predelovalnih dejavnostih znašala 8,8 mrd EUR, kar je bilo za 2,1 mrd EUR oziroma za 30,7 % več kot v letu 2008. V zadnjih enajstih letih je dodana vrednost v predelovalnih dejavnostih v povprečju letno znašala 6,9 mrd EUR. Večji upad dodane vrednosti so predelovalne dejavnosti beležile v letu 2009 ter nižjo leta 2012, v povprečju pa je v zadnjih desetih letih letno beležila 2,7-odstotno rast.



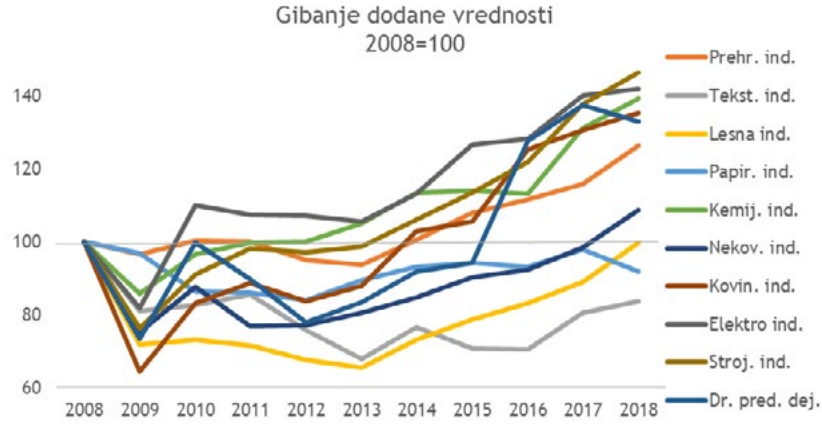
Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V strukturi dodane vrednosti vseh predelovalnih dejavnosti je v 2018 največ dodane vrednosti ustvarila kemična industrija (23-odstotni delež), sledijo ji strojna (20,4%), kovinska (19,8 %), prehrambna (6,7 %) in lesna industrija (5 %).



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V zadnjih desetih letih (2018/2008) se je med predelovalnimi dejavnostmi dodana vrednost najbolj zvišala v strojni in kemični industriji (598 mio EUR), kovinski (456 mio EUR), elektro (330 mio EUR) ter prehrambni industriji (124 mio EUR). Tekstilna, papirna in lesna industrija v 2018 še niso ustvarile nivoja dodane vrednosti iz leta 2008.



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V zadnjih petih letih (2014–2018) je dodana vrednost v predelovalnih dejavnostih v povprečju porasla za 7 % letno ter beležila v povprečju 7,8 mrd EUR dodane vrednosti. Med predelovalnimi dejavnostmi je dodana vrednost na leto najbolj porasla v drugih predelovalnih dejavnostih (9,8 % letno), v kovinski industriji za 9 % letno, lesni za 8,7 % letno in strojni industriji za 8,2 % letno.

Dodana vrednost [43]	Vred. 2018, mio EUR	Ø Vred. 2008–2018, mio EUR	Vred. razlika 2018–2008, mio EUR	Sprem. v % 2018/2008	Ø Vred. 2014–2018, mio EUR	CAGR[44] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	8.812	6.901	2.068	30,7 %	7.775	7,0 %
Prehrambna	593	490	124	26,5 %	527	6,2 %
Tekstilna	263	250	-51	-16,3 %	240	4,3 %
Lesna	439	350	-1	-0,3 %	373	8,8 %
Papirna	300	301	-26	-8,1 %	307	0,5 %
Kemična	2.022	1.583	570	39,2 %	1.776	5,8 %
Nekovinska	337	274	27	8,6 %	294	6,2 %
Kovinska	1.748	1.301	456	35,3 %	1.550	9,0 %
Elektro	1.115	901	330	42,1 %	1.021	6,1 %
Strojna	1.795	1.322	570	46,5 %	1.534	8,2 %
Druge	170	129	42	33,1 %	149	9,8 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Bruto marža (delež dodane vrednosti v prihodkih) se v zadnjih petih letih giblje na ravni med 28 in 29 %, kar pomeni, da na ravni prodanih proizvodov in storitev ni bilo narejenega kvalitativnega napredka, temveč je bila rast dodane vrednosti vezana predvsem na večjo

43 Dodana vrednost v stroški dejavnosti.
44 Povprečna letna rast (geometrijsko povprečje).

proizvedeno količino proizvodov ali storitev. V letu 2018 je v primerjavi z letom 2008 bruto marža višja za 2,1 o.t. V tem času se je med predelovalnimi dejavnostmi bruto marža najbolj zvišala v prehrambni, strojni in kemični industriji, kakor tudi v kovinski in nekovinski industriji, znižala pa v tekstilni in papirni industriji.

Med vsemi predelovalnimi panogami so v 2018 beležili najvišjo bruto maržo v drugih predelovalnih dejavnostih (35 %), sledijo kemična (34 %), nekovinska (33 %) in lesna industrija (29 %), najnižjo pa imata papirna in prehrambna industrija (25 %).

Bruto marža[45] v %	Vred. 2018, v %	Ø 2018–2018	Ø 2014–2018	Razlika 2018-2008	CAGR[46] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**28,2 %**	**27,1 %**	**28,3 %**	**2,1 o.t.**	**1,3 %**
Prehrambna	24,9 %	22,3 %	23,3 %	4,1 o.t.	3,9 %
Tekstilna	29,4 %	29,6 %	29,6 %	0,0 o.t.	1,3 %
Lesna	31,0 %	29,3 %	29,9 %	1,1 o.t.	1,9 %
Papirna	23,1 %	25,3 %	25,1 %	-2,2 o.t.	-2,1 %
Kemična	33,4 %	31,5 %	32,4 %	2,4 o.t.	2,1 %
Nekovinska	33,2 %	30,1 %	32,0 %	2,4 o.t.	2,7 %
Kovinska	27,2 %	26,1 %	27,9 %	2,5 o.t.	2,1 %
Elektro	25,4 %	26,1 %	26,4 %	-0,3 o.t.	-0,4 %
Strojna	25,7 %	25,0 %	26,8 %	3,0 o.t.	-0,1 %
Druge	35,2 %	33,6 %	35,4 %	0,5 o.t.	1,8 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Dodana vrednost na zaposlenega

Dodana vrednost na zaposlenega je v 2018 v predelovalnih dejavnostih znašala 44.000 EUR, kar je bilo za 43 % več kot v letu 2008. V zadnjih enajstih letih je dodana vrednost na zaposlenega v predelovalnih dejavnostih v povprečju letno znašala 36.000 EUR. Večji upad dodane vrednosti na zaposlenega so predelovalne dejavnosti beležile predvsem v letu 2009 (-12 %), v povprečju pa je v zadnjih desetih letih beležila 3,7-odstotno letno rast.

45 Bruto marža je izračun dodane vrednost v prihodkih.

46 Povprečna letna rast (geometrijsko povprečje).

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

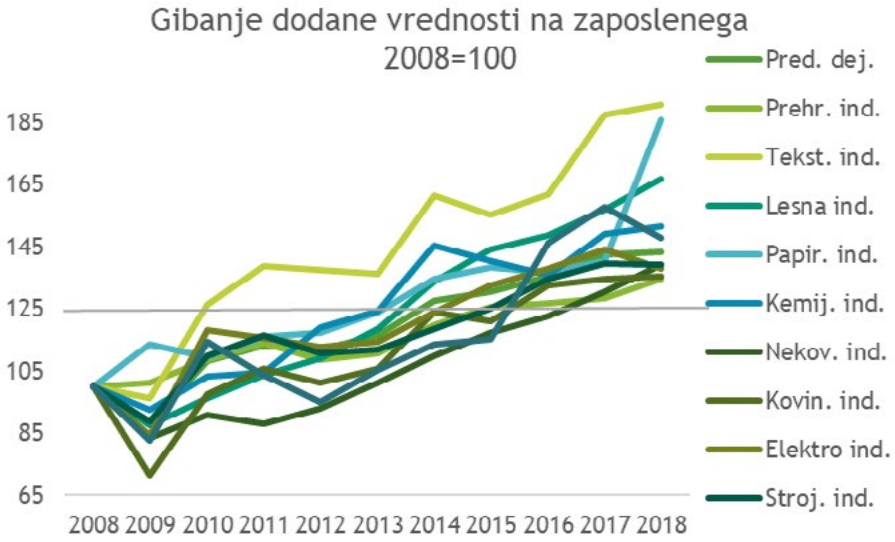
Dodana vrednost na zaposlenega[47]	Vred. 2018, EUR	Ø Vred. 2008–2018, mio EUR	Sprem. v % 2018/2008	Ø Vred. 2014–2018, mio EUR	CAGR[48] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**43.645**	**36.464**	**43,3 %**	**41.364**	**4,3 %**
Prehrambna	36.521	31.515	34,7 %	34.454	4,0 %
Tekstilna	28.731	21.802	90,7 %	25.810	6,9 %
Lesna	33.347	24.818	66,8 %	30.006	7,1 %
Papirna	52.595	36.426	85,9 %	41.636	8,4 %
Kemična	81.840	67.032	51,6 %	77.954	4,0 %
Nekovinska	48.323	37.119	39,2 %	43.026	6,6 %
Kovinska	40.920	33.750	35,5 %	39.120	5,1 %
Elektro	39.803	34.701	37,8 %	39.061	3,8 %
Strojna	43.571	36.860	39,1 %	41.144	4,5 %
Druge	39.434	31.045	48,0%	36.272	7,0 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V zadnjih desetih letih (2018/2008) se je med predelovalnimi dejavnostmi dodana vrednost na zaposlenega najbolj zvišala v lesni in tekstilni industriji (14.000 EUR), nekovinski industriji (13.000 EUR), drugih predelovalnih dejavnostih (13.000 EUR) ter strojni industriji (12.000 EUR).

47 Dodana vrednost na zaposlenega je izračun dodane vrednosti v stroških faktorjev glede na število zaposlenih.

48 Povprečna letna rast (geometrijsko povprečje).

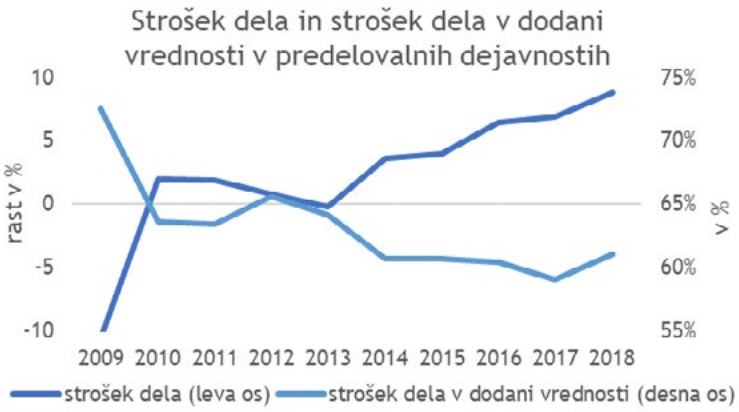


Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V zadnjih petih letih (2014–2018) je dodana vrednost na zaposlenega v predelovalnih dejavnostih v povprečju porasla za 4,3 % letno ter beležila 41.371 EUR dodane vrednosti na zaposlenega. V zadnjih petih letih je bila med predelovalnimi dejavnostmi dodana vrednost na zaposlenega najvišja v kemični (61.000 EUR), nekovinski (43.000 EUR), papirni (38.000 EUR) in strojni industriji (41.000 EUR). V tem času se je najbolj zvišala v lesni industriji (7,6 % na leto), drugih predelovalnih dejavnostih (7 % na leto), tekstilni (6,9 % na leto) in nekovinski industriji (6,5 % na leto). Najnižjo dodano vrednost v zadnjih petih letih beležita tekstilna (26.000 EUR) ter lesna industrija (30.000 EUR).

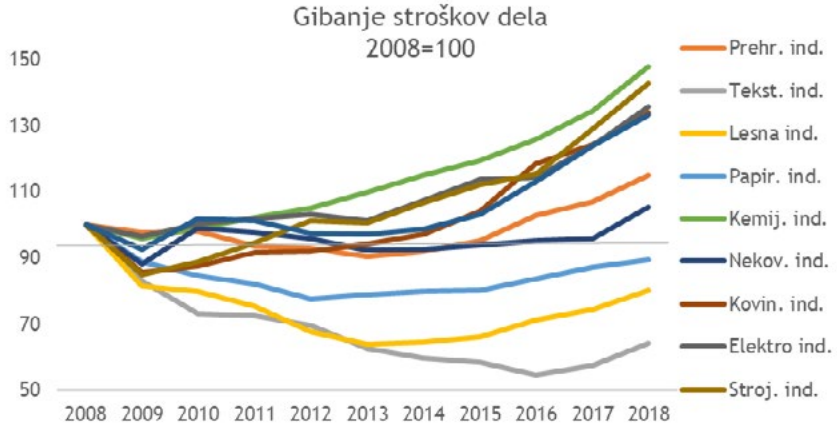
Stroški dela v dodani vrednosti

Stroški dela, ki v večini podjetij predstavljajo največji odhodek med poslovnimi odhodki, so v predelovalnih dejavnostih v letu 2018 znašali 5,4 mrd EUR ter so se v zadnjih petih letih zvišali 8-krat, izjema sta bili leti 2009 in 2013. Stroški dela so se v 2018 v primerjavi z letom 2008 zvišali za 24,4 %. V zadnjih enajstih letih so predelovalne dejavnosti v povprečju beležile 4,3 mrd EUR stroškov dela, v zadnjih petih letih ob vse večjem pritisku na rast plač, tudi minimalne, so stroški dela v povprečju znašali 4,7 mrd EUR.



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V zadnjih desetih letih (2018/2008) so med predelovalnimi dejavnostmi stroški dela kljub upadu števila zaposlenih najbolj porasli v kemični (349 mio EUR) in strojni industriji (346 mio EUR), na kar je vplivalo predvsem novo zaposlovanje, ter v kovinski industriji (280 mio EUR) ob dvigu plač. V tekstilni, lesni in papirni industriji je strošek dela v 2018 nižji kot v 2008, saj se je v teh panogah število zaposlenih več kot prepolovilo, stroški dela pa so se zmanjšali med 10 in 35 %.



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V obdobju zadnjih petih let (2014–2018) so stroški dela v predelovalni dejavnosti vsako leto v povprečju porasli za 5,9 % letno. Med predelovalnimi dejavnostmi so stroški dela na leto najbolj porasli v kovinski in strojni industriji (za 7,3 % letno), drugih predelovalnih dejavnostih (za 6,5 % letno), kemični (za 6,1 % letno) ter elektro industriji (6 % letno).

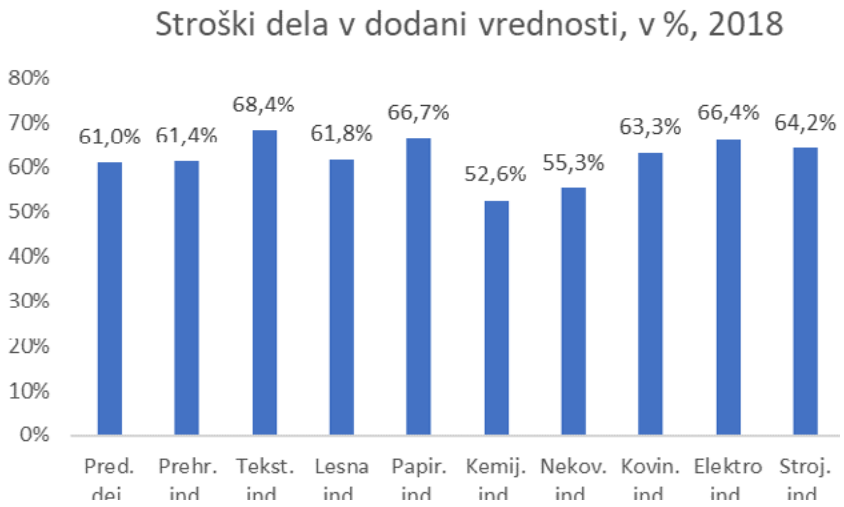
Strošek dela	Vred. 2018, mio EUR	Ø Vred. 2008–2018, mio EUR	Vred. razlika 2018-2008, mio EUR	Sprem. v % 2018/2008	Ø Vred. 2014–2018, mio EUR	CAGR[49] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**5.376**	**4.333**	**1.056**	**5,9 %**	**4.693**	**5,9 %**
Prehrambna	364	312	48	4,9 %	324	4,9 %
Tekstilna	180	192	-100	0,5 %	165	0,5 %
Lesna	271	253	-67	4,7 %	241	4,7 %
Papirna	200	189	-24	2,5 %	188	2,5 %
Kemična	1.079	832	349	6,1 %	938	6,1 %
Nekovinska	186	170	9	2,6 %	171	2,6 %
Kovinska	1.106	847	280	7,3 %	954	7,3 %
Elektro	741	594	194	6,0 %	650	6,0 %
Strojna	1.153	863	346	7,3 %	978	7,3 %
Druge	99	79	25	6,5 %	85	6,5 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Delež stroškov dela v dodani vrednosti pove, kolikšen delež dodane vrednosti po plačilu delovne sile ostane lastniku kapitala za razvoj, investicije, stroške financiranja, davke in izplačilo ali zadržanje dobička. Delež stroškov dela v dodani vrednosti je v predelovalnih dejavnostih nad 60-odstoten, saj so mnoge panoge delovno intenzivne z nižjo ustvarjeno dodano vrednostjo. V predelovalnih dejavnostih so stroški dela v dodani vrednosti postopno upadali vse od 2013 do 2017, ko so znašali med 64,1 % in 59,1 %, v 2018 pa so ponovno porasli, saj so se stroški dela povišali za več, kot je znašalo zvišanje dodane vrednosti. Najvišje stroške dela v dodani vrednosti so v predelovalnih dejavnostih zabeležili v 2009 (72,6 %), saj so stroški dela upadli za pol manj, kot pa je znašal upad dodane vrednosti zaradi finančne in gospodarske krize. V zadnjih enajstih letih so stroški dela v dodani vrednosti v povprečju znašali 63 %, v letih 2008–2013 so znašali v povprečju 66 %, v naslednjih petih letih (2014–2018) pa 60 %.

Med predelovalnimi dejavnostmi beležijo v 2018 najvišji strošek dela v dodani vrednosti v tekstilni (68,4 %) in papirni industriji (66,7%), ki sta delovno zelo intenzivni panogi in ustvarita nižjo dodano vrednost na zaposlenega. Sledijo elektro (66,4 %), strojna (64,2 %), kovinska (63,3 %), lesna in prehrambna industrija (dobrih 61 %).

49 Povprečna letna rast (geometrijsko povprečje).



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V zadnjih desetih letih (2018/2008) so med predelovalnimi dejavnostmi stroški dela v dodani vrednosti upadli za 3 o.t., saj so predelovalne dejavnosti kljub skoraj 20.000 manj zaposlenih ustvarile višjo dodano vrednost (za 31 %) ob višjih stroških dela (24 %). V tem času so stroški dela v dodani vrednosti najbolj upadli v tekstilni in lesni (za 21 in 15 o.t.), kakor tudi prehrambni industriji (za 6 o.t.) ter porasli v kemični industriji (za 2,3 o.t.). V zadnjih petih letih so stroški dela v dodani vrednosti najbolj upadli v nekovinski in lesni industriji (6,9 in 6 o.t.), kjer tudi delovno intenzivne panoge ustvarjajo proizvode z višjo dodano vrednostjo. Sledijo druge nekovinske predelovalne dejavnosti, kjer so stroški dela upadli za 4,2 o.t. ter strojna industrija.

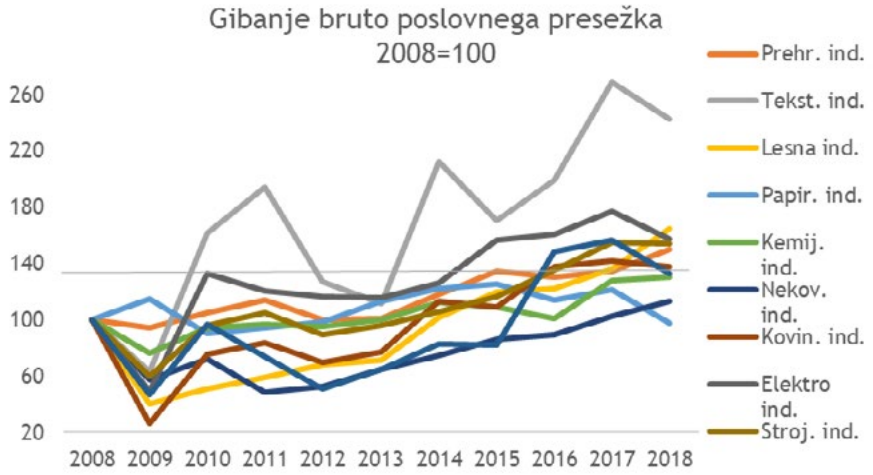
Stroški dela v DV	Vred. 2018, v %	Ø 2018–2018	Ø 2014–2018	Sprem. v o. t. 2018/2008	Sprem. v o.t. 2014/2018
PREDEL. DEJ. SKUPAJ	**61,0 %**	**63,2 %**	**60,4 %**	**-3,0 o.t.**	**0,3 o.t.**
Prehrambna	61,4 %	63,9 %	61,4 %	-6,1 o.t.	-0,4 o.t.
Tekstilna	68,4 %	76,6 %	68,9 %	-20,7 o.t.	-1,3 o.t.
Lesna	61,8 %	73,1 %	64,9 %	-15,0 o.t.	-6,0 o.t.
Papirna	66,7 %	63,0 %	61,1 %	-1,8 o.t.	8,1 o.t.
Kemična	52,6 %	52,6 %	52,7 %	2,3 o.t.	1,8 o.t.
Nekovinska	55,3 %	62,6 %	58,2 %	-1,7 o.t.	-6,9 o.t.
Kovinska	63,3 %	66,2 %	61,5 %	-0,7 o.t.	2,9 o.t.
Elektro	66,4 %	66,6 %	63,6 %	-3,2 o.t.	0,4 o.t.
Strojna	64,2 %	65,7 %	63,9 %	-1,7 o.t.	-1,9 o.t.
Druge	58,4 %	62,5 %	57,8 %	0,1 o.t.	-4,2 o.t.

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Bruto poslovni presežek (EBITDA) in marža bruto poslovnega presežka

Bruto poslovni presežek je presežek, ki nastane iz poslovnih dejavnosti po poplačilu vhodnih faktorjev dela. Izračuna se lahko iz dodane vrednosti v stroških faktorjev, in sicer tako, da se od te vrednosti odštejejo stroški dela. Bruto poslovni presežek v predelovalnih dejavnostih je v letu 2018 presegel 3,4 mrd EUR, raven iz leta 2008 pa je presegel za 1 mrd EUR oziroma za 41,8 %. Bruto poslovni presežek je presežek, ki zadnjih šest let konstantno raste, v zadnjih desetih letih so predelovalne dejavnosti v povprečju beležile 3,6-odstotno rast na leto, v zadnjih petih letih pa letna rast znaša 8,8 %.

V zadnjih enajstih letih so predelovalne dejavnosti v povprečju ustvarile 2,6 mrd EUR bruto poslovnega presežka, v zadnjih petih letih pa 3,1 mrd EUR. V zadnjih desetih letih (2018/2008) se je med predelovalnimi dejavnostmi bruto poslovni presežek najbolj zvišal v strojni in kemični (224 in 221 mio EUR), kovinski (176 mio EUR) in elektro industriji (136 mio EUR). Le papirna industrija še ni dosegla nivoja bruto poslovnega presežka iz leta 2008.



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

V obdobju zadnjih petih let (2014–2018) je bruto poslovni presežek med predelovalnimi dejavnostmi vsako leto v povprečju najbolj porasel v lesni in tekstilni industriji (za 18 in 17 % letno), drugih predelovalnih dejavnostih (za 16 % letno), kovinski in nekovinski (12 in 11 % letno) ter strojni industriji (za 10 % letno). Med vsemi predelovalnimi panogami so v 2018 največ bruto poslovnega presežka ustvarili v kemični industriji (27 % celotne predelovalne panoge), sledijo kovinska in strojna (19 %), elektro (11 %), prehrambna (7 %) in lesna industrija (5 %).

Bruto poslovni presežek (EBITDA)	Vred. 2018, mio EUR	Ø Vred. 2008–2018, mio EUR	Vred. razlika 2018–2008, mio EUR	Sprem. v % 2018/2008	Ø Vred. 2014–2018, mio EUR	CAGR[50] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**3.436**	**2.568**	**1.013**	**41,8 %**	**3.082**	**8,8 %**
Prehrambna	229	177	77	50,3 %	203	8,4 %
Tekstilna	83	58	49	142,4 %	75	16,7 %
Lesna	168	96	66	64,4 %	132	18,2 %
Papirna	100	111	-3	-2,8 %	119	-2,9 %
Kemična	944	751	221	30,6 %	839	5,5 %
Nekovinska	151	104	18	13,2 %	124	11,8 %
Kovinska	642	454	176	37,7 %	596	12,3 %
Elektro	375	307	136	56,9 %	372	6,4 %
Strojna	642	459	224	53,7 %	555	10,0 %
Druge	71	50	18	32,9 %	64	15,6 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Marža bruto poslovnega presežka, ki je izračunana kot razmerje med bruto poslovnim presežkom in prihodki od prodaje (izračunan v %) kaže, koliko bruto poslovnega presežka panoga realizira na denarno enoto prihodkov od prodaje, izkazana v %. Ta je v predelovalnih dejavnostih v 2018 znašala 11 % ter je bila nižja kot v 2017 (11,7 %). Zviševala se je v letih 2004-2017, v zadnjih petih letih pa je v povprečju znašala 11,2 %. Najvišjo maržo poslovnega presežka so v 2018 zabeležili v kemični (15,6 %) in nekovinski industriji (14,9 %), drugih predelovalnih dejavnostih (14,6 %), o najnižjih pa poročajo iz elektro (8,5 %) ter strojne, tekstilne in prehrambne industrije (dobrih 9 %).

Marža bruto poslovnega presežka[51], v %	Vred. 2018, v %	Ø 2008–2018, v %	Ø 2014–2018	Sprem. 2018/2008	CAGR[52] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**11,0 %**	**10,0 %**	**11,2 %**	**1,6 o.t.**	**3,0 %**
Prehrambna	9,6 %	8,0 %	9,0 %	2,9 o.t.	6,0 %
Tekstilna	9,3 %	6,9 %	9,2 %	6,1 o.t.	13,5 %
Lesna	11,9 %	7,9 %	10,5 %	4,9 o.t.	10,7 %
Papirna	7,7 %	9,4 %	9,8 %	-0,3 o.t.	-5,5 %
Kemična	15,6 %	14,9 %	15,3 %	0,1 o.t.	1,8 %
Nekovinska	14,9 %	11,4 %	13,4 %	1,6 o.t.	8,1 %
Kovinska	10,0 %	8,9 %	10,7 %	1,1 o.t.	5,3 %

50 Povprečna letna rast (geometrijsko povprečje).

51 EBITDA marža je izračun poslovnega presežka v prihodkih.

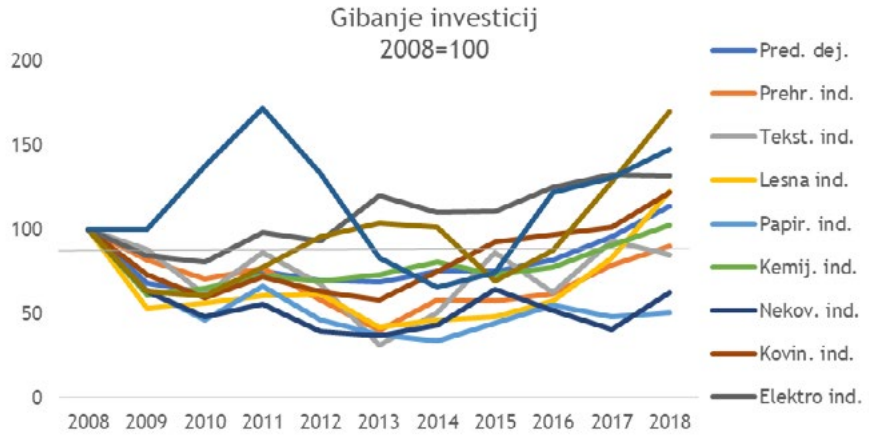
52 Povprečna letna rast (geometrijsko povprečje).

Marža bruto poslovnega presežka[51], v %	Vred. 2018, v %	Ø 2008–2018, v %	Ø 2014–2018	Sprem. 2018/2008	CAGR[52] v obdobju 2014–2018
Elektro	8,5 %	8,7 %	9,6 %	0,7 o.t.	-0,2 %
Strojna	9,2 %	8,6 %	9,7 %	1,5 o.t.	1,5 %
Druge	14,6 %	12,8 %	15,0 %	0,2 o.t.	7,2 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

Investicije

Poslovni subjekti so v letu 2018 za investicije v opredmetena osnovna sredstva namenili slabi 2 mrd EUR, kar je bilo 14 % več kot v letu 2008. Bruto investicije v opredmetena osnovna sredstva zajemajo vse investicije v vsa nova in obstoječa opredmetena osnovna sredstva (zgradbe, stroje in opremo, patente, licence itd.), katerih doba uporabnosti je daljša kakor eno leto, vključno z neproizvedenimi opredmetenimi osnovnimi sredstvi, kakor je zemljišče. Investicije v opredmetena osnovna sredstva se tako krepijo vse od dna v letu 2015 (1,3 mrd EUR) oziroma zgodovinskega dna v letu 2010 (1,1 mrd EUR). V zadnjih enajstih letih (2008–2018) so družbe za investicije v opredmetena osnovna sredstva letno v povprečju namenile 1,4 mrd EUR. Zadnji dve poslovni leti (2017 in 2018) sta bili investicijsko zelo intenzivni, kar je povezano tako z visoko izkoriščenostjo kapacitet v predelovalnih dejavnostih kot z rastjo razpoložljivega dohodka. Tudi poceni finančni viri blagodejno vplivajo na rast investicij, vendar niso odločilni za njihovo krepitev, saj se delež lastnih sredstev pri investicijah krepi.



Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

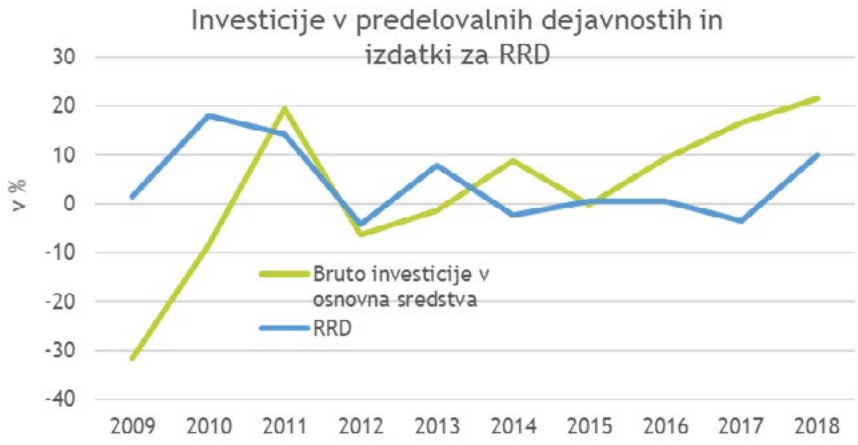
Med vsemi predelovalnimi panogami so v 2018 največ bruto investicij v opredmetena osnovna sredstva namenili v strojni industriji (24 % celotne predelovalne panoge), sledijo kemična (22 %), kovinska (21 %) ter elektro industrija (10 %), najmanj investicij pa namenijo v tekstilni industriji, drugih predelovalnih dejavnostih ter papirni industriji (pod 2 %).

Merjeno v prihodkih od prodaje so predelovalne dejavnosti za bruto investicije v opredmetena osnovna sredstva v 2018 namenile 6,3 % letne prodaje, kar je bilo več kot v 11-letnem

poslovnem ciklu (5,5 %). Največji delež investicij v prodaji ima v 2018 lesna industrija (9,5 % v 2018, 6,0 % v 11-letnem povprečju), sledijo kemična (7,3 % v 2018, 6,7 % v 11-letnem obdobju), strojna (6,7 % v 2018, 4,9 % v 11-letnem obdobju) ter nekovinska (6,7 % v 2018, 6,6 % v 11-letnem obdobju) in kovinska industrija (nad 6 % v 2018, 5,8 % v 11-letnem obdobju).

Bruto investicije v opredmetena osnovna sredstva	Investicije 2018, mio EUR	Ø Investicije 2008–2018, mio EUR	Sprem. v % 2018/2008	Sprem. v %/ leto 2014–2018	Investicije v prodaji, v % 2018	CAGR[53] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**1.975**	**244**	**14,1 %**	**10,6 %**	**6,3 %**	**5,5 %**
Prehrambna	118	-13	-9,8 %	17,7 %	4,9 %	4,0 %
Tekstilna	38	-7	-14,8 %	22,2 %	4,3 %	4,2 %
Lesna	134	25	22,8 %	24,1 %	9,5 %	6,1 %
Papirna	60	-58	-49,1 %	6,2 %	4,7 %	4,5 %
Kemična	437	10	2,3 %	6,9 %	7,3 %	6,7 %
Nekovinska	68	-41	-37,7 %	11,2 %	6,7 %	6,2 %
Kovinska	424	77	22,3 %	16,0 %	6,6 %	6,1 %
Elektro	204	49	32,1 %	1,9 %	4,6 %	4,9 %
Strojna	469	194	70,4 %	10,4 %	6,7 %	5,2 %
Druge	24	8	47,5 %	12,1 %	5,0 %	4,1 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.



Vir: SURS, preračuni Analitika GZS.

Bruto domači izdatki za RRD (BIRR) so skupni notranji **izdatki za RRD**, ki se izvaja na ozemlju Republike Slovenije. Izdatki za RRD, ki jih imajo izvajalci RRD v poslovnem sektorju, so v 2018 v predelovalnih dejavnostih znašali 488 mio EUR, kar je za 159 mio EUR več kot

53 Povprečna letna rast (geometrijsko povprečje).

v 2008 oziroma za 49 % več. V zadnjih enajstih letih so izdatki za RRD v poslovnem sektorju znašali 429 mio EUR, v zadnjih petih letih pa 461 mio EUR.

V RRD so med predelovalnimi dejavnostmi v 2018 namenili največ izdatkov v kemični industriji (212 mio EUR), sledijo elektro (129 mio EUR), strojna (80 mio EUR) ter kovinska industrija (20 mio EUR). V zadnjih desetih letih (2018–2008) so izdatke za RRD najbolj zvišali v kemični in elektro industriji (za 53 mio EUR), sledita strojna (22 mio EUR) in prehrambna industrija (6 mio EUR).

RRD v poslovnem sektorju[54]	Vred. 2018, mio EUR	Ø Vred. 2008–2018, mio EUR	Vred. razlika 2018–2008, mio EUR	Sprem. v % 2018/2008	Ø Vred. 2014–2018, mio EUR	CAGR[55] v obdobju 2014–2018
PREDEL. DEJ. SKUPAJ	**488,6**	**428,5**	**159,3**	**48,4 %**	**461,3**	**1,0 %**
Prehrambna	7,6	4,7	6,2	444,8 %	6,8	3,5 %
Tekstilna	7,0	6,4	2,6	57,4 %	6,3	-2,6 %
Lesna	4,2	3,4	2,7	180,1 %	3,9	10,7 %
Papirna	4,4	3,1	1,6	58,4 %	3,0	14,6 %
Kemična	204,5	191,9	45,6	28,7 %	205,3	1,5 %
Nekovinska	4,1	5,9	-0,1	-2,5 %	6,4	-22,2 %
Kovinska	20,1	28,5	0,1	0,7 %	24,5	-13,3 %
Elektro	128,8	108,8	53,3	70,7 %	127,3	0,3 %
Strojna	79,4	69,0	21,5	37,0 %	68,0	2,4 %
Druge	4,6	5,1	1,9	69,5 %	5,7	4,8 %

Vir: SURS, strukturna statistika podjetij, preračuni Analitika GZS.

54 Notranji izdatki za RRD v poslovnem sektorju, po dejavnostih predelovalnih dejavnosti so nekateri podatki zaradi zaupnosti za leti 2017-2018 ocenjeni.

55 Povprečna letna rast (geometrijsko povprečje).

Priloga 2:
Predelovalne dejavnosti v Sloveniji, EU-27 in skupini primerljivih srednjeevropskih držav (CEE-4) v 2008–2017

Predelovalne dejavnosti v Sloveniji so v 2017 beležile višjo **bruto maržo** kot znaša mediana v državah EU-27 ali mediana v CEE-4 (SLO 28,5 %, EU 23,8 %, CEE-4 22 %). Največje odstopanje bruto marže Slovenije v primerjavi z državami EU beležijo kemična (8,8 o.t.), prehrambna (3 o.t.) in lesna industrija (2,8 o.t.), kjer Slovenija beleži višjo bruto maržo. V primerjavi z državami CEE-4 so bila največja odstopanja v slovenski kemični (10,1 o.t.), elektro (8,2 o.t.) in strojni industriji (6,4 o.t.).

Delež bruto investicij v opredmetena osnovna sredstva v primerjavi s prihodki je bil v Sloveniji malenkostno višji kot v državah CEE-4 ter višji kot v državah EU-27 (SLO 5,6 %, EU 4,2 %, CEE-4 5,2 %). K višjemu slovenskemu deležu investicij v prihodkih v primerjavi z EU-27 so pripomogle predvsem lesna, strojna in tekstilna industrija. V primerjavi z državami CEE-4 so odstopanja deleža investicij v prihodkih manjša. Višji deleži so v slovenski lesni, elektro in kemični industriji, za CEE-4 pa zaostajajo v papirni industriji in drugih predelovalnih dejavnostih.

Slovenija je v 2017 ustvarila višjo **dodano vrednost na zaposlenega** v predelovalnih dejavnostih (44,3 tisoč EUR), kot je znašala mediana v državah CEE-4 (33.000 EUR), ter nižjo, kot je znašala mediana v državah EU-27 (43,7 tisoč EUR). Slovenija je v primerjavi z državami EU-27 po ustvarjeni dodani vrednosti na zaposlenega najbolj pridobila, oziroma najbolj prehiteva, med drugimi predelovalnimi dejavnostmi, v drugih predelovalnih dejavnostih (za 14.000 EUR), tekstilni (za dobrih 3.000 EUR), prehrambni (slabih 3.000 EUR) in lesni industriji (za dobrih 2.000 EUR dodane vrednosti na zaposlenega). Na drugi strani za EU-27 (mediana) Slovenija najbolj zaostaja v kemični (8.000 EUR), elektro (za dobrih 3.000 EUR) in papirni industriji (dobrih 2.000 EUR). Slovenija je v primerjavi z državami CEE-4 po ustvarjeni dodani vrednosti na zaposlenega najbolj pridobila, oziroma najbolj prehiteva, med drugimi predelovalnimi dejavnostmi, v kemični industriji (za 20.000 EUR) ter drugih predelovalnih dejavnostih (za več kot 19.000 EUR), pa tudi v tekstilni, lesni, kovinski in nekovinski industriji (med 12-14 tisoč EUR). Slovenija tako po dodani vrednosti na zaposlenega beleži v vseh predelovalnih panogah višjo dodano vrednost kot pa primerljive panoge v CEE-4 (mediana).

Odstopanje Slovenije[56] po oddelkih predelovalnih dejavnosti v primerjavi z mediano kazalnika pri skupini srednjeevropskih držav (CEE-4), 2017

Ključne skupine predelovalnih dejavnosti	Bruto marža v o.t.	Investicije /prihodkih v o.t.	EBITDA marža v o.t.	Strošek dela v DV v o.t.	DV/ zaposlenega	Prihodki/ zaposlenega
PREDEL. DEJ. SKUPAJ	**6,5**	**0,5**	**0,9**	**7,7**	**10.839**	**281**
Prehrambna	4,5	-0,8	-0,1	7,4	9.520	19.632
Tekstilna	0,3	0,4	1,6	-5,1	13.932	45.400
Lesna	4,8	1,4	0,9	4,2	12.692	26.859
Papirna	-1,6	-4,2	-3,5	12,5	4.677	26.011
Kemična	10,1	0,7	3,8	10,5	20.364	-25.364
Nekovinska	3,0	-1,8	-1,0	4,8	11.711	26.965
Kovinska	2,5	0,4	-0,4	5,9	12.137	34.206
Elektro	8,2	0,8	2,8	3,1	10.477	-22.085
Strojna	6,4	0,2	0,1	8,3	6.296	-31.765
Druge	5,2	-2,7	4,0	-7,4	19.347	36.315

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

Predelovalne dejavnosti v Sloveniji so v letu 2017 beležile višji strošek dela v dodani vrednosti (59,1 %), kot znaša mediana v državah EU-27 (56,8 %) oziroma mediana v CEE-4 (51,3 %). Odstopanje Slovenije glede na CEE-4 je bilo največje v papirni in kemični industriji, kjer je bil strošek dela v dodani vrednosti v Sloveniji višji za več kot 10 o.t., kakor tudi v strojni, prehrambni in kovinski industriji (za več kot 6 o.t.). Le v tekstilni industriji in drugih predelovalnih dejavnostih je bil strošek dela v dodani vrednosti v Sloveniji nižji, kot znaša v CEE-4. V primerjavi z državami EU-27 je bil strošek dela v dodani vrednosti višji le v prehrambni, kemični in papirni industriji, medtem ko je bil v ostalih panogah nižji.

Predelovalne dejavnosti v Sloveniji so v 2017 beležile bistveno nižje prihodke na zaposlenega kot v EU-27 ter malenkost višje, kot znaša v CEE-4 (SLO 152.000 EUR, EU-27 190.000 EUR, CEE-4 152.000 EUR). V primerjavi z EU-27 so prihodki na zaposlenega v Sloveniji najbolj zaostajali v kemični (za 57.009 EUR), elektro (za 46.000 EUR), strojni (32.000 EUR) in nekovinski industriji (23.000 EUR). Le v drugih predelovalnih dejavnostih so bili v Sloveniji višji kot v EU-27. V primerjavi s CEE-4 so prihodki na zaposlenega v predelovalnih dejavnostih najbolj zaostajali v strojni in kemični industriji (za 31 oziroma za 25 tisoč EUR). Slovenija je po prihodkih na zaposlenega najbolj prehitevala CEE-4 v tekstilni (45.000 EUR), drugi predelovalni (36.000 EUR) in kovinski industriji (34.000 EUR).

56 Za koliko je vrednost kazalnika v Sloveniji višja od mediane kazalnika držav srednjeevropske skupine (CEE-4).

Odstopanje Slovenije[57] po oddelkih predelovalnih dejavnosti v primerjavi z mediano kazalnika pri EU-27, 2017

Ključne skupine predelovalnih dejavnosti	Bruto marža v o. t.[58]	Investicije /prihodkih v o. t.	EBITDA marža v o. t.[59]	Strošek dela v DV v o. t.	DV/ zaposlenega	Prihodki/ zaposlenega
PREDEL. DEJ. SKUPAJ	**4,7**	**1,5**	**1,5**	**2,3**	**-379**	**-38.048**
Prehrambna	3,0	0,0	0,4	3,8	2.714	-4.797
Tekstilna	-0,1	2,0	1,8	-6,9	3.316	-1.271
Lesna	2,8	2,4	0,8	0,0	2.096	0
Papirna	-2,6	-2,7	-2,4	2,0	-2.310	0
Kemična	8,8	1,6	4,0	2,6	-7.668	-56.751
Nekovinska	2,1	-0,3	1,7	-4,7	-1.538	-23.168
Kovinska	0,0	1,6	0,5	-0,7	0	-1.113
Elektro	-0,8	1,6	0,8	-0,3	-3.419	-45.981
Strojna	0,2	2,1	0,6	-2,1	0	-32.280
Druge	2,5	0,3	4,7	-9,3	13.999	30.145

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

Delež izdatkov za RRD poslovnega sektorja v prodaji je v Sloveniji v 2017 znašal 1,5 %, kar je več, kot znaša mediana EU-23 (0,7 %) ter mediana CEE-4 (0,5 %). Podobna dinamika je beležena tudi v obdobju 2008–2017, kjer delež izdatkov za raziskave in razvoj poslovnega sektorja v prodaji v Sloveniji znaša 1,7 %, v EU-23 0,6 % in v CEE-4 0,4 %. V 2017 je med EU državami najvišji delež izdatkov za RRD poslovnega sektorja v prodaji znašal na Švedskem 3,3 %, Danskem 2,6 %, v Avstriji in Nemčiji 2,7 %.

Delež izdatkov za RRD v celotnem poslovnem sektorju v prihodkih, v %

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
EU-23 (mediana)	0,6 %	0,6 %	0,5 %	0,7 %	0,7 %	0,6 %	0,7 %	0,7 %	0,6 %	0,7 %	n. p.
CEE-4 (mediana)	0,3 %	0,3 %	0,4 %	0,3 %	0,4 %	0,4 %	0,4 %	0,4 %	0,4 %	0,5 %	n. p.
Slovenija	1,3 %	1,6 %	1,7 %	1,8 %	1,8 %	2,0 %	1,8 %	1,8 %	1,7 %	1,5 %	1,6 %

Vir: Eurostat, preračuni Analitika GZS.

57 Za koliko je vrednost kazalnika v Sloveniji višja od mediane kazalnika držav EU-27.

58 Izračun dodane vrednosti v prihodkih.

59 EBITDA marža je izračun poslovnega presežka v prihodkih.

Predelovalne dejavnosti v Sloveniji so v 2017 beležile bistveno nižje prihodke na zaposlenega kot v EU-27 (mediana) ter malenkost višje kot v CEE-4 (mediana). Predelovalna dejavnost je v Sloveniji ustvarila višjo **dodano vrednost na zaposlenega** (43,3 tisoč EUR), kot znaša mediana v državah CEE-4 (32,5 tisoč EUR) ter nekoliko nižjo, kot znaša mediana držav EU-27 (43,7 tisoč EUR). Predelovalne dejavnosti v Sloveniji so v 2017 beležile višjo **bruto maržo,** kot znaša mediana v državah EU-27 ter mediana v CEE-4 (SLO 28,5 %, EU 23,8 %, CEE-4 22 %). **Delež bruto investicij v opredmetena osnovna sredstva v primerjavi s prihodki** je bil nekoliko višji kot v državah CEE-4 ter višji kot v državah EU-27 (SLO 5,6 %, EU 4,2 %, CEE-4 5,2 %). Predelovalne dejavnosti v Sloveniji so v 2017 beležile višji strošek dela v dodani vrednosti, kot znaša mediana v državah EU-27 (60,5 %) oziroma v CEE-4 (50,7 %). Predelovalne dejavnosti v Sloveniji v 2017 so beležile nekoliko višjo **EBITDA maržo** (poslovni presežek/prihodkih), kot znaša mediana v državah EU-27 ter mediana skupine srednjeevropskih držav CEE-4 (SLO 11,7 %, EU-27 10,2 %, CEE-4 10,8 %). V 10-letnem obdobju (2008–2017) so najvišjo EBITDA maržo beležile države CEE-4 (mediano), ki je bila višja od zabeležene v Sloveniji.

Predelovalne dejavnosti		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	23,8 %	22,0 %	28,5 %
Bruto marža (DV/prih.)	Ø 2008–2017	20,8 %	21,5 %	27,1 %
Investicije/prihodkih	2017	4,2 %	5,2 %	5,6 %
Investicije/prihodkih	Ø 2008–2017	3,8 %	4,8 %	5,4 %
EBITDA marža	2017	10,2 %	10,8 %	11,7 %
EBITDA marža	Ø 2008–2017	9,2 %	10,6 %	10,0 %
Strošek dela v DV	2017	56,8 %	51,3 %	59,1 %
Strošek dela v DV	Ø 2008–2017	48,6 %	50,7 %	63,0 %
DV/zaposlenega	2017	43.703	32.485	43.324
DV/zaposlenega	Ø 2008–2017	40.244	29.453	35.596
Prihodki/zaposlenega	2017	190.061	151.732	152.013
Prihodki/zaposlenega	Ø 2008–2017	193.828	136.875	131.390

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V prehrambni industriji je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (35.000 EUR), kot znaša mediana v državah CEE-4 (25.000 EUR) ter mediana v državah EU-27 (32.000 EUR). V obdobju 2008–2017 je **dodana vrednost na zaposlenega** v prehrambni industriji v Sloveniji višja od mediane CEE-4 in nižja od mediane EU-27.

Prehrambna industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	20,3 %	18,8 %	23,3 %
Bruto marža (DV/prih.)	Ø 2008–2017	20,6 %	18,9 %	22,0 %
Investicije/prihodkih	2017	4,4 %	5,2 %	4,4 %
Investicije/prihodkih	Ø 2008–2017	3,9 %	4,2 %	4,1 %
EBITDA marža	2017	8,4 %	8,9 %	8,8 %

Prehrambna industrija		EU-27, mediana	CEE-4, mediana	Slovenija
EBITDA marža	Ø 2008–2017	8,4 %	8,8 %	7,9 %
Strošek dela v DV	2017	58,5 %	54,9 %	62,3 %
Strošek dela v DV	Ø 2008–2017	57,0 %	53,3 %	64,1 %
DV/zaposlenega	2017	31.685	24.879	34.399
DV/zaposlenega	Ø 2008–2017	34.876	22.691	30.891
Prihodki/zaposlenega	2017	152.605	128.176	147.808
Prihodki/zaposlenega	Ø 2008–2017	169.683	120.100	140.322

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V tekstilni industriji je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (28.000 EUR), kot znaša mediana v državah CEE-4 (14.000 EUR) ter mediana v državah EU-27 (24.000 EUR). V obdobju 2008–2017 je **dodana vrednost na zaposlenega** v tekstilni industriji v Sloveniji višja tako od mediane CEE-4 kot EU-27.

Tekstilna industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	30,4 %	30,0 %	30,3 %
Bruto marža (DV/prih.)	Ø 2008–2017	30,0 %	30,0 %	29,6 %
Investicije/prihodkih	2017	3,0 %	4,6 %	5,0 %
Investicije/prihodkih	Ø 2008–2017	3,8 %	4,9 %	3,9 %
EBITDA marža	2017	9,3 %	9,4 %	11,1 %
EBITDA marža	Ø 2008–2017	8,9 %	10,1 %	6,6 %
Strošek dela v DV	2017	70,5 %	68,7 %	63,5 %
Strošek dela v DV	Ø 2008–2017	73,3 %	66,3 %	77,8 %
DV/zaposlenega	2017	24.906	14.290	28.222
DV/zaposlenega	Ø 2008–2017	17.860	13.560	20.010
Prihodki/zaposlenega	2017	94.331	47.661	93.060
Prihodki/zaposlenega	Ø 2008–2017	59.504	45.230	67.602

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V lesni industriji je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (31.000 EUR), kot znaša mediana v državah CEE-4 (19.000 EUR) ter v državah EU-27 (29.000 EUR). V obdobju 2008–2017 je **dodana vrednost na zaposlenega** v lesni industriji v Sloveniji višja od mediane CEE-4 in nižja od mediane EU-27.

Lesna industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	27,0 %	25,0 %	29,8 %
Bruto marža (DV/prih.)	Ø 2008–2017	29,4 %	25,2 %	29,1 %
Investicije/prihodkih	2017	4,5 %	5,5 %	6,9 %
Investicije/prihodkih	Ø 2008–2017	4,5 %	5,9 %	5,7 %
EBITDA marža	2017	9,9 %	9,7 %	10,6 %

Lesna industrija		EU-27, mediana	CEE-4, mediana	Slovenija
EBITDA marža	Ø 2008–2017	8,8 %	11,5 %	7,6 %
Strošek dela v DV	2017	64,3 %	60,1 %	64,3 %
Strošek dela v DV	Ø 2008–2017	53,8 %	54,5 %	73,9 %
DV/zaposlenega	2017	29.283	18.687	31.379
DV/zaposlenega	Ø 2008–2017	31.509	19.179	23.213
Prihodki/zaposlenega	2017	105.127	78.268	105.127
Prihodki/zaposlenega	Ø 2008–2017	107.325	76.121	79.670

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V papirni industriji je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (40.000 EUR), kot znaša mediana v državah CEE-4 (35.000 EUR) ter nižjo, kot znaša mediana v državah EU-27 (42.000 EUR). V obdobju 2008–2017 je **dodana vrednost na zaposlenega** v papirni industriji v Sloveniji višja od mediane CEE-4 in nižja od mediane EU-27.

Papirna industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	28,0 %	27,0 %	25,4 %
Bruto marža (DV/prih.)	Ø 2008–2017	29,4 %	25,4 %	25,6 %
Investicije/prihodkih	2017	6,9 %	8,4 %	4,2 %
Investicije/prihodkih	Ø 2008–2017	5,8 %	7,6 %	5,4 %
EBITDA marža	2017	12,3 %	13,4 %	9,9 %
EBITDA marža	Ø 2008–2017	10,7 %	12,2 %	9,6 %
Strošek dela v DV	2017	58,9 %	48,4 %	60,9 %
Strošek dela v DV	Ø 2008–2017	61,2 %	52,1 %	62,6 %
DV/zaposlenega	2017	42.029	35.043	39.719
DV/zaposlenega	Ø 2008–2017	28.623	26.303	34.413
Prihodki/zaposlenega	2017	156.277	130.266	156.277
Prihodki/zaposlenega	Ø 2008–2017	97.229	103.389	134.671

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V kemični industriji je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (80.000 EUR), kot znaša mediana v državah CEE-4 (42.000 EUR) ter v državah EU-27 (70.000 EUR). V obdobju 2008–2017 je **dodana vrednost na zaposlenega** v kemični industriji v Sloveniji višja od mediane CEE-4 in mediane EU-27.

Kemična industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	24,3 %	23,1 %	33,2 %
Bruto marža (DV/prih.)	Ø 2008–2017	19,0 %	20,4 %	31,4 %
Investicije/prihodkih	2017	5,1 %	6,1 %	6,7 %
Investicije/prihodkih	Ø 2008–2017	4,3 %	4,6 %	6,7 %
EBITDA marža	2017	12,1 %	12,3 %	16,1 %

Kemična industrija		EU-27, mediana	CEE-4, mediana	Slovenija
EBITDA marža	Ø 2008–2017	10,2 %	12,3 %	15,0 %
Strošek dela v DV	2017	48,9 %	40,9 %	51,5 %
Strošek dela v DV	Ø 2008–2017	42,5 %	39,8 %	52,5 %
DV/zaposlenega	2017	70.364	42.331	62.696
DV/zaposlenega	Ø 2008–2017	67.452	43.443	57.548
Prihodki/zaposlenega	2017	244.512	213.125	187.761
Prihodki/zaposlenega	Ø 2008–2017	354.357	213.357	183.034

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V nekovinski industriji je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (45.000 EUR), kot znaša mediana v državah CEE-4 (33.000 EUR) ter nižjo, kot znaša mediana v državah EU-27 (47.000 EUR). V obdobju 2008–2017 je **dodana vrednost na zaposlenega** v nekovinski industriji v Sloveniji višja od mediane CEE-4 in nižja od mediane EU-27.

Nekovinska industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	30,9 %	30,1 %	33,0 %
Bruto marža (DV/prih.)	Ø 2008–2017	30,9 %	31,4 %	29,8 %
Investicije/prihodkih	2017	5,1 %	6,6 %	4,8 %
Investicije/prihodkih	Ø 2008–2017	6,1 %	6,9 %	6,6 %
EBITDA marža	2017	13,0 %	15,7 %	14,7 %
EBITDA marža	Ø 2008–2017	12,5 %	15,2 %	11,1 %
Strošek dela v DV	2017	60,1 %	50,6 %	55,4 %
Strošek dela v DV	Ø 2008–2017	54,3 %	51,6 %	62,8 %
DV/zaposlenega	2017	46.867	33.618	45.329
DV/zaposlenega	Ø 2008–2017	43.996	30.707	35.629
Prihodki/zaposlenega	2017	160.356	110.223	137.188
Prihodki/zaposlenega	Ø 2008–2017	142.197	97.885	119.399

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V kovinski industriji je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (41.000 EUR), kot znaša mediana v državah CEE-4 (29.000 EUR) ter enako, kot znaša mediana v državah EU-27 (41.000 EUR). V obdobju 2008–2017 je bila **dodana vrednost na zaposlenega** v kovinski industriji v Sloveniji višja od mediane CEE-4 in nižja od mediane EU-27.

Kovinska industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	28,1 %	25,7 %	28,1 %
Bruto marža (DV/prih.)	Ø 2008–2017	26,2 %	24,7 %	26,2 %
Investicije/prihodkih	2017	4,3 %	5,5 %	5,8 %

Kovinska industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Investicije/prihodkih	Ø 2008–2017	5,3 %	5,5 %	5,7 %
EBITDA marža	2017	10,5 %	11,4 %	11,0 %
EBITDA marža	Ø 2008–2017	8,9 %	10,4 %	9,1 %
Strošek dela v DV	2017	61,5 %	54,9 %	60,8 %
Strošek dela v DV	Ø 2008–2017	58,0 %	58,3 %	65,4 %
DV/zaposlenega	2017	40.664	28.527	40.664
DV/zaposlenega	Ø 2008–2017	31.181	25.213	33.110
Prihodki/zaposlenega	2017	145.668	110.349	144.555
Prihodki/zaposlenega	Ø 2008–2017	119.071	102.042	126.573

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V elektro industriji je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (41.000 EUR), kot znaša mediana v državah CEE-4 (31.000 EUR) ter nižjo. kot znaša mediana v državah EU-27 (45.000 EUR). V obdobju 2008–2017 je **dodana vrednost na zaposlenega** v elektro industriji v Sloveniji višja od mediane CEE-4 in nižja od mediane EU-27.

Elektro industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	27,1 %	18,0 %	26,2 %
Bruto marža (DV/prih.)	Ø 2008–2017	23,7 %	16,5 %	26,3 %
Investicije/prihodkih	2017	3,3 %	4,0 %	4,9 %
Investicije/prihodkih	Ø 2008–2017	3,0 %	2,9 %	4,9 %
EBITDA marža	2017	9,3 %	7,3 %	10,1 %
EBITDA marža	Ø 2008–2017	7,6 %	7,6 %	9,0 %
Strošek dela v DV	2017	61,8 %	58,3 %	61,5 %
Strošek dela v DV	Ø 2008–2017	52,7 %	53,3 %	65,9 %
DV/zaposlenega	2017	45.038	31.143	41.619
DV/zaposlenega	Ø 2008–2017	54.585	28.315	34.322
Prihodki/zaposlenega	2017	204.605	180.710	158.625
Prihodki/zaposlenega	Ø 2008–2017	230.548	171.494	130.402

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V strojni industriji je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (44.000 EUR), kot znaša mediana v državah CEE-4 (37.000 EUR) ter enako, kot znaša mediana v državah EU-27 (44.000 EUR). V obdobju 2008–2017 je **dodana vrednost na zaposlenega** v strojni industriji v Sloveniji višja od mediane CEE-4 in nižja od mediane EU-27.

Strojna industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	26,4 %	20,3 %	26,6 %
Bruto marža (DV/prih.)	Ø 2008–2017	19,7 %	22,2 %	25,0 %

Strojna industrija		EU-27, mediana	CEE-4, mediana	Slovenija
Investicije/prihodkih	2017	3,5 %	5,4 %	5,6 %
Investicije/prihodkih	Ø 2008–2017	3,5 %	4,8 %	4,8 %
EBITDA marža	2017	9,6 %	10,1 %	10,2 %
EBITDA marža	Ø 2008–2017	7,0 %	11,3 %	8,7 %
Strošek dela v DV	2017	63,8 %	53,4 %	61,7 %
Strošek dela v DV	Ø 2008–2017	59,3 %	48,3 %	65,4 %
DV/zaposlenega	2017	43.670	37.374	43.670
DV/zaposlenega	Ø 2008–2017	45.308	35.744	36.204
Prihodki/zaposlenega	2017	196.400	195.885	164.119
Prihodki/zaposlenega	Ø 2008–2017	229.743	161.338	144.915

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

V drugih predelovalnih dejavnostih je Slovenija v 2017 ustvarila višjo **dodano vrednost na zaposlenega** (42.000 EUR), kot znaša mediana v državah CEE-4 (23.000 EUR) ter mediana v državah EU-27 (28.000 EUR). V obdobju 2008–2017 je **dodana vrednost na zaposlenega** v drugih predelovalnih dejavnostih v Sloveniji višja tako od mediane CEE-4 kot EU-27.

Druge pred. dej.		EU-27, mediana	CEE-4, mediana	Slovenija
Bruto marža (DV/prih.)	2017	35,5 %	32,8 %	38,0 %
Bruto marža (DV/prih.)	Ø 2008–2017	30,4 %	34,0 %	33,7 %
Investicije/prihodkih	2017	4,4 %	7,4 %	4,7 %
Investicije/prihodkih	Ø 2008–2017	4,9 %	7,6 %	5,0 %
EBITDA marža	2017	13,3 %	13,9 %	18,0 %
EBITDA marža	Ø 2008–2017	11,2 %	14,5 %	13,0 %
Strošek dela v DV	2017	62,0 %	60,0 %	52,6 %
Strošek dela v DV	Ø 2008–2017	66,8 %	53,9 %	61,5 %
DV/zaposlenega	2017	27.981	22.633	41.979
DV/zaposlenega	Ø 2008–2017	24.223	21.470	30.183
Prihodki/zaposlenega	2017	80.362	74.193	110.508
Prihodki/zaposlenega	Ø 2008–2017	79.707	63.171	89.558

Vir: Eurostat, strukturna statistika podjetij, preračuni Analitika GZS.

Priloga 3: Megatrendi

Megatrendi	Grožnje	Priložnosti
Tehnološki megatrendi (avtomatizacija, Integracija predmetov in objektov, podatkovno usmerjen svet, kibernetska varnost in blokchain)	Neustrezen regulativni pristop zasledenje tehnološkemu napredku insocialne zahteve (npr. v zvezi s pravili o varstvu podatkov, kibernetskivarnosti…) Nizka stopnja kibernetske varnosti (tveganje za operacije in inovacije) Omejena družbena sprejemljivost tehnoloških sprememb Omejena okoljska trajnost Omejena interoperabilnost in standardi Omejena integracija različnih tehnologij v poslovne procese Tehnološka brezposelnost (zlasti v sektorjih, kot je transport) Spreminjanje zahtevglede spretnosti in težave zapresežne delavce	Kombinacija množične proizvodnje in prilagodljivosti uporabe napredne tehnologije Večja vključenost stranke v proizvodne procese Razvoj novih trgov (zlasti z uporabo IKT) Pojav novih zaposlitvenih možnosti Zmanjšanje tveganja za pomanjkanje delovne sile v okviru staranja prebivalstva (robotizacija) Povečana produktivnost Možnost ponovnega uvajanja industrijskih dejavnosti v razvite države (npr. uporaba 3D tiskanja)
Socialno-politični megatrendi (globalizacija in geopolitika ter demografski premiki)	Politične napetosti (domača in mednarodna raven) Nasprotovanje migracijam Trgovinska vojna, stopnjevanje protekcionizma Povečana nelojalna konkurenca (npr.damping) Povečana globalna konkurenca in njene negativne posledice (npr. zaprtje tradicionalnih industrij) Neuspešna prilagoditev sistemov zdravstvenega in socialnega varstva (kontekst staranja prebivalstva) Pomanjkanje delovne sile zaradi staranja prebivalstva Okoljski škodljivi učinki globalizacije in rasti prebivalstva	Povečanje poslovnih priložnosti, povezanih s staranjem prebivalstva Povečanje poslovnih priložnosti v državah v razvoju (rast prebivalstva in gospodarski razvoj) Uspešno vključevanje migrantov in starejših delavcev v delovno silo (spreminjanje kadrov, izobraževanje in usposabljanje) Povečanje talentov na globalni ravni (naraščajoče in bolj izobraženo prebivalstvo) Pojavnovega / bolj uravnoteženega modela globalizacije Pojav krajših / regionalnih in / ali krožnih vrednostnih verig

Okoljsko in pametno-gospodarstvo (zeleno in krožno gospodarstvo, urbanizacija, pametna mesta in pametna mobilnost)	Neustrezen regulativni pristop (npr.cilji glede recikliranja, okoljska pravila,varnostna pravila za avtonomna vozila…) Inercija trenutnih ekonomskih modelov, pomanjkanje družbene sprejemljivosti (npr. glede povečanje davkov na gorivo ali ogljik)	Pojav novih poslovnih modelov (krožno gospodarstvo, integracija-IKT v mestih in mobilnosti) Razvoj novih sektorjev s potencialnimi koristmi za prve v poslu (zeleno gospodarstvo, pametna mesta in mobilnost…)

Vir: Avtorji študije: »How to tackle challenges in a future-oriented EU industrial strategy« na osnovi European Observatory/ of Clusters and Industrial Change (2019).

REPUBLIKA SLOVENIJA
VLADA REPUBLIKE SLOVENIJE

Number: 31000-2/2021-3

Date: 24 June 2021

SLOVENIAN INDUSTRIAL STRATEGY 2021–2030

Table of Contents

Introduction

Photo: Nebojša Tejić

Dear Sir/Madam,

The new Slovenian Industrial Strategy 2021-2030, aligned with the European Industrial Strategy, prepares us for the future. The situation related to the coronavirus pandemic, which we have faced and are still facing today, has created an opportunity to reflect on WHERE we are, WHAT we are doing, and, above all, WHERE we want to be and WHERE we want to get to.

Our economy and the global economy are changing before our eyes, faster than ever before. Globalization, technological progress, and innovation are driving this wheel of development. Old market players are disappearing; new ones are emerging. Trade flows are changing. Industry must constantly adapt, transform itself to remain competitive. The fact is that all mechanisms must be used to preserve the technological competencies we have and to successfully cope with and shape new global challenges and developments.

This strategy is based on the shared vision for the development of the European Union set out in the European Green Deal, which guides countries towards a radical transformation of their economies and societies to achieve climate neutrality by 2050. This is the European Union's new long-term growth strategy, which emphasizes a modern, competitive, and resource-efficient economy. Growth and competitiveness are still at the forefront, but with an important emphasis: economic growth must be decoupled from resource use and the shift towards a circular economy system.

Furthermore, the strategy stresses the importance of creativity and innovation, which are key to the future development of the economy. The aim is to foster a supportive environment for creativity, entrepreneurship, and innovation, to strengthen innovation potential and increase competitiveness. Attention is also paid to the start-up, growth, development, and retention of promising small and medium-sized enterprises.

The strategy also focuses on the digital transformation of the economy through the development and deployment of new smart technologies. In this respect, fostering the R&D and

innovation cycle, networking and integration, competence development, and internationalization of business are key.

In summary, the vision of this document is to pave the way for green, creative, and smart development. On the basis of these development guidelines, we will formulate measures to support the Slovenian industry in its further progress, revitalization, or transformation. The Industrial Strategy aims to push the boundaries of development and to maintain or gain a competitive edge in terms of innovation and competitiveness compared to the rest of the world. We also want to become more self-sufficient, increase strategic autonomy and strengthen value chains, in line with EU industrial policy. We have set ourselves the goal of achieving labor productivity, measured in value-added per employee, of €66,000 by 2030.

The European Union has long recognized the principle of "Think small first", which means that micro-businesses, which do not have many resources to adapt to change, should be the first to be considered when adopting legislation. With this Industrial Strategy, we want to add the principle of "Think Green, Creative and Smart first", which means that we want every action, every development of a new product, service or business model, every start-up of a new business, every new investment, to think first about how and in what ways we can contribute to green, creative and smart development.

In this way, we will strengthen the position and international competitiveness of the industry and ensure that it remains a vital part of the Slovenian economy.

So let's go green, creative, and smart!

Ljubljana, December 2021

Zdravko Počivalšek, Minister of Economic Development and Technology

1. INTRODUCTION

Through export orientation and innovation, industry represents the foundations of welfare and the development of Slovenia and is the essential part of the country's economy. Therefore, it needs proper attention. In the narrow sense, industry refers to the manufacturing and processing activities that employ over 201,722 people in 19,671 companies in Slovenia. Slovenian processing activity in 2019 contributed a total of 23.2% to the added value of the economy, ranking it in third place in the EU-27, behind Ireland and the Czech Republic. The EU-27 average is 16.7%. Slovenian processing companies create almost one third of total sales and two thirds of total exports. Processing activities contribute to 75% of the investments in R&D in the business sector. More than one fourth of service activities are connected to industry. The borders between manufacturing and services have become blurred and the interaction between services and manufacturing is increasing in all branches. Therefore, this Industrial Strategy shows a wider view of the industry and includes industry-related services.

The Industrial Strategy connects various industrial chains, large enterprises, micro, small and medium-sized enterprises, including start-ups (hereinafter referred to as SMEs), academic and research institutes and other stakeholders. More than ten employees work in an average industrial unit. On the other hand, there are some large enterprises that employ over a thousand workers. The co-habitation of small and large enterprises in the economy is the precondition for success. Their cooperation with the research sphere and the creative and cultural sector (CCS) is also very important. The main engine of growth is creativity, research, development and innovation. One of the key tasks of this strategy is to create the conditions for connecting various stakeholders and to learn about as well as derive new innovative projects that expand the limits of development. New technologies, the life cycle of products, the necessity of exploiting local materials and raw materials from waste as well as increasing global competition enhance the importance of innovation not only for the future development of enterprises, but also for their long-term survival. Due to the interaction and co-dependence of those challenges, we need to look for systemic solutions in the direction of comparative advantages of Slovenia.

Industry in Slovenia has constantly changed through time: from labour-intensive to technology-intensive, from raw material processing to production of exacting high technology products, from less demanding markets to more demanding ones, from large emission-intensive factories to the modern low-carbon smart factories of the future, thereby enabling technological progress, including digitalisation.

This transformation is far from complete. Industry in Europe is experiencing profound changes in the direction of a green and digital transformation and is striving to regain technological sovereignty and autonomy. Slovenia has to provide for a new developmental breakthrough that will enable its industry to preserve its position as the essential part of the

economy. This breakthrough will, as shown in the strategy, be based on green, creative and smart development. Trends such as digitalisation and the transfer to a low-carbon circular economy are profoundly changing the environment and the way in which the economy works. They bring many opportunities but also challenges that we need to face. The rhythm of development set by new technologies and social challenges such as globalisation, the fight against climate change, the need for an effective use of raw materials, demographic change and health challenges, is becoming faster and faster. Considering the expected trend in the increase of prices of raw materials and energy sources, there must be a stimulation of those economy sectors that in the long-term will demand fewer raw materials, regardless of whether they originate from renewable or non-renewable sources, i.e. to generate (new) added value. The conditions that will allow the existing economic systems to address the required changes for achieving the green and digital transition must be introduced.

The industry should follow and co-create trends and be constantly updated to remain competitive and boost productivity. This also applies to traditional industries that are being digitalised, becoming "smart" and focussing on lowering the environmental footprint. If we want to achieve climate neutrality by 2050 and transform into a low-carbon circular economy, the habits of consumers must be changed, but this cannot be achieved without the proactive role of industry and the proper state policies. This will consequently contribute to the increase of social responsibility and the international reputation of Slovenian enterprises. The Slovenian Industrial Strategy will contribute to the achievement of the global sustainable development objectives that have been determined in the 2030 Agenda.

The aim is to form a sustainable industrial strategy that is harmonised with the Slovenian Smart Specialisation Strategy (S4), the European Green Deal and other developmental guidelines, to stimulate innovative solutions, the introduction of modern technologies, digital transformation of the economy and the transition to a low-carbon circular economy. It's time for a new industrial strategy that will consider the comparative advantages of Slovenia and the changed situation in the world, a result of the increasing challenges involved in the management of climate change and the pandemic, including the need to strengthen technological sovereignty and autonomy. The measures should enable the industry to more easily manage and adapt to change as well as to technological progress, which is a key performance factor in the 21st century.

A proactive and harmonised approach of the country and enterprises, public research and education institutions as well as other stakeholders is important. With a diligent design of new products that considers circular and digital aspects, with new sustainable technologies, the usage of domestic renewable raw materials, new jobs and re-qualification, change must be envisaged, adapted to and managed. The challenge is to establish a system that will enable constant learning and adaptation to change. Innovation, investment and strengthening of acquired knowledge and competences as well the development of new ones are of significant importance.

The EU Industrial Strategy, presented by the European Commission in 2020 and updated in 2021, is putting forth the strengthening of the single market, which is the basis for the EU's competitiveness in the global market. The objective of the updated industrial strategy is to strengthen Europe's leading role as a global industrial force to ensure competitive advantage in digital and green technologies. The long-term EU strategic guideline is, in accordance

with the European Green Deal, to achieve climate neutrality by 2050 by acquiring a reliable supply of raw materials and clean as well as affordable energy. Digital technologies, following the industry's image and method of operation, have been emphasised and they enable the transition to a low-carbon circular economy. Digitalisation is the driving force of a circular economy. Digital technologies enable new business models and enable industry to become more productive, ensure workers acquire new skills and support the decarbonisation of our economy. The digital sector will also contribute to the realisation of the European Green Deal, i.e. as a source of clean technological solutions and by reducing its carbon footprint. The economy's digital transformation is horizontal with regard to all other activities and all three developmental areas of this strategy, because it enables the realisation of the commitments regarding a low-carbon circular economy and creative, innovative and development-oriented smart industry.

With the aim to generate and strengthen the EU single market as well as to guarantee the competitiveness of Slovenian enterprises in the European and global arena, Slovenia is creating the national industrial strategy by considering the guidelines of the EU Industrial Strategy and other relevant documents.

2. PURPOSE, VISION, INDICATORS AND ACTION FRAMEWORK

In 2013, the Government of the Republic of Slovenia adopted the "Slovenian Industrial Policy – SIP" document that set the priorities of the development of the industry and economy for the 2014–2020 period. It contained guidelines to enhance business environment competitiveness, to strengthen the entrepreneurship and innovation abilities of the economy as an effective response to social challenges and activities for the sustainable development of Slovenian industry. By improving the business environment, supporting entrepreneurship and innovations, developing propulsive technological and industrial sectors able to react to social challenges, SIP's vision in the past period was to create conditions for the continuous restructuring of existing industry into an energy, resource, environmentally and socially sustainable industry of knowledge and innovations capable of creating new, long-term and quality jobs and being strongly integrated into international business flows.

We estimate that the realisation of the Slovenian Industrial Policy was partially successful because it was greatly connected to the EU 2014-2020 financial perspective funds and conditioned with the good cooperation of all line ministries. We have found that a systematic approach and the coordination of the measures that arise from the provided guidelines was lacking. We have also found that the strategy must be upgraded with new know-how and guidelines and must accelerate its implementation in practice. Special emphasis will be placed on the coordination of the economy, knowledge institutions and all ministries within the scope of innovation activity and in cooperation with the Research and Innovation Strategy. Strong connection to the priority areas of the Slovenian Smart Specialisation Strategy (S4) will also be emphasised. Additional coordination to prepare measures between ministries will be needed as their measures are supplemented and upgraded. Only such coordination along with the implementation of the industrial strategy will successfully identify the opportunities for Slovenia's inclusion in global value chains as well as strengthen the strategic autonomy of the Slovenian and EU economy. The evaluation of the operation of Strategic Development and Innovation Partnerships (SDIP[1] shows that they should be more intensively included in the formation of industrial and research policy. Further strengthening of the support environment is important from this aspect, which has been emphasised within the "Creative Development" section.

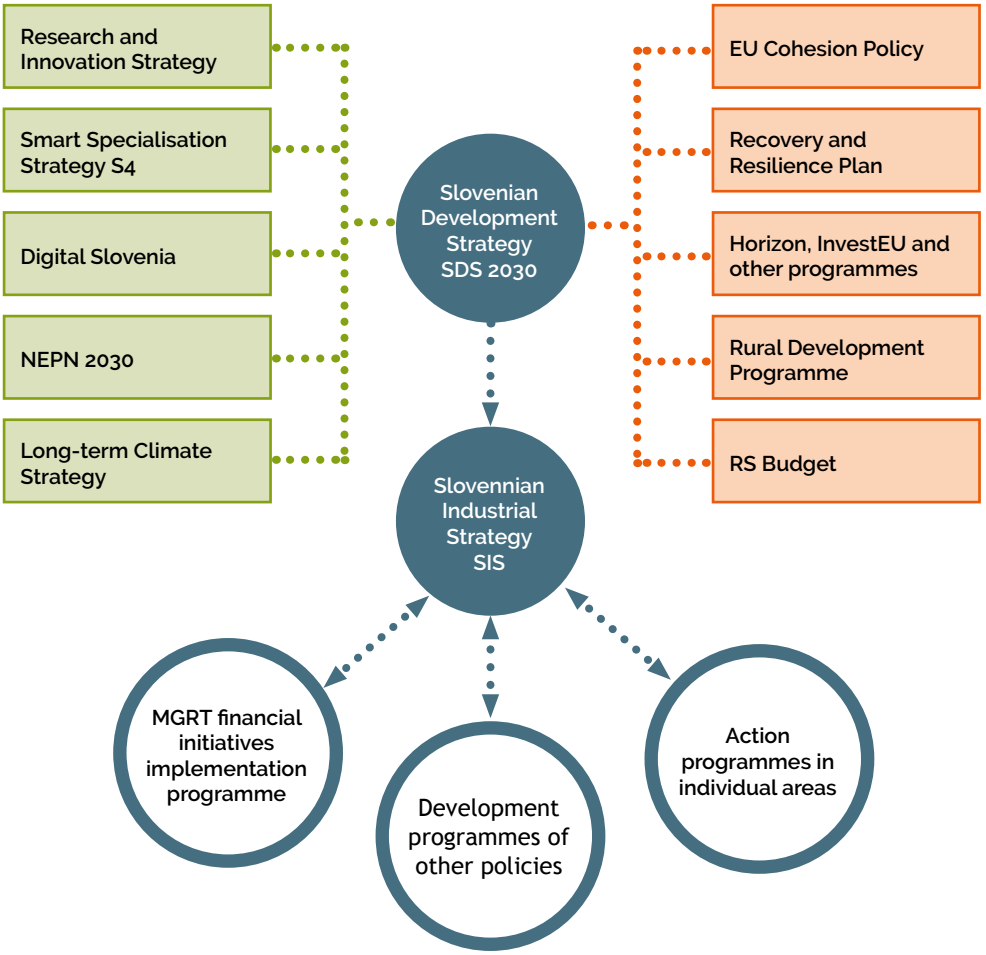
This **Slovenian Industrial Strategy** for the period to 2030 represents an **upgrade** in accordance with the current European and domestic strategic documents and guidelines with the common denominator "**green, creative and smart development**". The key objective still re-

1 Interim monitoring and evaluation of the operation of SDIP in the 2017–2019 period, IER, FDV, FM UP, August 2019.

mains to strengthen the competitiveness, productivity and innovation of the economy, which is reflected in a larger proportion of high technology products and high added value services, greater inclusion in international value chains and better positioning of Slovenian enterprises within these value chains.

By stimulating a green and digital transformation, the Slovenian Industrial Strategy will contribute to the implementation of the European Green Deal and Slovenia's Recovery and Resilience Plan after the COVID-19 Pandemic in accordance with EU recommendations and measures in this area.[2]

Figure 1: Inclusion of SIS into development planning documents



Source: Ministry of Economic Development and Technology.

2 Recommendation of the EU Council COM (2020) 524 final and Recommendation of the EC COM (2020) 456 final, both of 27 May 2020.

2.1. Purpose

The purpose of the Slovenian Industrial Strategy (hereinafter referred to as the SIS) is to set the guidelines for future development of Slovenian industry in the wider context for the period from 2021 to 2030. In the wider context, industry also includes related services. The borders between industry and services are becoming blurred. The areas that were separated before are now intertwining, and the services in value chains are creating greater added value for production processes. Various knowledge-based services are very important here because they impact the efficiency and competitiveness of the entire economy (e.g. development, design, digital and information services). Services are contributing a large share of added value to exports of industrial products (up to 50%).

Industrial policy has been strengthening in the past few decades in the developed countries. The systemic approach to industrial policy is strengthening, thus emphasising the generation of markets (e.g. for low-carbon technologies and products), following strategic objectives and connecting structures, institutions and policies.

As with the entire European Union, Slovenia faces many challenges: technological change, digitalisation, social and political change, migrations, globalisation, accumulation of (non-processed) waste, aggravated access to strategic raw materials, climate change, loss of biodiversity and health-related challenges. All these challenges are a threat and an opportunity, depending on how successfully we face them. Slovenia needs a strong industrial base capable of facing international competition as well as the above-mentioned challenges.

The European Observatory for Clusters and Industrial Change has determined ten mega trends that are very important for industrial development in Europe[3]. We would also like to emphasise the aspect of the uncertainty of predicting future development, which has been revealed by a global crisis, i.e. the current one connected to the COVID-19 pandemic. There is a need for a mechanism to increase the speed and responsiveness to such challenges. The mega trends discussed in the European Observatory for Clusters and Industrial Change study are categorised in three categories that carry special threats and opportunities (Appendix 3):

1. **Technological mega trends** including automation, integration of subjects and objects, quantum technology, cyber security.
2. **Socio-political mega trends** that comprise globalisation, geopolitics and demographic movements.
3. **Mega trends in the environmental and smart economy** that are more specific to the EU context, including green and circular economy, urbanisation and smart cities as well as smart mobility.

In accordance with the trends and challenges, the SIS addresses:

1. The horizontal aspect of industrial policy and the need to improve framework conditions and business environment;

3 Source: "How to tackle challenges in a future-oriented EU industrial strategy" on the basis of the European Observatory for Clusters and Industrial Change (2019).

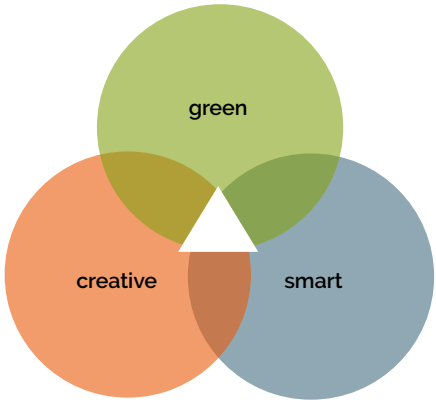
2. A themed approach that is a response to social challenges (managing climate change, pollution, transition to a low-carbon circular economy, digital transformation);
3. The strengthening of strategic value chains, especially in the priority areas of the Slovenian Smart Specialisation Strategy (S4) and
4. The increase of resilience and responsiveness to external factors brought by global mega trends and unexpected disturbances (i.e. black swans).

2.2. Vision and mission

Vision:

Slovenian industry is green, creative and smart.

Figure 2: The presentation of how these three areas are interconnected



Green, creative and smart development are interconnected and supplemented. We will not achieve the transition to a low-carbon circular economy without understanding the comparable advantages in the area of raw materials, introducing a systemic approach and without a high rate of creativity and smart solution support brought by digitalisation. Therefore, the development guidelines must be considered and also implemented through coordination. Each of the implementing solutions that will be designed on the basis of the proposed strategy will rationally include all three components and aspects thus contributing to the achievement of synergy effects and a more effective spending of public and private sources.

Mission:

With a balanced promotion of all three components of sustainable development (society, environment, economy), the Slovenian Industrial Strategy will ensure the competitiveness of the economy and create the conditions for industrial restructuring by strengthening knowledge, creativity and innovation for new and more quality jobs with greater added value and a transition to a green, creative and smart economy.

2.3. Objectives and indicators

The indicators below are value objectives that reflect the attainable target values for 2030.

Umbrella indicator

Labour productivity, measured with added value per employee as per working hours, is the key umbrella indicator, on the basis of which we will monitor the success of the Slovenian Industrial Strategy. It reflects the financial results of operation and all supporting activities. At the level of processing activities as a whole, after a 3.7-percent growth in labour productivity in the 2009–2018 period, it will stagnate in the 2019–2020 period due to the country's measures to protect jobs. In the subsequent 10-year period, we expect an above average growth of this indicator caused by the growing automation and digitalisation of operation, which will be the necessary precondition to maintain Slovenian export competitiveness. By 2030, labour productivity, measured by added value per employee, will have achieved EUR 66,000.

In most business sector activities, the growth in productivity in the past year was comparable or higher than the EU average, but there is a delay in construction and ICT services. Considering the fact that digital transformation is one of the key strategy's elements, productivity is lagging behind in this sector, so we should pay special attention to it (UMAR, PoR 2020).

	2018	2020	2030	2019–2020, average growth evaluation	2021–2030
Labour productivity	43,679	43,711	65,832	0.0%	4.2%

Sources: Statistical Office of the Republic of Slovenia (Structural Statistics, Analitika GZS. Note: Year 2018 – last known data during the analysis; year 2020 – estimation, year 2030 – forecast.

Other general financial operation indicators

Key performance indicators are also indicated among other general performance indicators which were determined in the forecast section. Exports will continue driving growth of sales, but its importance in sales (e.g. export orientation) will not increase as in the past period because we expect the demand for industrial products in the domestic market to stabilise.

	2018	2030
Sales (EUR billion)	31.2	41.8
Export (EUR billion)	21.8	29.8
EBITDA (EUR billion)	3.4	4.7
Investment (EUR billion)	2.0	2.3
Expenditure of processing activities for R&D (EUR billion)	0.49	0.80
Rank on WEF scale	35th place (2019) among 141 countries	30th place

Sources: Statistical Office of the Republic of Slovenia (Structural Statistics), Analitika GZS, EIS, The Global Competitiveness Report 2019, World Economic Forum. Note: Year 2018 – last known data during the analysis; year 2030 – forecast.

Sub-indicators

"Green development" area

In green development, the key indicator is resource productivity, measured by the ratio between GDP and consumed raw materials and other materials. This is also the indicator of success in carrying out Goal 8 of Slovenia's Development Strategy 2030, transfer to a low-carbon circular economy.

	Slovenia, latest known data	EU, latest known data	2030, objective
Resource productivity (SKM/kg)[4] (UMAR, PoR 2020)	**1.9 (2018)**	**2.2 (2018)**	**3.50**
Circular (secondary) consumption of material*	10.4 (2019)	11.9 (2019)	EU average in 2030
Proportion of employees in the circular economy, considering the total number of employees, in %*	2.02% = 2018	1.71% = 2018	3.5%
% of SME offering green products or services**	23% = 2017	24% = 2017	Above EU average in 2030
% of SME, adopting the measures for efficient use of resources**	52% (2017)	57% (2017)	EU average in 2030

4 The indicated goal arises from SDS 2030. Resource productivity is gross domestic product (GDP) divided by domestic material consumption (DMC).

	Slovenia, latest known data	EU, latest known data	2030, objective
% of SME, adopting the measures for efficient use of energy**	47% = 2017	63% = 2017	EU average in 2030
Total greenhouse gas emissions (NEPN)	No goal in 2020 with regard to 1990	–20% in 2020 compared to 1990	–36% compared to 2005
Share of energy from renewable resources (Eurostat)	22% = 2019	19.7% = 2019	27%
"Eco-innovation" index	94 (2019)	100	110
Emission productivity, SKM/mio. kg CO_2 (UMAR; PoR, 2020)	3.2 (2018)	3.4 (2017)	EU average in 2030
Number of environmental certificates ISO 14001 per million people (UMAR, PoR 2020)	209 (2018)	172.5 (2018)	250 in 2030
Quantity of processed round wood in Slovenia for non-energy consumption in m^3	1.82 million in 2019	/	3 million

Sources: NEPN, Eurostat, SURS, UMAR, Eco-Innovation Scoreboard.

*Indicators marked with * refer to methodology arising from monitoring the implementation of the EU 2015 Action Plan for Circular Economy*[5].

*Indicators marked with ** refer to Flash Eurobarometer 456: SMEs, resource efficiency and green markets, Fieldwork September 2017, Publication January 2018.*

"Creative development" area

In creative development, the key indicator is the selected innovation index that includes different aspects of creativity and innovation.

	Latest known data	2030, objective
Innovation index (considering EU development)	**84.9% = 2020**	**110.0%**
Number of valid national labels	24,599 (July 2020)	26,000
Number of researchers in business sector	8,285 (2018)	12,000
Share of innovation-active enterprises	48.6% (2016–2018)	55.0%
Inclusion in entrepreneurship (% of population)*	7.8% = 2019	10.0%
Identifying business opportunities (% of adult population from 18 to 64 years of age)*	3.6% = 2019	4.0%
Identifying business opportunities (% of adult population from 18 to 64 years of age)*	47.6% = 2019	55.0%
Number of emerging companies in the past five years	5,347 (2014–2018)	7,000 (2026-2030)

5 Eurostat - Circular Economy Indicators,
Eurostat - Circular Economy Indicators - Monitoring framework.

	Latest known data	2030, objective
Share of employees in creative economy (considering all employees)	7% = 2017	10%
Gross added value per employee in CCS (GAV) in %	EUR 45,527 (2017)	5% above average in RS

*Sources: GEM (indicators, marked with *, refer to GEM methodology), European Innovation Scoreboard 2019, Ajpes, Statistical situation analysis of CCS in Slovenia 2008–2017, Tm View, forecast: Analitika GZS, URSIL.*

"Smart development" area

In smart development that includes the introduction of advanced technologies, we emphasise the DESI index as the key indicator, measuring the level of digitalisation in the economy and society.

	Latest known data	2030, objective
DESI index	**51.2 points (16th place), 2020**	**9th place**
Share of expenditure for RDA in GDP in the business sector	1.40% = 2018	2.00%
Number of patent applications by Slovenian applicants at the European Patent Office	121 (2019)	150
Number of robots per 10,000 employees in industry	174 (2018)	250
Digital index (high and very high in enterprises with more than 10 employees)	26% = 2018	35%
DESI – 2 Human capital	48.3 (15th), 2020	8th place
DESI – Digital technology integration	40.9 (15th) 2020	8th place
Share of high technology products in export	19.5% = 2018	25%
Share of processing enterprises which have a digital strategy for reforming enterprise operations	8% = 2019	15%

Sources: DG Connect, EPO, ARRS, International Federation of Robotics, 2019, Ajpes, Statistical Office of the Republic of Slovenia, forecasts: Analitika GZS, UMAR (Development Report, 2020).

The Slovenian Industrial Strategy will contribute to the achievement of the global sustainable development objectives that have been determined in the 2030 Agenda ("Sustainable Development Goals – SDGs"), especially the following goals:

1. Decent work and economic growth
2. Industry, innovation and infrastructure
3. Sustainable cities and communities
4. Responsible consumption and production
5. Climate action

The monitoring of progress in achieving sustainable development goals through selected indicators that are relevant for Slovenia are recorded by SURS on the website stat.si.

2.4. The scope of measures and institutional framework

The scope of measures that differ by meaning with regard to development area is available for the implementation of SIS. These standard measures are used to promote green, creative and smart development, but these measures must be appropriately designed and guided. Guidelines are reflected in individual chapters of green, creative and smart development, and they are jointly and connectively indicated in the framework of the chapter "Guidelines for a connected green, creative and smart development", in which the carriers of implementation and the evaluation of necessary funds are stipulated.

Scope of measures/instruments by areas

	Measures/instruments
RDI	1. Research, development and innovation 2. Demonstration and pilot projects 3. Inclusion in international research and development as well as innovation projects and programmes 4. Networking and cooperation in RDI
ENTREPRENEURSHIP	5. Supporting environment for enterprises 6. Promotion of entrepreneurship and innovation 7. Promotion of startups and enterprises with rapid growth potential 8. Support to SME growth and development 9. Non-technological innovation and business models 10. Promotion of investments
INTERNATIONALISATION	11. Support to internationalisation
HUMAN RESOURCES	12. Strengthening competences, training, requalification, adaptation to demographic change
BUSINESS ENVIRONMENT	13. Infrastructure 14. Legislation and business environment

A systematic approach that connects all three development areas is necessary, but at the same time, an appropriate institutional framework for SIS implementation must be provided. The carriers of SIS implementation must be empowered from the HR and expert aspect.

The institutional framework of SIS implementation is created by all line ministries to which the guidelines of individual areas refer. The following institutions have an important role in individual areas:

- Public Agency for Entrepreneurship, Internationalisation, Foreign Investments and Technology – SPIRIT Slovenia, public agency,
- Slovenian Enterprise Fund – SPS,
- Slovenian Regional Development Fund – SRSS,
- Slovenska izvozna in razvojna banka d.d. – SID,
- Slovenian Research Agency – ARRS,
- Ekosklad etc.

3. PROCESSING ACTIVITIES IN SLOVENIA AND EU

3.1. Processing activities in Slovenia in 2008–2018

After the economic crisis in 2008, it was proven that industry is a source of resilience, innovation and even social stability. As already mentioned, Slovenian processing activity in 2019 contributed a total of 23.2% to the added value of the economy, ranking it in third place in the EU-27, behind Ireland and the Czech Republic. The EU-27 average is 16.7%. The current average added value per employee in processing activity is EUR 44,000. The EU is aware of the need for "re-industrialisation", therefore, in 2012 it planned to achieve a 20-percent share of industry in GDP by 2020. Processing activities make up almost one third of sales revenue (EUR 31.3 billion) and around two thirds of total exports (EUR 21.7 billion of total EUR 30.9 billion in 2018). According to the data of the Statistical Office of the Republic of Slovenia for 2018, there were 21,158 enterprises active in industry in Slovenia. 93% of industrial enterprises (19,671 enterprises) were registered for processing activities and they employed approximately 201,722 people.

The comparative indicators in the last available year (2018)[6] and a comparison with 2008 are described below. A detailed analysis of Slovenian processing activity in the past decade is presented in Appendix 1. Business entities in processing activities in 2018 generated EUR 31.3 billion **sales revenue** on the basis of the sales value of products or merchandise sold and charged to buyers as well as material and implemented services. In 2018, processing activities generated EUR 5.4 billion more revenue than in 2008, or they nominally grew by 21% or by 11.4% in real terms[7].

6 The sums by individual activities of processing activities in some data do not match the data for processing activities due to data confidentiality; in such cases, we have only considered data for enterprises within processing activities.

7 Deflator, considered for deflation, included the joint industrial product price index with producers in processing activities.

Key groups of processing activities	Sales revenue, EUR mio	Export, EUR mio	Added value, EUR mio	Number of employees	Gross business surplus (EBITDA), EUR mio	Added value per employee
PROC. ACT. TOTAL	**31,279**	**21,764**	**8,811**	**201,896**	**3,436**	**43,679**
Food	2,385	630	593	16,247	229	36,324
Textile	898	661	263	9,166	83	28,741
Wood	1,413	777	439	13,169	168	34,238
Paper	1,297	743	300	5,705	100	36,556
Chemical	5,991	4,762	2,051	24,712	972	64,109
Non-metal	1,014	589	336	6,967	150	48,051
Metal	6,433	4,293	1,748	42,712	642	40,933
Electrical	4,387	3,525	1,115	28,024	375	39,804
Machine-building	6,978	5,479	1,795	41,193	642	43,593
Other	484	304	170	4,315	71	39,440

Source: SURS, structural enterprise statistics, Analitika GZS, data for 2018.

Sales revenue in the domestic market in 2018 amounted to EUR 9.4 billion and was by EUR 682 million lower compared to 2008, which is a 6.8% drop. The drop in sales was characterised mostly by bankruptcies of some major enterprises in the wood, textile and non-metal industries, as well as the restructuring of those industries. In the past 10 years (2018/2008), revenue in the domestic market reduced only in the machine-building industry (EUR 27 million), in other processing activities (EUR 16 million) and metal industry (EUR 44,000).

In 2018, processing activities recorded EUR 21.7 billion **exports** and by 43.8% or EUR 6.6 billion exceeded the exports recorded for 2008. In the past ten years (2018/2008), exports mostly increased under processing activities, i.e. in the machine-building, metal, chemical and electrical industries. In 2018, only the textile industry did not manage to reach the levels of exports of 2008.

In 2018, there were 201,896 people employed [8] in processing activities, which was 20,000 or 9% fewer than in 2008. **Added value in factor costs**[9] in 2018 in processing activities amounted to EUR 8.8 billion, or EUR 2.1 billion (30.7%) more than in 2008. **Gross margin**[10] in the past eleven years remained at a level between 25.6 and 29%. Compared to 2008, gross margin in 2018 was 2.1 percentage points higher. **Added value per employee** in 2018 in processing activities amounted to EUR 44,000 or EUR 13,200 (43.5%) more than in 2008. For comparison: GDP per person in that period increased by 17.7%:

8 In legal entities, sole entrepreneurs and other registered natural persons.

9 In costs of factors, added value is calculated as gross income from business activities after adjustments for subsidies for operations and indirect taxes. Added value is charged "gross" in costs of factors, but value adjustments (such as amortisation) are not deducted. Since 2010, subsidies, grants, holiday pay, compensations and other income connected to business effects are considered in the calculation of added value.

10 Share of added value in revenue.

Business entities earmarked less than EUR 2 billion in 2018 for **investments in tangible fixed assets,**[11] or 14% more than in 2008. The last two years were quite intensive with regard to investments, which is connected to high utilisation of capacities in processing activities, growth of available income and beneficial availability of financial sources.

Gross domestic expenditure for research and development[12] amounted to EUR 488.6 million in 2018, or EUR 159.3 million more than in 2008 (48.4%). In the entire business sector, expenditure for research and development amounted to EUR 662.4 million. R&D expenditure in processing activities therefore presented as a 73.8% expenditure of the entire business sector. The state sector in 2018 held a 6.2-percent share among sources of financing in R&D in the business sector. At the state level of Slovenia, the total gross domestic expenditure for R&D in Slovenia in 2018 amounted to EUR 892.7 million or 2.0% GDP. The country' share of financing was 0.5%. The 2030 goal envisages an increase in investment in R&D by 2020 to at least 3% of GDP.

3.2. Processing activities in Slovenia, EU-27 and CEE-4 in 2008–2017

Processing activities in Slovenia in 2017 recorded significantly lower revenue per employee (EUR 152,000) than in EU-27 (median) (EUR 191,000) and slightly higher than in the group of comparable central European countries (CEE-4[13]) (median) (EUR 151.7 thousand). Processing activity in Slovenia created the highest **added value per employee** (EUR 43.3 thousand) than the median in CEE-4 countries (EUR 32.5 thousand) and slightly lower than the median of EUR-27 (EUR 43.7 thousand).

Processing activities in Slovenia in 2017 recorded a higher **gross margin** than the median in EU-27 countries and the median in CEE-4 (SLO 28.5%, EUR 23.8%, CEE-4 22%). Processing activities in Slovenia in 2017 recorded a higher **EBITDA margin** (business surplus/revenue) than the median in EU-27 countries and the median in CEE-4 (SLO 11.7%, EU-27 10.2%, CEE-4 10.8%). In the 10-year period (2008–2017) the highest EBITDA margin was recorded by the CEE-4 countries (median), which was higher than the recorded margin in Slovenia.

The share of gross investments in tangible fixed assets compared to revenue was slightly higher than in CEE-4 countries and higher than in EU-27 countries (SLO 5.6%, EU 4.2%, CEE-4 5.2%). Processing activities in Slovenia in 2017 recorded higher labour costs in added value than the median value in EU-27 countries (60.5%) or the median value in CEE-4 (50.7%).

11 Investments in new and existing tangible fixed assets (buildings, machinery, patents, licences, etc.) with useful life longer than one year, including non-produced tangible fixed assets such as land.

12 Total internal expenditure for R&D, implemented in the territory of the Republic of Slovenia.

13 This group includes Poland, the Czech Republic, Hungary and Slovakia, which have a similar economy structure as Slovenia and are at a similar level of economic development.

Slovenia's deviation[14] by sectors of processing activities compared to indicator median with EU-27, 2017

Key groups of processing activities	Gross margin in p. p[15]	Investment/ revenue in p. p.	EBITDA margin in p. p[16]	Labour cost in added value in p. p.	AV/employee	Revenue/ employee
PROC. ACT. TOTAL	**4.7**	**1.5**	**1.5**	**2.3**	**-379**	**-38,048**
Food	3.0	0.0	0.4	3.8	2,714	-4,797
Textile	-0.1	2.0	1.8	-6.9	3,316	-1,271
Wood	2.8	2.4	0.8	0.0	2,096	0
Paper	-2.6	-2.7	-2.4	2.0	-2,310	0
Chemical	8.8	1.6	4.0	2.6	-7,668	-56,751
Non-metal	2.1	-0.3	1.7	-4.7	-1,538	-23,168
Metal	0.0	1.6	0.5	-0.7	0	-1,113
Electrical	-0.8	1.6	0.8	-0.3	-3,419	-45,981
Machine-building	0.2	2.1	0.6	-2.1	0	-32,280
Other	2.5	0.3	4.7	-9.3	13,999	30,145

Source: Eurostat, structural statistics of enterprises, Analitika GZS

In most indicators, Slovenia exceeded the CEE-4, while compared to EU-27 and despite the higher gross margin, it lags behind in labour productivity. Nevertheless, the EBITDA margin in Slovenian processing activities is mostly due to the importance of pharmaceuticals within chemical industry or processing activities higher than in EU-27.

A detailed comparison is presented in Appendix 2.

3.3. European Framework

In 2020, the economy of Slovenia, the EU and the rest of the world faced the COVID-19 pandemic, which had a strong impact on business. It caused disturbances in supply chains, industrial production, foreign trade and capital flow. The shock that the economy is experiencing is much worse than that of the last economic and financial crisis in 2008. Vulnerability arises from the strong integration of Slovenia and the EU in the global value chains. Due to the apparent economic co-dependence of Europe, it is important that recovery will run in the direction of strengthening European industrial and strategic autonomy. From the aspect of updating and restructuring the economy, we should consider diversifying the economy so that it will be better prepared for the risks that are connected to the integration in global value chains. As demonstrated during the COVID-19 pandemic, it makes sense for enterprises

14 The amount by which the indicator value in Slovenia is higher than the indicator median in the EU-27.

15 Calculation of added value in revenue.

16 EBITDA margin is the calculation of operating surplus in revenue.

to prepare for uninterrupted operations even during times of crises by identifying risks and planning measures to manage them.

Slovenia and the entire EU are preparing and carrying out the measures necessary to mitigate the crisis and enable the recovery of the economy. To make the recovery sustainable, comprehensive, inclusive and just for all member states, the European Commission has prepared the **Recovery and Resilience Facility**[17], within which it has proposed the formation of a new instrument, the so-called "NextGenerationEU" that also brings extensive financial funds to Slovenia. EU member states are preparing their national recovery and resilience plans in which at least 37% of funds are to be dedicated to green measures and 20% of funds are to be dedicated to the digital transformation of the economy. This enables the realisation of the European Green Deal and the acceleration of digital transformation.

European Green Deal[18] (hereinafter referred to as the EGD), presented at the end of 2019, is used as a signpost for EU measures, addressing the environmental and climate challenges of modern society through different social sectors with the aim for Europe to become the first climate neutral continent in the world by 2050. This is the EU's contribution to fulfilling the Paris Agreement on Climate Change, Convention on Biological Diversity and other international commitments. The Paris Agreement commits countries to limiting the rise in average global temperature to well below two degrees Celsius by the end of the century compared to the pre-industrial period and encourages them to take measures to limit it to 1.5 degrees. Achieving a climate neutral and circular economy requires a timely and comprehensive mobilisation of industry and the wider society. Most attention is dedicated to the economy and joint strategies that provide the guidelines for its future development. A part of the EGD is the so-called Just Transition Mechanism that will promote social inclusion in the transition to a climate neutral economy in the most vulnerable coal-mining regions and in regions with a carbon intensive economy. The transformation of the industrial sector and all value chains is long-term and will take 25 years, an entire generation. To achieve the climate neutrality vision by 2050, the necessary decisions and measures must be adopted in the next five years. This is especially important in the context of the strengthening climate ambitions of the EU, as the European Commission proposes at least a 55-percent net reduction of greenhouse gas emissions at the EU level by 2030 as compared to 1990.

In 2020, the National Assembly of the Republic of Slovenia adopted the **National Environment Protection Programme with programmes of measures** until 2030 (ReNPVO 2020–2030), which determines the guidelines, goals, tasks and measures of environment protection stakeholders as well as the measures for achieving the goals of Slovenia's Development Strategy 2030, which also recognised a preserved healthy natural environment among its strategic guidelines for achieving quality of life. ReNPVO 2020–2030 also provides the guidelines for planning and carrying out the policies of other sectors that impact the environment.

The priorities of the industrial strategy shall be planned by considering the funds that are available within the scope of the **Multiannual Financial Framework for 2021–2027** and the **EU Recovery and Resilience Facility.** EUR 10.5 billion have been earmarked for Slovenia. EUR 4.5 billion have been earmarked within the Multiannual Financial Framework for

17 Recovery Plan for Europe.

18 COM(2019) 640 final.

2021–2027 – EUR 2.9 billion under the European Cohesion Policy and EUR 1.6 billion under the Common Agricultural Policy. Within the scope of the EU Recovery and Resilience Facility, EU 2.1 billion subsidies and EUR 3.6 billion repayable funds are planned for Slovenia.

Just Transition Fund[19], which is part of the Just Transition Mechanism, will support economic diversification in the most vulnerable coal mining regions. This means support to productive investments in small and medium-sized enterprises, new enterprises, research and innovation, environment rehabilitation, clean energy, training and re-qualification of workers, support in job seeking and active inclusion in programmes for job seekers, and the transformation of existing carbon intensive plants, if investment is to achieve a substantial reduction of emissions and protect jobs. Planning the Just Transition Fund programmes for the 2021–2027 period will help Slovenia to address some challenges brought by the transition to a climate neutral economy. The beneficiaries in Slovenia are the Savinjsko-Šaleška region and Zasavje.

Investments in green transition, as are determined in the **National Energy and Climate Plan of the Republic of Slovenia 2030** (with prospects by 2040) will increase the current low proportion of renewable sources of energy, strengthen the energy infrastructure, and the measures for reducing air pollution, which is above the EU average in Slovenian towns and cities, will be implemented, the transition to a circular economy will be strengthened, and support will be given to strengthening social entrepreneurship and promoting efforts to limit the potential effects on the regions and sectors most impacted by the transition.

The following documents were presented in 2020: **New Industrial Strategy for Europe**[20], **Strategy for SME for a Sustainable and Digital Europe**[21] and **the new Circular Economy Action Plan** [22]. The strategy for sustainable and smart mobility was presented at the end of 2020. Common agricultural policy will also become green. Considerable attention will be given to replacing hazardous substances with less or non-hazardous chemicals or other alternatives in accordance with the Sustainable Strategy for Chemicals. The measures to reduce pollution from major industrial devices will follow.

The **New Industrial Strategy for Europe** follows three key priorities for Europe to hold its leading position in industry, i.e.:

1. to maintain the global competitiveness of European industry and the same competitive conditions in the domestic and global market,
2. to ensure the climate neutrality of Europe by 2050, and
3. to form the digital future of Europe.

In 2021, the European Commission updated the industrial strategy[23] due to the need to adapt the planned measures to new circumstances connected to the Covid-19 pandemic. The updated strategy confirms the current priority tasks and is focused on strengthening the competitiveness of EU industry and helping as well as encouraging SME in facing the key

19 COM(2020) 460 final.

20 COM(2020) 102 final.

21 COM(2020) 103 final.

22 COM(2020) 98 final.

23 COM (2021)350 final.

challenges of climate neutrality and digitalisation. It focuses on strengthening the resilience of the single market, considering strategic dependencies of the EU and accelerating dual transition. The Industrial Strategy of the EU emphasises the need for comprehensive measures to update and de-carbon energy intensive industries, to support sustainable and smart mobility industries, to promote energy efficiency and ensure a sufficient and permanent supply of low-carbon energy at competitive prices. Initiatives known as industrial alliances have brought good results in the area of batteries, plastics and microelectronics. Clean hydrogen and low-carbon alliances are followed by alliances for industrial clouds and platforms and the raw material alliance.

The **New Strategy for SME for Sustainable and Digital Europe emphasises that** SMEs are key for Europe's competitiveness and welfare. On the basis of the new strategy for SMEs, the EU will support those enterprises by:

1. Promoting innovation with new funds and hubs for digital innovation within sustainable and digital transition;
2. Reducing bureaucracy by eliminating obstacles in the single market and opening access to financing;
3. Simplify access to financing by establishing the fund for initial public offerings of SME (whereby investment will be implemented via the new public private fund) and the ESCALAR initiative (mechanism for increasing venture capital funds and attracting more private investment).

The new **Circular Economy Action Plan** as part of the New Industrial Strategy for Europe and the European Green Deal envisages measures through which sustainable products will become the rule and will be more easily re-used, repaired and recycled, with a greater inclusion of recycled materials instead of primary materials, with the exception of wood. Industrial symbiosis is an important element that is deserving of more attention in Slovenia, as a by-product or waste of one product becomes a raw material for another producer. Measures will focus on sectors that use the most resources and where the possibilities for their circularity are great, especially in electronics and ICT, batteries and vehicles, packaging by reducing its overuse; plastics with new requirements for the content of recycled materials and measures to reduce micro plastics in the environment, and promoting the use of biodegradable plastics (European Strategy for Plastics in a Circular Economy). A new strategy for strengthening competitiveness and innovation in the reuse of textiles is envisaged in the area of textile products. A comprehensive strategy for a sustainably built environment that promotes the principles of circulation for buildings will also be prepared. The conditions for a well-functioning European market of secondary materials within the "Recycled in the EU" brand, planned by the EU, must be created. A circular economy will have net positive effects on GDP growth and the creation of jobs because GDP in the EU can be increased by implementing ambitious circular economy measures in Europe by 0.5% by 2030 and approximately 700,000 new jobs can be created.

The **aspect of raw material use** must also be emphasised. European industry faces a high import dependence on raw materials, instability of their prices and difficult access to raw materials because they are limited, especially the so-called critical raw materials. From 1970 to 2017, the global scope of acquiring raw materials tripled and is still increasing, which has led to the lack of some critical raw materials. Approximately one half of all greenhouse gas

emissions and more than 90% of the loss in biodiversity as well as pressure on water sources arise from acquiring natural resources and processing materials, fuels and food. EU industry started the transition to a low-carbon circular economy but still generates 20% of the greenhouse gas emissions in the EU. It is still too "linear" and depends on the flow of newly acquired raw materials, their trading, processing and finally, their deposit in the form of waste or emissions. Just 12% of the material it uses originates from recycled materials. A green and circular transition is an opportunity to expand sustainable economic activities, oriented in creating jobs. But the transformation is too slow. The European Green Deal will support and accelerate the EU's transition of industry to the sustainable model of inclusive growth.

In September 2020, the European Commission presented the **new EU Action Plan on Critical Raw Material**[24] in which it proposes measures to reduce the dependence of the EU on third countries by diversifying supply and improving the efficiency of resources and the principles of a circular economy. It has updated the list of critical raw materials. The list contains 30 raw materials critical to the EU. For the first time, lithium (Li) has been added to the list. This material is essential in the transition to e-mobility. The European Commission has found that, just for e-vehicle batteries and energy storage, the EU will need up to 18 times more lithium by 2030 and 60 times more by 2050. The action plan will contribute to a sustainable strengthening of key markets for e-mobility, batteries, renewable energy, defence and digital applications.

Investment in research and innovation is the key instrument for productivity and added value growth, as well as being an important part of the strategy for recovery and resilience after the COVID-19 pandemic. Before the crisis, Slovenia was evaluated as a moderate innovator, meaning that it will be important to promote its efforts to equal the most successful countries. The business sector accounts for 75% of R&D expenditure. The decline in economic growth now endangers R&D as well as business innovation. A relatively low level of innovation[25], especially at SMEs, is slowing down the development and the expansion of the innovative business processes and solutions that are necessary conditions for overcoming the crisis arising from the epidemic. Investments in innovative SMEs are important, including start-ups, whose activities include emerging technologies and breakthrough innovation, and new models to support their growth and development will have to be developed to strengthen production. Cooperation between the academic sphere and enterprises is too often limited to medium and high technology sectors. The efficiency of the environment to transfer knowledge within research organisations and higher education institutions is quite unequal and insufficient. The situation in this area will have to be improved by collaboration between universities and public research organisations as well as enterprises, which will be of key importance for a successful transfer of knowledge into innovation, improving the success of research and innovation and for promoting economic growth. To achieve the goals in research, innovation and competitiveness, investment in research and development will have to be increased by 2030. Enterprises will be guided towards financing and inclusion in research and development programmes as well as demonstration projects, including through an active tax policy (tax relief for research and development).

24 COM(2020) 474 final.

25 Innovation activity of enterprises 2016-2018.

Digital transformation will also be one of the key elements for economic recovery after the crisis. On 9 March 2021, the European Commission in its document "**The EU digital decade: A new set of digital targets for 2030**[26]" presented the vision, goals and possibilities for a successful digital transformation of Europe by 2030, which is of key importance for the transition to a climate neutral, circular and resilient economy. The aim is to achieve digital sovereignty in an open and connected world, and to form digital policy that enables people and companies to take advantage of a digital future that is oriented in people, sustainability and success. With this purpose, the European Commission proposed the foundation of a **digital compass** to specify the digital ambitions of the EU by 2030. It is comprised of four main points referring to knowledge and skills, digital transformation of enterprises, digitalisation of public services and ensuring a safe and sustainable digital infrastructure.

Slovenia's potential in digital transformation has been shown with the fast introduction of remote work and schooling systems and the solution of sales via online shops which were introduced by some Slovenian enterprises at the beginning of the crisis. Greater digitalisation of business models and production processes will expand those changes to a larger part of the economy. Slovenia can build on the current knowledge and excellent capacities in robotics, artificial intelligence and blockchain technology to support the expansion of digitalisation to less advanced and traditional sectors. The reuse of a wide range of public sector and economy data will, in accordance with the EU Joint Data Strategy, support the development of innovation and economy on the basis of the use of mega data. Data is key for enterprises. The data economy in Slovenia presents a completely unexploited potential. The strategy must

26 COM(2021) 118 final.

encourage and enable the development of solutions in all dimensions (horizontally, vertically and chronologically), i.e. The connectivity of systems on the basis of structured data in current ICT systems (Analytics and optimisation of processes, cybersecurity, ioT, connectivity of installed industrial and business systems, platforms, digital twins, etc.), which will also be safe for individuals and enterprises.

The economy's recovery after the crisis is not the only reason for digital transformation, but it also increases productivity, competitiveness and strengthens the resilience of the economy and society. It also contributes to process safety – preventing accidents and major industrial accidents (sophisticated systems for detecting and eliminating process errors, alarming, acting, etc.). Digital transformation has for a long time not been only an option, but a necessity that Slovenia has to adopt at all levels – not only in industrial policy, but also at all other levels of life. A great delay due to inappropriate consideration and consequently due to a slow digital transformation would present a delay at all levels of the industry, especially in the area of positioning Slovenia in the international environment. The inclusion of digital technologies in enterprises has been carried out in a way similar to that of the EU. Further efforts are needed to effectively follow the rapid progress in the introduction of advanced ICT technologies to break through among the more successful EU countries, in particular to meet the increased need for staff with relevant digital skills. The educational system and lifelong education policies must be adapted. To fully exploit the potential of digital technologies, legislation must also be adapted. The introduction of a digital test that will verify the suitability of legislation from the digital aspect is also important.

3.4. Forecast 2021–2030

Methodology

The forecasts for processing activity were made according to the **bottom-up approach** that envisages the forecasts for sales, export, added value, EBITDA, employees and investments. Forecasts are based on trends in the last decade, the deviations of margins of Slovenian sectors with regard to the EU-27 and evaluations of the competitive advantages of some sectors in Slovenia. Forecasts were made for two periods, i.e. for a two-year period (2019–2020)[27] and ten-year period (2021–2030). These periods were divided because we estimate that the COVID-19 epidemic will have a negative impact on all key economic aggregates of enterprises. In the basic scenario of the Slovenian Chamber of Commerce Analysis, the COVID-19 epidemic will not have a major negative impact on the operations of the processing activities. With regard to the potential of growth of certain activities that mostly enable the consideration of circular economy goals, greater positive movements from the below indicated projections can be expected if appropriate measures are taken.

27 The latest available data during the analysis preparation are for 2018.

Sales

Key groups of processing activities	Sales, 2018 (EUR 000)	Sales, 2020 (EUR 000)	Sales, 2030 (EUR 000)	Annual change in sales in % 2019–2020	Annual change in sales in % 2021–2030
PROC. ACT. TOTAL	**31,279,103**	**29,905,518**	**41,806,234**	**-2.2%**	**3.4%**
Food	2,384,590	2,505,310	3,175,858	2.5%	2.4%
Textile	898,293	827,867	1,009,165	-4.0%	2.0%
Wood	1,413,409	1,302,598	1,587,859	-4.0%	2.0%
Paper	1,296,843	1,245,488	1,518,243	-2.0%	2.0%
Chemical	5,990,623	6,232,644	8,791,760	2.0 %	3.5 %
Non-metal	1,014,271	954,328	1,186,333	-3.0%	2.2%
Metal	6,432,627	5,928,309	7,813,794	-4.0%	2.8%
Electrical	4,387,114	4,085,390	6,654,670	-3.5%	5.0%
Machine-building	6,977,697	6,363,834	9,420,029	-4.5%	4.0%
Other	483,629	459,750	648,523	-2.5%	3.5%

Source: Statistical Office of the Republic of Slovenia, forecast by Analitika GZS. Note: year 2018 - last known data during the analysis; year 2020 - estimation, year 2030 - forecast.

Sales of processing activity will drop to around EUR 30 billion in 2020, or EUR 1.3 billion less than in 2018. The food and chemical industries are among the activities in which growth is expected. Growth in the food industry will originate from beneficial trends resulting from COVID-19 (increase in food prices, increase in national stock and stock of households), while the chemical industry will mostly prosper due to generic drugs. Cyclic activities such as textile, wood, metal, machine-building and the electrical industry will be more strongly affected.

In the second 10-year period we estimate that the average growth in sales will be at 3.4% annually, while it will be above average in the electrical, machine-building and chemical industries. In activities subject to global competition and in which Slovenia has weaker competitive advantages (textile, paper industry), growth in sales will be below average. In sectors that are based on natural resources (wood), the measures for establishing the conditions for development will reach a higher growth than envisaged, which will be determined in chapter "3.4 – Industry, based on wood and other natural renewable materials". Total sales in 2030 will be EUR 12 billion higher than in 2020 and will rise to EUR 41.8 billion.

Export

The COVID-19 epidemic will have a greater impact on the decline in exports value in 2019–2020 than on a decline in domestic sales. Consequently, processing activities exports in 2020 will drop by EUR 1.1 billion compared to 2018. Subsequent growth in the next 10-year period (3.7%) will contribute to exports strengthening to around EUR 30 billion by 2030. The share of exports in total sales will increase to 71% (70% in 2018). Exports will most rapidly (from a nominal aspect) increase in the machine-building, electrical and chemical industries, which will together contribute to a 75% total increase in exports in the 2021–2030 period (+EUR

Example of structural changes within an activity: paper and paper products production

Paper and paper products production is separated into production of fibres, paper and cardboard (including all major paper companies) and the production of products made from all the above materials. The second group includes enterprises that mostly deal with printing, which is an area in which business restructuring will be present to increase productivity and reduce the number of employees. These enterprises are also subject to greater international competition, including from the Asian countries. According to Ajpes data, labour productivity in the first activity in enterprises amounts to over EUR 70,000 (2019), in the second activity to EUR 38,000. Sales in the first activity presented 60% of the sector in 2019, while added value amounted to 50%. Therefore, in the forecast period we can estimate that the segment of paper enterprises within the paper industry will strengthen by importance, while the printing segment will record a lower growth in business categories, even a negative one in some categories (employment).

4.8 billion). The exports orientation in the wood (from 55 to 58%) and chemical industries (from 79 to 81%) will strengthen the most.

Key groups of processing activities	Export, 2018 (EUR 000)	Export, 2020 (EUR 000)	Export, 2030 (EUR 000)	Annual change in export in % 2019–2020	Annual change in export in % 2021–2030
PROC. ACT. TOTAL	**21,764,371**	**20,666,631**	**29,804,170**	**-2.6%**	**3.7%**
Food	630,020	642,683	830,751	1.0%	2.6%
Textile	661,489	603,294	749,960	-4.5%	2.2%
Wood	777,082	708,718	916,109	-4.5%	2.6%
Paper	743,025	706,338	878,055	-2.5%	2.2%
Chemical	4,762,391	4,974,242	7,084,749	2.2%	3.6%
Non-metal	588,995	548,486	688,529	-3.5%	2.3%
Metal	4,293,021	3,939,981	5,295,004	-4.2%	3.0%
Electrical	3,525,488	3,269,429	5,427,868	-3.7%	5.2%
Machine-building	5,479,127	4,986,641	7,524,632	-4.6%	4.2%
Other	303,581	286,819	408,512	-2.8%	3.6%

Source: Statistical Office of the Republic of Slovenia, forecast by Analitika GZS. Note: Year 2018 – last known data during the analysis; year 2020 – estimation, year 2030 – forecast.

Added value and gross margin

Added value will change similarly to sales or will slightly lag behind it, which is the result of our estimate that the starting gross margin in the Slovenian economy in 2018 was above

average both in terms of the EU-27 median and the historical average. Therefore, we estimate that an ambitious goal is, with the predicted growth in sales and export, that the gross margin remains at the level from 2018 (28.2%). In activities in which added value will increase more quickly than sales, the gross margin will also strengthen. Relative to the year 2018, it will be higher by 2030 in the paper (+1.6%), textile (+1.9%), wood and metal industries (+0.6%), and it will be lower in the chemical industry (-0.7%) due to the pressure on the prices of generic drugs, and in the electrical industry[28] (-0.4%).

Key groups of processing activities	Added value, 2018 (EUR 000)	Added value, 2020 (EUR 000)	Added value, 2030 (EUR 000)	Annual change in added value in % 2019–2020	Annual change in added value in % 2021–2030
PROC. ACT. TOTAL	**8,811,030**	**8,477,406**	**11,798,624**	**-1.9%**	**3.4%**
Food	593,469	617,445	790,382	2.0%	2.5%
Textile	263,356	245,244	304,864	-3.5%	2.2%
Wood	438,515	404,135	502,384	-4.0%	2.2%
Paper	300,052	291,118	376,307	-1.5%	2.6%
Chemical	2,050,654	2,133,500	2,951,861	2.0%	3.3%
Non-metal	336,260	317,693	394,927	-2.8%	2.2%
Metal	1,747,775	1,614,107	2,169,225	-3.9%	3.0%
Electrical	1,115,439	1,043,035	1,666,908	-3.3%	4.8%
Machine-building	1,795,365	1,647,721	2,415,679	-4.2%	3.9%
Other	170,145	163,407	226,086	-2.0%	3.3%

Source: Statistical Office of the Republic of Slovenia, forecast by Analitika GZS. Note: Year 2018 – last known data during the analysis; year 2020 – estimation, year 2030 – forecast.

Employment

The increase in automation and drop in exports in 2020 due to the COVID-19 epidemic will contribute to the reduction of employment in the 2019–2020 period. The situation will be similar later, when the pressure to increase competitiveness will require greater investment and lean, innovative business models. Bright exceptions will be the machine-building and electrical industries, in which a high growth in added value will prevent a drop in employment. By 2020, the number of employees will have dropped by 7,000 people in comparison to 2018, and by 2030, the number will drop by another 15,000. The nominal growth in added value (which best reflects the organic growth of operations), will prevent a quicker reduction in the number of employees that will primarily be the result of increasing the level of production automation as well as more intensive collaboration of the industry with other parts of the economy[29].

28 Margin reduction in some industries will be the result of margin convergence to the EU average.

29 This means that there should be more collaboration with the domestic service sector, outsourcing of certain high added value activities (marketing, design, PR).

Key groups of processing activities	Employees, 2018	Employees, 2020	Employees, 2030	Annual change in employees in % 2019–2020	Annual change in employees in % 2021–2030
PROC. ACT. TOTAL	**201,722**	**193,943**	**179,222**	**-1.9%**	**-0.8%**
Food	16,338	16,338	14,046	0.0%	-1.5%
Textile	9,163	8,800	6,624	-2.0%	-2.8%
Wood	12,808	12,051	9,847	-3.0%	-2.0%
Paper	8,208	7,883	6,441	-2.0%	-2.0%
Chemical	31,987	31,668	27,226	-0.5%	-1.5%
Non-metal	6,998	6,721	5,778	-2.0%	-1.5%
Metal	42,698	40,590	34,896	-2.5%	-1.5%
Electrical	28,023	26,913	29,729	-2.0%	1.0%
Machine-building	41,185	38,751	40,733	-3.0%	0.5%
Other	4,314	4,228	3,902	-1.0%	-0.8%

Source: Statistical Office of the Republic of Slovenia, forecast by Analitika GZS. Note: Year 2018 – last known data during the analysis; year 2020 – estimation, year 2030 – forecast.

Changed structure of the modern economy

The dynamic of decreasing the number of employees in most processing activities will be followed by a parallel growth of employment in service sectors that are connected to processing activity, especially in employing a referred labour force, installation, creative industries, legal, tax, business consulting, cleaning and other types of support functions. The trends of excluding support functions from parent companies will be the result of optimising business models in accordance with the role models of the most successful enterprises abroad. In other words, this means that the processing activities employment multiplicator will increase by 2030 (every job in processing activities will greatly contribute to a new job in the service sector).

Investments

According to our estimates, investment will drop by one fifth in the first period, then gradually increase at an average annual rate of 3.7%. In the first period, investment will mostly decrease in the machine-building, metal, textile, wood and paper industries. In the 2019–2020 period, investment will amount to 5.4% of annual sales, which is slightly less than in the 2008–2018 period (5.5% of annual sales). In the second period, an average of 5.6% of annual sales will be earmarked for investment in processing activities by 2030. Initially, investment

will mostly increase in the chemical and metal industries, in which half of the total investments will be realised. Relatively, they will increase the most in the textile industries because they will be needed to achieve a proper increase in labour productivity.

Key groups of processing activities	Investments, 2018, in EUR 000	Investments, 2020, in EUR 000	Investments, 2030, in EUR 000	Annual change in inv. in % 2019–2020	Annual change in inv. in % 2021–2030
PROC. ACT. TOTAL	**1,975,153**	**1,612,974**	**2,348,692**	**-9.6%**	**3.8%**
Food	117,578	103,892	149,406	-6.0%	3.7%
Textile	38,245	30,978	49,037	-10.0%	4.7%
Wood	133,871	108,436	152,959	-10.0%	3.5%
Paper	60,432	48,950	69,718	-10.0%	3.6%
Chemical	437,150	386,266	588,477	-6.0%	4.3%
Non-metal	67,746	59,860	82,821	-6.0%	3.3%
Metal	423,567	343,089	512,760	-10.0%	4.1%
Electrical	203,590	172,319	245,431	-8.0%	3.6%
Machine-building	468,673	338,616	468,502	-15.0%	3.3%
Other	24,301	20,568	29,579	-8.0%	3.7%

Source: Statistical Office of the Republic of Slovenia, forecast by Analitika GZS. Note: Year 2018 – last known data during the analysis; year 2020 – estimation, year 2030 – forecast.

EBITDA and EBITDA margins

In 2020, EBITDA will be 6% lower than in 2018, by 2030 it will increase with a 3.7-percent growth to EUR 4.7 billion. In the first period (2019–2020), the nominal drop will be largest in the machine-building (40% drop) and metal industries (31% of total drop), while in the chemical industry it will increase by EUR 40 million due to a greater demand for generic drugs. In the second period (2021–2030), the chemical industry will contribute 27% to EBITDA growth, the machine-industry 23% and the electrical industry 18%. By 2030, the EBITDA margin in processing activity will increase from the 11.0% recorded in 2020 to 11.3%.

Key groups of processing activities	EBITDA, 2018, in EUR 000	EBITDA, 2020, in EUR 000	EBITDA, 2030, in EUR 000	Annual change in EBITDA in % 2019–2020	Annual change in EBITDA in % 2021–2030
PROC. ACT. TOTAL	**3,435,310**	**3,282,032**	**4,721,170**	**-2.7%**	**3.7%**
Food	228,978	231,274	304,830	0.5%	2.8%
Textile	83,271	78,350	105,295	-3.0%	3.0%
Wood	167,568	141,830	181,554	-8.0%	2.5%
Paper	100,046	95,106	134,157	-2.5%	3.5%
Chemical	971,961	1,011,228	1,399,112	2.0%	3.3%

Key groups of processing activities	EBITDA, 2018, in EUR 000	EBITDA, 2020, in EUR 000	EBITDA, 2030, in EUR 000	Annual change in EBITDA in % 2019–2020	Annual change in EBITDA in % 2021–2030
Non-metal	150,270	137,050	170,368	-4.5%	2.2%
Metal	642,121	594,247	814,262	-3.8%	3.2%
Electrical	374,832	345,445	607,066	-4.0%	5.8%
Machine-building	642,159	579,548	908,671	-5.0 %	4.6 %
Other	70,756	67,954	95,856	-2.0 %	3.5 %

Source: Statistical Office of the Republic of Slovenia, forecast by Analitika GZS. Note: Year 2018 – last known data during the analysis; year 2020 – estimation, year 2030 – forecast.

Expenditure for research and development

In accordance with the expenditure forecast for R&D, we have followed the target guideline that R&D expenditure in the private sector will reach 1.8% GDP in 2030. Despite the below average growth in expenditure for R&D (5.4%), the chemical industry will in the 2021–2030 period contribute to a 43 percent increase in total expenditure for this purpose in processing activity. The electrical industry will follow with 26 percent and the machine-building industry with an 18 percent share. At the national level, the goal of increasing investment in R&D by 2030 is to at least 3% of GPD, of which at least 1% of GDP will come from public funds.

Key groups of processing activities	Expenditure for R&D, 2018, in EUR 000	Expenditure for R&D, 2020, in EUR 000	Expenditure for R&D, 2030, in EUR 000	Annual change in expenditure in R&D in % 2019–2020	Annual change in expenditure in R&D in % 2021–2030
PROC. ACT. TOTAL	**488,636**	**446,144**	**800,364**	**-4.4%**	**6.0%**
Food	**7,616**	**6,169**	**11,580**	**-10.0%**	**6.5%**
Textile	**7,026**	**5,076**	**9,091**	**-15.0%**	**6.0%**
Wood	**4,215**	**4,215**	**8,292**	**0.0%**	**7.0%**
Paper	**4,642**	**3,760**	**6,734**	**-10.0%**	**6.0%**
Chemical	**212,255**	**220,830**	**373,649**	**2.0%**	**5.4%**
Non-metal	**4,090**	**4,090**	**8,046**	**0.0%**	**7.0%**
Metal	**21,073**	**17,069**	**40,409**	**-10.0%**	**9.0%**
Electrical	**128,820**	**116,260**	**208,204**	**-5.0%**	**6.0%**
Machine-building	**79,647**	**64,514**	**126,909**	**-10.0%**	**7.0%**
Other	**4,610**	**4,161**	**7,451**	**-5.0%**	**6.0%**

Source: Statistical Office of the Republic of Slovenia, forecast by Analitika GZS. Note: Year 2018 – last known data during the analysis; year 2020 – estimation, year 2030 – forecast.

4. GREEN DEVELOPMENT

A green, sustainable and circular development of the economy is becoming a trend and a necessity for preserving long-term international competitiveness. The transition to a low-carbon circular economy was integrated among the strategic developmental priorities in Slovenia. At the end of 2017, the Government of the Republic of Slovenia adopted **Slovenia's Development Strategy 2030 (hereinafter SDS 2030)**, which determines 12 key goals, including a low-carbon circular economy. This goal will be achieved by promoting innovation, new business models, digital transformation, efficient use of raw materials by closing material flows and energy as well as by adapting to climate change. All policies, from research and innovation to education and employment policy will have to be adapted accordingly. Adaptation and formation of new skills at all levels of education and training as well as ensuring the appropriate number of qualified staff is of key importance.

The implementation of measures from the **National Energy and Climate Plan 2030** (hereinafter referred to as the NECP 2030) is also important in this context. The key goals of NECP 2030 are:

- **reducing total greenhouse gas emissions by 36%,** of which 20 % will be in the non-ETS sector (which is 5 percentage points above Slovenia's adopted commitment);
- **min. 35-percent improvement of energy efficiency,** which is higher than the goal, adopted at the EU level (32.5%),
- **min. 27-precent renewable energy resources,** where Slovenia had – due to relevant national circumstances, especially environmental restrictions – to agree with a lower goal than the goal at the EU level (32%) with the aim to increase the ambition at the next update of NECP (2023/24),
- **3-percent investment in research and development,** 1% of which is from public funds.

The improvement of energy and material efficiency in all sectors and the consequent reduction in the use of energy and other natural resources is the first and key measure on the way to a climate neutral society. The fulfilment of NEPC leads to reducing the dependence on fossil fuels, with NEPC we are also supporting sustainable solutions in transport (public sustainable transport), in buildings (heating and cooling, comprehensive renovation) and in industry (due to ensuring competitiveness). NEPC also determines the goals to reduce and abandon the use of coal by 30% by 2030. By 2021, the strategy for abandoning the use of coal and restructuring coal mining regions in accordance with the just transition principle will be adopted and will determine a more specific time plan for abandoning the use of coal in Slovenia. NEPC determines the study of the use of new nuclear energy, and it also determines that the decision on the second block of the Krško Nuclear Power Plant (NEK) will have to be made by 2027 at the latest. NEPC also determines a gradual reduction of subsidies for fossil resources of energy and their termination. NEPC also determines the strengthening of

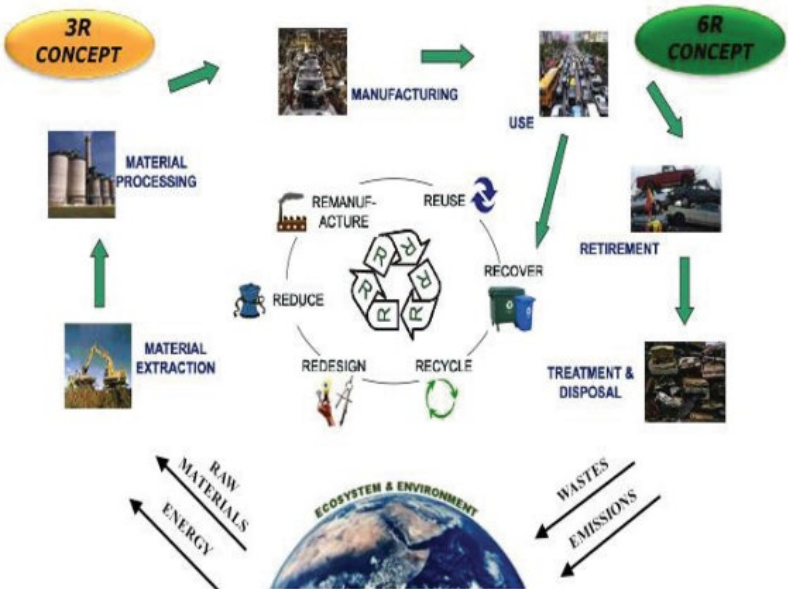
investment in R&D and more investment in staff that will be important in the transition to a climate neutral society. One of the key areas highlighted by the NEPC is also the transition to a circular economy.

4.1. Transition to a low-carbon circular economy

The new investment cycle must be based on green principles of a more resilient and inclusive climate neutral model for preserving and improving biodiversity and quality of living for all, which is the umbrella goal of the SDS 2030. This involves a change of the linear economic model that operates according to the "take-make-consume-throw away" principle into a **circular economic model** that is based on extended preservation of the value of materials and products, replacing products with services, transition from ownership to co-use and digitalisation usage. New technologies that are based on digitalisation, renewable energy sources and developing hybrid technologies such as applied technologies (3D printing) with new and alternative materials are the supporting technologies for a transition to a circular economy. The circular concept (also called the "3R – reduce, reuse, recycle) focuses on closing material flows by minimising the quantity of waste or using it as a source. The products are designed to be repaired, upgraded, restored and reused and recycled in the last phase. Therefore, the integration of eco-design into the search for solutions in products, services or business models is an essential building block of the transition to a low-carbon economy. Nature itself is a circular system in which everything circles and there are no losses or waste. Positive impacts of CO_2 sinking in the material emergence phase must be considered in the introduction of a circular economy. The cascade use of wood is especially efficient, because we can even achieve a negative carbon footprint.

The transition to a low-carbon circular economy presents an opportunity for the development of the economy because it brings concrete financial benefits to companies and the economy, promotes innovation and reduces negative environmental impacts in the supply chain. The elimination of waste from industrial chains via reuse of materials creates savings in production and lower dependence on primary, especially critical, materials. Special attention should be dedicated to municipal waste, the support environment should be improved with infrastructure, and the country's self-sufficiency for proper waste management must be increased in accordance with the waste management hierarchy.

Figure 3: Schematic presentation of a circular economy



The transition to a low-carbon circular economy demands better resource management and should focus on preventing the occurrence of waste from the product design (circular and digital by design) as well as improved collection for enhancing/preserving the purity of flows for their improved processing or recycling. The entire product life cycle through the entire value chain must be considered.

By introducing low-carbon circular economy principles, we will improve energy and material self-sufficiency and reduce dependence on foreign markets. The infrastructure for energy supply, especially electricity for waste processing and better supply of raw materials and energy sources from waste flows, will also be important. Optimisation with digitalisation and artificial intelligence, gradual electrification of various procedures, from heat electrification and technological procedure electrification to hydrogen production as well as carbon collection and storage is of key importance for a transition to a circular economy, whereas the legislative framework must also be adapted to the technological development. All the technologies of the future are based on low-carbon and renewable sources of energy.

A bio-economy that also strengthens the world is also an important part of a circular economy. According to the definition of the European Commission, the bio-economy comprises all sectors and systems that are based on acquiring and processing biological resources (genetic resources, animals, plants, microorganisms and acquired biomass, including organic waste), their functions and principles. Besides primary production, the bio-economy also includes other industries in which the sources and procedures of producing food, feedstuffs, medicines and other products, energy and services are based on natural resources of biological origin. Therefore, improving the accessibility and the sustainable use of biomass as a primary, natural, renewable raw material resource, which increasingly conditions the international competitiveness of a large part of manufacturing, is crucial. The future trend in the plastics processing industry is bio-based plastics acquired from bio-polymers. These

components are the product of biorefineries. The importance of the bio-based chemical and pharmaceutical industry must also be mentioned within this scope.

Slovenia is preparing a plan for the transition to a circular economy in accordance with the initiatives at the European level. This involves a **comprehensive strategic decarbonisation project via the transition to a circular economy** which is one of the key national projects that will bring positive effects to the economy's competitiveness, the environment, employment and other social aspects as well as a higher quality of life. The project is systemic and focuses in all areas that are key for the transition to a low-carbon circular economy. The project is being prepared in partnership with the leading European institutions in this area[30]. European know-how in the area of transitioning to a low-carbon circular economy will be transferred to Slovenia and connected with domestic knowledge as well as upgraded.

The project also includes support for establishing start-up companies that will work in low-carbon circular solutions and support innovation and the transition of SME to low-carbon circular business models. Systemic conditions for increasing the qualifications of various groups of stakeholders (primary and high schools, higher education institutions, companies, public administration) will be introduced at the same time to design and carry out the appropriate solutions necessary for a transition to a low-carbon circular economy. In this context, enhancing competences and the need for requalification and exploiting opportunities to create new green jobs is of key importance. Supporting decarbonisation in key value chains is also envisaged within the project: **in processing industry, forest-wood chain, food chain, built environment and mobility.**

The transition to a low-carbon economy and the European Green Deal will demand certain adjustments in various industries. Chemicals have a fundamental role in most industrial sectors and will become the builders of low-carbon and efficient technologies, materials and products. The new European strategy in chemicals for sustainability will promote the innovation and adaptations of the chemical industry (including the rubber, plastics and pharmaceutical industries) as well as all its consumers along the distribution chain. Increasing the investment and innovative capacity of the chemical industry in providing safe and sustainable chemicals, reducing pollution and the burden on health and the environment, and achieving the EU's strategic autonomy and self-sufficiency in the supply of basic chemicals will be crucial for a successful green transition.

To transition to a low-carbon society and circular economy, the country must promote investment in necessary fixed assets as well as introduce appropriate legislation and other conditions.

30 With KIC – Knowledge and Innovation Communities within the European Institute of Innovation and Technology and Joint Research Centre of the European Commission.

4.2. Decarbonisation of energy intensive industry

Energy intensive industry - EII (metal, non-metal, chemical and paper) is an important part of Slovenian industry. Annually, EII consume less than one sixth of the final used energy in Slovenia. These activities employ around 27,500 people and create 2.5% GDP. They are also important from an export point of view, as they export most of their products. A relatively low number of companies use the majority of energy in industry. In 2016, only 20 companies used half of all energy in industry. From 2005 to 2016, industry reduced direct greenhouse gas emissions by more than 35%, while process emissions were reduced by more than 20%. Nevertheless, a high share of EII in the Slovenian economy structure means the greater vulnerability of Slovenia due to greater exposure to changes arising from climate energy policies. Therefore, a timely and efficient renovation and restructuring of the Slovenian economy and companies in EII is important.

Energy intensive industry in Slovenia is very effective in Slovenia compared to plants in the EU and mostly uses the best available technologies (BAT). From this point of view, a major transition to a low-carbon circular economy is highly dependent on the development of new breakthrough technologies that are not yet on the market or are just beginning to be developed in the field of heat, electrification and production processes. Certain developed technologies, from production to the use of hydrogen and the collection, storage and use of carbon still await an affordable and proper integration into the production processes of energy intensive industry.

We need to avoid closing the most efficient companies because emissions at the global level would increase as products from less efficient plants and other parts of the world were imported (carbon leakage). Industry must be encouraged to further reduce energy intensive activities and manage energy as well as reduce process emissions with optimisation, digitalisation and the use of artificial intelligence. This industry needs a reliable supply of clean energy and a supply with raw materials which is conditioned by a proper infrastructure for energy supply and waste management. According to the European Commission, regardless of the already implemented and expected measures to reduce electricity consumption in the EII, electricity consumption in energy-intensive industry in the EU will increase from 2.98 to 4.43 TWh. The issue of EII vulnerability from the aspect of affordability of energy must also be addressed. In the future, industry will face a more demanding situation in the energy market due to the expected movements in international markets and the investment needed to restore production and transmission or distribution capacities in Slovenia.

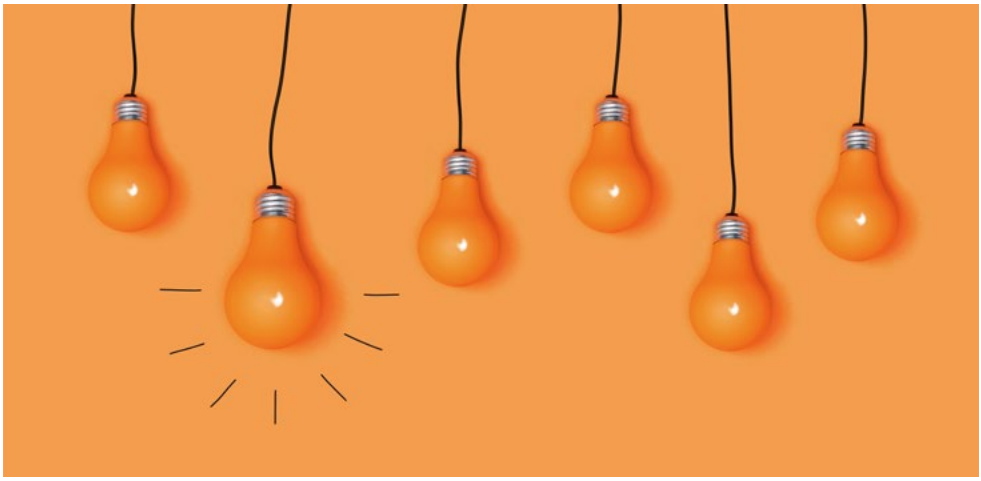
The importance of EII is also recognised by the European Green Deal, which states that the energy intensive industry is an indispensable part of the economy because it provides raw materials for other value chains that are important for the EU economy. Another important aspect is access to raw materials (especially critical raw materials that must be excluded from the existing waste flows). All opportunities that are available at the EU level must be used for technological breakthroughs and the renovation of energy intensive industry (e.g. Innovation fund, Horizon). At the domestic level this should be exploited via the recovery and resilience mechanism and the just transition mechanism. The measures will be used to promote research, development and innovation and transfer advanced technologies, investments in the introduction of technology and infrastructure for affordable clean energy, energy effi-

ciency and replacement of energy sources, increasing material efficiency and promoting the introduction of circular solutions in the industry of basic materials (the use of secondary raw materials, replacing carbon or energy intensive raw materials and materials with substances that have a smaller footprint). We will strengthen international cooperation for the development of breakthrough technologies and introduce options to optimise production using automation, digitalisation, quantum technologies and artificial intelligence.

Current production has been especially significantly rationalised from the aspect of reducing energy consumption per unit and increasing material production. In accordance with wider European forecasts, breakthroughs and greater affordability of new low-carbon technologies are expected in the coming years that will fundamentally transform production in energy-intensive industry. These technologies are, specifically:

- use of climate-neutral hydrogen (heat and/or processes);
- use of biomass and biotechnologies;
- further heat electrification;
- further process electrification (electrolysis, electrochemistry);
- capture and utilisation of carbon (CCU);
- capture and storage of carbon (CCS);

Therefore, we need to accelerate developmental and innovation activities as well as pilot and demonstration activities (e.g. production of synthetic methane and hydrogen), and the investment incentives for this purpose. The integration of industry in local energy communities with digitalisation and the implementation of smart platforms, exploiting waste heat and increasing self-supply from renewable sources of energy, is also important. Improving energy efficiency is necessary also by promoting the introduction of energy management in enterprises, e.g. via the introduction of systems that are harmonised with ISO 50001 (or appropriate alternatives) in energy intensive enterprises and in less energy intensive companies (in those where the cost of energy sources comes third or later on the cost scale). Enterprises must be motivated to invest in energy reviews.



4.3. Sustainable mobility

In the future, mobility will remain the foundation of society and the economy. However, at the same time, greenhouse gas emissions from traffic can endanger the achievement of climate goals if the current trend continues. Traffic in Slovenia represents the largest source of GHG emissions, i.e. 52.9% in 2018. The share of this sector in 2005 was 38%. Most emissions originate from road traffic. Traffic is also the only sector in which emissions increased in the 2005–2018 period, i.e. by 31.9% (source: Climate Action Mirror 2020). Green and digital will be the key areas of mobility development in the next decade, if we want to manage the emissions from traffic.

Clean transport and logistics are emphasised in infrastructure, including the setup of e-charging stations, initiatives for railway transport and clean mobility in towns and regions. Sustainable forms of mobility must be promoted, and the construction of transport infrastructure should be adapted to preferentially encourage the deviation from road transport of passengers and cargo. This segment is closely connected to smart cities and communities, which is further discussed in the Slovenian Smart Specialisation Strategy (S4).

It should be emphasised that the Slovenian car industry represents approximately 10% of Slovenian gross added product and approximately 20% of Slovenian imports. Around 285 enterprises employing 16,000 people operate in this segment. Slovenian exporters and suppliers for the car industry have all the international standards and are competent suppliers in the global market with key buyers in Germany, where the Slovenian car industry exports 40% of its production, followed by France, Italy, Austria, Great Britain and the USA.

The fact is that the COVID-19 pandemic has strongly affected the car industry. Slovenia has strong developmental suppliers with a log of accumulated knowledge and development potentials, but the situation is difficult in large part due to the termination of supply chains. This is also true of the car industry as it will have to continue to upgrade in the direction of a green and digital transition. It will have to follow market trends in the direction of car electrification and business model change (car-sharing). Due to the accumulated knowledge and potential, opportunities and developmental projects can be sought outside the industry.

4.4. Industry based on wood and other natural renewable materials

On its way to the basic goal from the European Green Deal (transition to a clean society without net greenhouse gas emissions by 2050), Slovenia will utilise the developmental potential enabled by domestic natural renewable materials, which ensure an uninterrupted supply of raw materials, short supply routes and a positive impact on climate change mitigation. By increasing the awareness of the importance of environment conservation, alternatives to fossil sources are sought as their use has major, long-term negative effects on our living space.

One of the ways is the increased use of products made from natural renewable materials that represent CO_2 sinking.

Wood is the key strategic raw material and industrial material in Slovenia and is a natural and renewable source. Annual natural growth of wood in Slovenia is 9 million m^3, while annual felling accounts for approximately 6 million m^3[31], of which only 1,82 m^3 of round wood is processed at home (data for 2019), together with cut wood and wood waste 2.87 million m^3 is exported abroad (data for 2019, source: SURS, Forest Service of Slovenia[32]), then semi-products or wood products are imported, while the remaining amounts are used for energy. From the aspect of CO_2 created from 1 m3 of some materials, wood has quite an advantage in comparison with other raw materials. While in the processing of other materials CO_2 is released into the environment (the quantity depends on the type of material), with growth, CO_2 is stored and, until its destruction (burning – rotting), it represents a negative value of created CO2 for the environment. The 'Climate effect of the forest-based sector in the European Union' study from 2020 determines that European forests and wood-based sectors together lower the balance of CO_2 created in the EU by 20%. Nature-based solutions should also receive more attention in the area of forest management. The 'Solution is in Nature' from 2021 highlights the great importance of forest management in a way that has a positive impact on biodiversity protection.

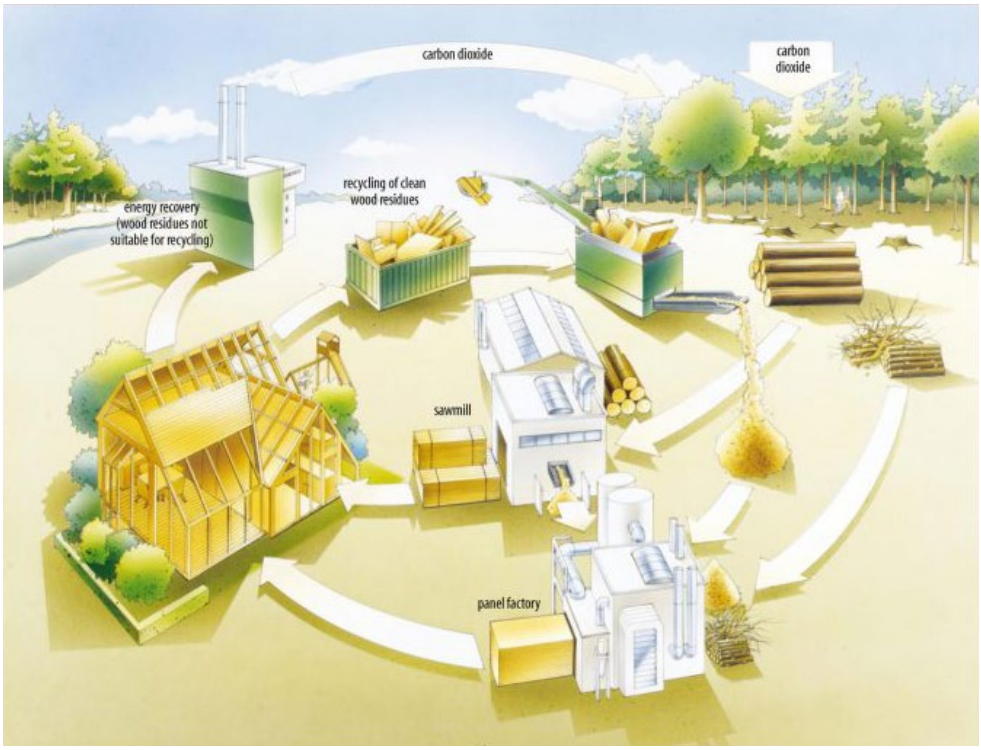
Wood is a material with at least two or three useful cycles, the so-called cascading use of wood. First, it is used as a product (cut wood, building component, furniture), secondly as material in the recycling process (panels or paper) and lastly for acquiring energy as is shown on the image below. Wood is primarily recognised as material for industrial processing and not as energy source. Only wood that is not suitable for further industrial processing or waste wood is used as an energy source.

In the segment of using natural renewable materials that store carbon, there are great opportunities in wood processing as Slovenia has large quantities of it (58% of the territory is covered in forest), which means that with sustainable forest management and improving the preservation of biodiversity, there is sufficient potential for long-term development based on domestic raw materials. Climate change impacts tree composition, therefore, the wood industry must adapt to the new situation. We should also think about alternative raw materials (biowaste in agriculture, forestry and municipal management). To adapt to climate change in forest management planning, we should consider nature-based solutions, including the prevention of entry and spreading of foreign species, especially invasive species. Slovenian forests are also an immense pool of gene sources for research and development in various segments (e.g. pharmaceutical and food industry, biofuels, synthetic components industry, pest control, etc.).

31 The number applies to average felling from 2015 to 2019, when there were major natural storms, while the actual annual felling rate is lower, at around gross 5 million m^3.

32 Export of round industrial wood (according to initial unofficial data in 2020) amounted to 1.4 million m3.

Figure 4: Presentation of cascading use of wood



Source: EPF – European Panel Federation; SGLP – Tackle climate change, use wood, 2010.

The construction and furnishing of smart wooden buildings is an exceptional market opportunity that will only grow. If the proportion of newly built wooden houses in the EU were to increase by 10%, this would contribute to a 25% annual reduction of CO_2. The redirection to wood construction within public procurement is important in this context. Our vision joins that of forest and wood associations in the EU vision written in the Forest-Based Industries 2050 (CEI Bois, 2019) that envisages that the proportion of construction wood will grow from the current 10% to 30%, meaning that the amount of wood construction will triple. The amount of wood in forests in both the EU and Slovenia makes this possible. Greater processing of wood felled in Slovenia can additionally contribute to reducing emissions or increasing carbon sinks in forests in accordance with the LULUCF (EU 2018/841) Regulation.

The vision of the wood processing industry is to increase the level of wood construction with developmental activities and by building demonstration (pilot) buildings. New business models will thus form to enable a competitive performance of consortia with investors in Slovenia and in foreign markets. In this way, the Slovenian wood processing industry will also secure a market for the sale of large quantities of wood with high added value. In addition to the material use of wood, wood can be used to acquire bio components (bio derivatives), the products of which can replace synthetic chemicals. A lot of inferior quality wood in Slovenia is also processed in paper factories which currently still import more than 60% of their re-

quired wood. Inferior quality wood and wood waste thus achieve higher added value than if such wood is used for energy purposes.

With the aim of increasing wood processing in Slovenia, investment will have to be made in primary wood processing and other wood processing areas which is directly connected to strengthening the so-called soft capital – research, development, innovation, human resources, etc.

In addition to wooden construction, which also includes joinery, the furniture industry is still very prominent in Slovenia. The key emphasis is on new technologies and business models in production and development processes, whereby it is necessary to take into account the principles of circular and digital development ("creative and digital by design").

The wood processing industry in Slovenia is important from the aspect of a high number of SMEs, in which there are almost 1,500 sole entrepreneurs, for whom the key is to strive for a friendlier business environment and to promote consumption from renewable sources. It should be emphasised that there are more than 400,000 forest owners in Slovenia. They should be mobilised and connected to intensify forest management and increase wood use in Slovenia.

Wood is the output material for many technologically advanced co-natural materials and products (composite products, modified wood, insulation and polymer materials, fibres, solvents, liquefied wood, carbon fibres, medicines, pyrolysis – wood gas, etc.). Education and biomaterial research must be strengthened to utilise all opportunities in this area (e.g. in architecture, construction and machine-building). As other sectors such as forestry, the cellulose and paper industry, some construction, and the creative industry (design, architecture, research art ...) are connected to wood, the development of the wood processing industry has great potential that must be used.

The basic goals by 2030, connected to wood exploitation, are to increase the amount of round wood in Slovenia for non-energy use to 3 million 3 per year, to reach a 30-percent share of wood in all new public buildings, to develop new ways to use wood, to increase the number of employees in wood-connected industries (in which the increase of employees in services connected to these branches must be considered as these are not considered in the general analysis and include repairs, installations ...) and to increase the realisation of sales in the wood industry to EUR 2.5 billion per year.

The realisation of green a breakthrough and sustainable development will be achieved by forming an encouraging environment for activities that contribute to achieving the goals of a green Europe. Wood processing is therefore tackled systematically by considering the potential carried by micro, small and medium sized enterprises.

5. CREATIVE DEVELOPMENT

Research, development and innovation (RDI) are one of the main pillars of modern society. All three are largely based on connecting knowledge, industries and organisations which mutually develop creative innovation. These increasingly arise from the problem of the individual, society and/or environment and offer a solution to a specific problem. Different organisations enter the successful and open RDI cycle differently than in the past, i.e. from enterprises of different sizes and sectors, knowledge institutions, NGOs to creative industries (CI) that are the source of incentives for the development of the economy and society as a whole. Cooperation of enterprises with knowledge institutions, NGOs and CI increase the creativity of individuals and innovation in enterprises, enables their improved performance in domestic and foreign markets and increases revenue and added value.

Creativity and innovation are the key features and skills that improve the country's economic and social indicators, and connections and cooperation present great potential for finding solutions to today's major societal challenges, including population ageing, environment, health, food and safety.

International analyses show that enterprises which connect with CI in their business processes create higher profits and achieve quicker growth. Enterprises that invest in design (compared to enterprises that do NOT invest in design):

- Their revenue increases at a 22% quicker rate (Danish Design Centre (The Economic Effects of Design, 2003));
- Are more than 50% more productive (Swedish Industrial Design Foundation, 2008) and
- Achieve 200% higher stock prices (British Design Council, 2007).

The Innobarometer, the 2016 European Commission research into innovation processes in SME shows that the Slovenian economy has a lot of unexploited potential in the area of including design and creativity in the innovation processes of enterprises. Based on a sample of 501 Slovenian enterprises, the research has shown that the share of Slovenian enterprises for which design is of key importance for their business strategy is only 5% (Denmark, Austria: 21%, Great Britain: 17%). The share of enterprises that do not use design, according to their own statements, is 43% in Slovenia, the average in the EU 27 is 37%.

The use of digital tools such as tools for industrial design, product development, production devices and objects, technological tools (CAD/CAM, 3D printing) and simulations (materials, tools, installations) strongly strengthen the efficiency of creative and innovation activity.

5.1. Concern for a creative, entrepreneurial and innovation support environment

The entrepreneurial and innovation support environment in Slovenia is very diverse and lively, but also dispersed, lacking in transparency and unfocused. Various entities operate in this environment whose activities are often duplicated and do not create the desired and expected value. Therefore, Slovenia needs a platform that will create a healthy, stimulating and connected ecosystem that will be based on creativity, entrepreneurship and connection. Groups that will carry out programmes in (I) the economy, (II) the academic and science and research sphere, (III) the public sector and (IV) the wider society, must be established within such an ecosystem. Groups must carry out structured programmes that are based on key areas and follow specific goals for every segment, and which will operate as a platform and as a connected entity and be complementary. With this approach, the main challenges of modern society and the country can be structurally and effectively addressed.

An ecosystem designed as a platform needs an independent, correct and connective coordinator that will manage the umbrella programme and connect the main subjects and consortia, which will carry out specific programmes to increase innovation and entrepreneurship in every area.

Programmes and the entities that carry them out should complement, connect, inform and educate each other. They should provide for a creative, entrepreneurial and innovative supporting environment to make Slovenia an attractive place for the prosperity of talent, growth and other enterprises, which will create high added value, new jobs and at the same time renew the economy in the direction of a circular and digital transition.

An entrepreneurial and innovative supporting environment must represent an inclusive environment that is based on the cooperation of companies with suppliers, buyers, competition, universities, scientific and research organisations, institutes, CI, NGOs and other public and private organisations. Such a network helps enterprises to overcome obstacles that refer to the sources of financing, human capital, social capital and other sources, connected to the specifics of a certain enterprise or market. Social economy subjects must be emphasised and dealt with the same as other subjects in the support environment, while the implementers of individual measures should be qualified to work with them.

The quality of the support environment is essential to transfer knowledge that generates development. Therefore, we should build on entrepreneurial and innovation infrastructure that will enable, promote and expand a system of open innovation in enterprises and organisations of all forms, to cooperate, connect, exchange knowledge, experience and inventions, license foreign solutions and promote the foundation of new enterprises.

Despite many indicators and innovation analyses (e.g. European Innovation Scoreboard, Global Innovation Index ...) these analyses do not show the real situation of innovation in the Slovenian economy because they comprise a wide range of indicators that are not significantly connected to the economy. An innovation analysis among Slovenian enterprises of all sizes should be developed and implemented annually to gain an actual and real insight into innovation in the Slovenian economy which will provide an understanding of the individ-

ual parts of innovation and innovation culture, thus enabling the addressing of significant deficiencies that should be drawn to the country's attention, and which would also support enterprises with various financial and non-financial measures.

We will design, introduce and strengthen a **comprehensive and connected support environment** for innovation that will have a platform built from subjects/consortia that will carry out innovation programmes in key areas of the innovation ecosystem: (I) the economy and its representative chambers/associations, (II) academic, scientific and research sphere, (III) public sector and (IV) society. The key role of the SPIRIT Slovenia public agency as stakeholders of the supporting environment at the national level is of key importance.

Within this framework, we shall strengthen:

1. **The Slovenian Business Points Network (SPOT),** whose purpose is to offer free support services for entrepreneurs and potential entrepreneurs, and offer services of business consulting, providing information and training as well as a rich scope of services in internationalisation and foreign investment. SPOT will contribute to those three areas of the industrial strategy (green, creative and smart development).
2. **Innovative Environment Subjects (SIO)** for effective services for entrepreneurship and innovation, and designing a balanced programme of support to drive, grow, develop and preserve enterprises. Thus, we will contribute to:

- Increasing the number of new enterprises, especially those that create higher added value compared to the Slovenian average.
- Increasing the level of survival of newly founded enterprises.
- Overcoming the obstacles of rapidly growing enterprises.

3. **A supportive environment in the field of creativity** that will be based on supporting creativity in the sense of developing cultural and creative sectors (CCS) and connecting those CCS with the rest of the economy. Currently, the latter is supported within the Creativity Centre, Network of Research Art and Culture Centres.
4. **Supporting environment for start-up and scale-up enterprises (so-called Startup Plus Programme):** the programme comprises all key support needed by innovative start-up companies for rapid global growth. In addition to the financial incentives of the fund (subsidies, convertible loans, ownership investment), the programme also includes an intensive mentorship programme and training in several quality and specialised content programmes.
5. **Innovation hubs:** we will strengthen digital and other innovation hubs intended for innovation cooperation and connecting the public and private sectors which are the platform for the cooperation of various stakeholders and groups that want to achieve the best innovation results with a significant emphasis on concrete content. Innovation cooperation and connection in the East Slovenia cohesion region must be strengthened. Modern internationally comparable innovation hubs offer both content and infrastructural support to developmental and research projects of SMEs with the aim of successful international commercialisation of knowledge and technologies.
6. **Knowledge transfer offices:** their purpose is to connect public research organisations and the economy. Their activity includes the preparation, mediation and adaptation of a technologically suitable and market-appropriate offer prepared by researchers from public research enterprises on the basis of identifying the technological, research and development needs of the economy. Offices direct researchers to meet the needs of the economy, raise awareness in enterprises about the availability of research capacities, and direct enterprises to use the services that research organisations can offer. Researchers must be qualified with knowledge about the market, buyers and entrepreneurship.

Strategic development and innovation partnerships or so-called SRIP are important within the supporting environment and these are discussed further later in this document.

5.2. Promotion of creativity, entrepreneurship and innovation

Initiatives to strengthen the culture of creativity, entrepreneurship and innovation must be made to create a positive innovation micro-climate in Slovenia. The programme for motivating young people to develop creativity, entrepreneurship and innovation (hereinafter referred to as CEI) has brought certain results. This programme aims to develop qualities in

young people that are important for entrepreneurship – from creativity, initiative, and accepting risks and responsibilities to self-confidence and performing in public. We will strive to introduce the culture of a creative, entrepreneurial and innovative way of thinking and understanding intellectual property in all parts of the educational system (across the curriculum), i. e. in kindergartens and higher education facilities as well as in enterprises for the education of suitable staff.

Efforts should be made to **promote entrepreneurship and carry out measures to encourage entrepreneurship** among special target groups (e.g. youth, women, families). The promotion and internationalisation of industry through the coherent operation of supporting networks and organising conferences, consultations, seminars and workshops in Slovenia and in the international environment are key.

For more than twenty years, the **granting of awards and promotion of the best Slovenian innovation** has been in progress in Slovenia, based on regional selection of the best innovation, a process which ends in the selection of the best national innovation. Awards for innovation not only bring a confirmation to award winners and promotion in Slovenia and abroad, but they are also interconnected, therefore the project should be continued, accelerated and upgraded with additional content activities.

5.3. Support to start-up, growth, development and preservation of enterprises

In this framework, innovative start-ups and scale-ups, the development of other enterprises and a successful transfer of ideas of entrepreneurial individuals and groups in successful cooperation must be promoted because this has a positive economic and social meaning. Initiatives will focus on niche markets and support a green and digital transition.

It is of key importance that enterprises, especially SME, in both cohesion regions have access to proper financing sources as this is one of the most difficult obstacles to overcome for all enterprises. Debt and ownership sources of financing should be strengthened respectively. From the aspect of growth, development and preservation of enterprises, small value initiatives (e.g. vouchers) are also important, since enterprises have access to services in digitalisation, intellectual property protection, certificates, training and outsourcing in other areas, as well as major development and innovation projects that are strategically important for the country.

It is important to support research, development and investment via tax relief; enterprises must be actively motivated to invest in new products that have to be competitive at the global level. It is important to promote patents and brand protection applications as well as support the introduction of concrete new technologies that promote creativity and competitiveness (e.g. AI, VR).

One of the important pillars of knowledge and technologies transfer contributing to economic growth is the so-called spin-out and spin-off enterprises of public research organisa-

tions. These enterprises create new jobs and have great potential to become innovative and rapidly growing, therefore a normative environment that is comparable with the EU must be introduced in Slovenia for the foundation of such enterprises.

5.4. Strengthening non-technological innovation

While enterprises, especially SME, deal with the challenges of green and digital transition, they require a wider understanding of the term innovation, which cannot only be limited to technology, but must also include all types of innovation, from the most common product and process innovation to marketing, organisational and social innovation. The existing SMEs are not necessarily innovative start-ups in the classical sense. Measures must be taken in such enterprises to promote innovative business and management solutions and creativity in the wider sense.

Non-technological innovation that is based on innovating processes, services and business models is often that which makes the difference between individual products and creates added value. Innovation often does not arise from R&D, but is based on the user's problem and the use of existing technologies and products. Innovation can be a new business model that arises from considering user experience, the use of digital technologies (e.g. sharing platform) or including services (after-sales services, repairs etc.).

Social innovation is essential because it mostly involves new ideas (products, services, models) that effectively respond to society's needs and create new social relationships and cooperation. This involves innovation that also enhances society's ability to act. The key difference between an innovation and social innovation is that, in addition to having economic value, social innovation also addresses the needs and challenges of society, thus creating a social effect. In this sense, social economy should also be strengthened as it has the key role in creating jobs and social inclusion.

Connecting with CCS is of key importance, especially through design, architecture and **design management,** as well as other processes that promote the development of non-technological innovation. Design management is an example of strengthening creativity and improving competitiveness in enterprises, and it has proven to be exceptionally successful. In Slovenia, this was supported via two design management competence centres (DMCC) (2013–2015 and 2017–2019). In a DMCC 2.0 project that lasted 2.5 years (2017–2019), 37 enterprises and a total of 1,433 employees were included in training. The results after the end of the project were very good. By improving business processes and products, profit growth in enterprises within the project increased by 104%, while added value per employee increased on average by 12%.

6. SMART DEVELOPMENT

Smart industry, which can also be called Industry 4.0, has become a trend that is a strategic priority in many industrial enterprises. Enterprises combine advanced connectivity, automation, cloud technologies, sensors, different production processes, intelligent algorithms, IoT (Internet of Things) and artificial intelligence. The essence is complete control of the entire business process via a digital platform. This can involve production, logistics, resource management, material tracking and similar. Like technology, business processes are also important because they change with the introduction of digitalisation. The same applies to value chains.

For smart industry that must adapt quickly to the common EU digital market, the strengthening of digitalisation of operations, services, products and business models, accelerated investment in research, development and innovation, networking and connecting various stakeholders, strengthening competences and also promoting international connection of enterprises are very important. The key issue here remains understanding the market, the product and user problems that can be resolved with advanced technological solutions. Societal challenges must be resolved with modern technologies and products that will help society and consequently be successful in the market must be developed. Enterprises should be encouraged to create their own digital strategies that supplement business strategies and implement them.

Accelerated automation also brings a lower need for traditional jobs. From this aspect, we should address the re-qualification of workers, creating competences for the jobs of the future, potentially adapted work forms and working hours (shortened working hours, work from home, sharing ...), and changes that arise from circular business models (increasing the reuse services, remanufacturing ...). Digitalisation should support a green and creative transition.

The resilience of a digitalised industry to cyber threats and attacks is of key importance for its long-term success and survival. Therefore, a high level of cyber security should be ensured in a smart industry through appropriate systems and procedures, training and awareness-raising.

In January 2021, the EC published a report entitled **Industry 5.0: Towards a sustainable, human-centric and resilient European industry**[33] which focuses on the industrial worker as a human being. Industry 5.0 complements the current paradigm of Industry 4.0 by emphasising research and innovation as the driving force for a transition to European industry that is sustainable, focused on the human being/individual and resilient.

Industry 5.0 seeks to capture the value of new technologies for achieving prosperity that surpasses the goals of jobs and growth while respecting planetary boundaries and placing the well-being of the industrial worker at the heart of the production process. The purpose is

33 https://ec.europa.eu/info/publications/industry-50_sl.

to consider the current social restrictions and not leave anyone behind. This assumes a series of appropriate measures to respect human rights and ensure a safe digital working environment. The industrial worker receives a new role in which they are not considered as a cost, but as an investment that will enable the development of the company and of the worker. Employers must be interested in investing in the skills, abilities and well-being of the employee. An important precondition for Industry 5.0 is that technology must serve the people and not vice versa. In the industrial context this means that technology is used, and production is adapted to the needs and diversity of industrial workers instead of workers adapting to the constantly developing technology. Workers must be empowered, and their working environment must be inclusive. Therefore, every worker must be closely included in the co-designing and introduction of new technologies, including robotics and artificial intelligence. To enhance safety at work, robots would assume a large number of repetitive and simple tasks.

6.1. Digitalisation and smart solution strengthening

The economy should be renewed by using modern technologies, the highest process safety, increasing the level of automation and robotisation, and the use of digital technologies and artificial intelligence, consequently contributing to a more effective use of resources and energy. Introducing smart factories would increase productivity by a factor of 10, at the same time it would enable the personalisation of products and solutions. Introducing digital solutions must be carried out at several levels. At the EU and national level, legislation, cyber security rules and consumer safety should be adapted along with the introduction of digital technologies in the operations of enterprises in all areas. New legislation must also have an estimated impact on the digital legislation. These processes are changing the image of industry and the method of operation. This is proven by Slovenian enterprises that also cooperate with the leading enterprises in the global market by introducing smart automated production and the use of artificial intelligence. The empowered person – worker must be placed at the forefront in accordance with the developing concept of Industry 5.0.

Measures in digitalisation enable enterprises to have a simple and rapid breakthrough in the foreign market, and an expansion of operations in the existing foreign market, shorter time of certain operations, processes, optimisation and more effective search for resources and effective purchasing, lower administration costs, enhanced transparency over business processes and enhanced sales in foreign markets, the improvement of the competitive position, simplification of distribution channels, expansion of the market and business reach, consequently higher income, improvement of interaction with clients, more accurate and easily accessible information about the enterprise, suppliers, buyers, target markets, increasing the speed of operations, increasing market share and the rationalisation of the business model. Therefore, we will need a strong digital infrastructure that includes the active collaboration of various stakeholders with the aim of putting Slovenia on the map of successful and reference countries in smart and green industry. Fast and reliable broadband connections (fixed and mobile), including rural areas, are necessary for the development of key online social and economic services. Introduction of 5 G depends on the timely allocation of the 5G spectrum.

We do not wish to address only the digital transformation of ordinary enterprises, but we want to offer support to the faster development of digital enterprises. Improving the digital knowledge and skills of workers could relatively quickly enhance their employability and support the economic recovery after the COVID-19 pandemic crisis. Introducing user-friendly e-administration services and digital public services would help to reduce the administrative burden on enterprises. Although numerous public online services are already available, efforts to enhance the trust of people in online transactions and their safety will be needed by individuals and enterprises (e.g. introduction of the national electronic identifier, ensuring cyber security and protecting privacy).

Smart industry will also consider the National programme on encouraging the development and use of artificial intelligence (AI) by 2025 (NpAI), which has been harmonised with the SDS 2030. The NpAI includes the industrial 4.0 revolution among the global challenges to establish new economic operation models and overall social and environmental development.

Digital transformation also represents the industry's transformation into Industry 4.0, in which Slovenia will be able to compete on a European and global scale. Digital transformation and digitalisation in the production enterprise will have to be defined on two levels, at the level of digitalisation of products, services and creating digital business models (smart) and the digitalisation of processes and operations. This will present savings at all levels of operation and increase productivity and competitiveness in the global market. The principles of installed cyber security must be considered in development.

In addition to updating the economy by digitalising operations and introducing smart solutions in own operations, we need to promote the development of operations of the economy by using new technologies such as IoT, artificial intelligence, digital platforms and similar, for new digitalised services, products and business models. This must be based on an understanding of the market, competition, own buyers and users and focus on a modern user experience. A successful and fast development in this direction, which is necessary for com-

petitiveness, can be encouraged by developing the digital competences of employees in enterprises and by gaining inclusion in new development partnerships and value chains through ICT sector enterprises and knowledge institutions to develop higher added value products or a higher level of integration. In this way we can connect multidisciplinary knowledge for creating modern digital services, products and business models, which will be, in addition to productivity, the second necessary condition for economic competitiveness, the increase of added value and successful internationalisation or increasing exports to demanding markets by increasing the share of high technology products. In this way, Slovenian industry can expand export markets and become more resilient.

6.2. Promoting the development, research and innovation cycle

Together with the Research and Innovation Strategy, the Industrial Strategy directs measures into promoting a comprehensive developmental, research and innovation cycle from TRL 1-9 by emphasising priority areas that arise from the Slovenian Smart Specialisation Strategy (S4), which will be systemically steered via the new Act on Scientific, Research and Innovation Activity. We will also achieve the redirection of industry from supplying components to a niche-focused co-creator of technologically developed products. Circular and digital by design concepts should be considered in product design. It is essential that priorities are not defined 'from the top down' but on the basis of partnership between the economy, knowledge institutions, the state and other stakeholders.

It is important to establish a system of research equipment use that encompasses the supplementation of the introduced list of available research equipment and the introduction of a connection between the users and owners of equipment.

Investment in research and development will also emphasise, in addition to supporting a green and digital transition, resolving other social challenges (e.g. pandemics). Funds that arise from the EU Fund for Recovery and Resilience and Horizon programmes.

We should also promote the use of the European patent with unitary effect when the system enters into force. Through its use, SMEs would protect their inventions at a lower price in those EU countries that cooperate in the European patent with unitary effect.

6.3. Networking and cooperation

Networking and cooperation in research, development and innovation is of key importance. Therefore, the development of Strategic Development and Innovation Partnerships (SDIP), which in every S4 priority area combine the key stakeholders in the economy, research sphere and others, will continue. Together with the state, they not only co-design the development

policy but also organise a comprehensive development and innovation ecosystem by individual S4 areas. In practice, this means introducing various organisational bridges (round tables where different stakeholders cooperate in designing strategies and development programmes) and value chains in Slovenia and, by inclusion in international chains and international development and innovation platforms by preparing demanding development projects, establishing joint performances and international promotion.

Ambitious goals for internationalising knowledge and solutions should be set, for which Slovenian enterprises would use the support of the ecosystem (country, research sector, non-governmental sector) to offer comprehensive high technology solutions for larger environments.

Other forms of connecting and networking, i.e. clusters, digital innovation hubs, competence centres and other informal forms of connecting are also important.

Digital innovation hubs (DIH) and similar subjects are exceptionally important for creating an entire ecosystem for the cooperation of different stakeholders and target groups. This has been recognised by the European Commission, which dedicates a considerable amount of attention and funds within the Digital Europe Programme (DIGITAL)[34] as it wants to introduce a network of European Digital Innovation Hubs (EDIH). In accordance with the EC guidelines, Slovenia has determined this area in the Digital Innovation Hubs guidelines in Slovenia after 2020[35]. The key purpose of such cooperation between the stakeholders of private, public, research, academic and local environment is the digital transformation that must reach all areas of everyday life. The recognition of advanced digital technologies must be strengthened, advantages and risks must be identified, and individuals must be qualified, enterprises must also obtain access to the infrastructure for testing advanced digital technologies (laboratory equipment or a testing environment is too expensive for SMEs). The key guideline is that such services should be close to the user, which is an advantage in Slovenia due to the small size of the country. International cooperation and searching for new business opportunities will also be an important added value of the EDIH network, as well as the transfer of best practices, transfer of knowledge and searching for joint solutions.

6.4. Strengthening and developing new competences, re-qualification, new forms of work

The realisation of smart industry must focus on strengthening employee competences. The platform for predicting needs by competences has an important role here because it will enable the timely training and education of employees on the basis of monitoring trends and market needs for the upcoming new tasks dictated by continuous industrial development. Appropriate training and education programmes will be designed on the basis of monitoring the gaps in employee competences. They will strengthen the competences necessary for work

34 Digital Europe Programme.

35 Digital Innovation Hub Guidelines in Slovenia after 2020 .

and green, smart, digital and creative development. The measures must enable the acquisition and strengthening of interdisciplinary and soft skills.

Through re-qualification and additional qualifications of employees who will need new competences due to the digitalisation and introduction of Industry 4.0, the number of unemployed in the labour market will reduce. Measures must be comprehensive, and they should include the entire vertical structure, beginning in primary schools with appropriate educational content and quality career orientation to qualify pupils, students and adults for development and career planning. Measures should promote the acquisition of competences in smart and digital areas (job shadowing). Employees should also be enabled to do various types of jobs, considering the trend of job personalisation, where this is appropriate. New work methods and forms require a higher level of job development, which enables the cooperation and effective performance of jobs. The transition to digital is possible only if workers have developed digital competences[36] and if they perform work effectively with the help of these.

Furthermore, measures must cover the retention of existing highly educated staff and attract them from abroad and allow for a flexible transition of workers from knowledge institutions and the education system to the economy and vice versa, which also promotes connecting knowledge and practice as well as interdisciplinarity. The timely discovery and preservation of talent in the economy, knowledge institutions and education institutions, and the development of the careers of employees with the purpose of re-qualification and additional qualification are of key importance for development.

One of the most important and most successful instruments from the aspect of networking in the area of joint and targeted investment in the knowledge, skills and competences of employees are competence centres for HR development (CCHR). At the beginning of 2010, the CCHRs were the first example of a successful connection of enterprises and investment in employee knowledge. By adopting the S4 in 2015, they became the main instrument of support for investment in the knowledge and skills of employees for the needs of smart specialisation. CCHR supplement the work of SDIP in HR development of knowledge and skills to achieve a comprehensive approach in the triangle of HR development, promotion of innovation and competitiveness and investment in R&D.

CCHR ensure professionally specific training and education that is recognised as necessary for the development and competitiveness of an individual sector or business. An important advantage of CCHR implementation is that enterprises design their education and training content and are flexible in choosing education courses providers. A total of 600 enterprises via more than 50,000 inclusions in training programmes cooperated in the implementation of CCHR, designed as networks of enterprises, in the 2014–2020 period (327 enterprises were supported within the 2019–2022 tender, 22,352 inclusions in various training programmes designed to strengthen the competitiveness of Slovenian enterprises by developing key competences are planned). Competence centres will serve the upgrade of the knowledge and skills of employees, developing competency models, strengthening business networking

36 Digital competences are of key importance for education, work and active participation in the digital society. The EC has in cooperation with member states prepared the Digital Competence Framework for Citizens DigComp 2.1. and constantly updated), which contains 21 competences in the following areas: information literacy, communication and cooperation, preparation of digital content, security and problem solving.

and exchanging best practices in HR development, with a special emphasis on the development of knowledge in smart specialisation with the purpose of supporting enterprises in the digital transformation and transition to Industry 4.0.

6.5. Internationalisation

The purpose of internationalisation is to promote greater openness for the international environment. Fast progress demands constant adaptation, increasing of effectiveness, reducing costs and searching for new opportunities in the domestic and foreign markets. Internationalisation is necessary for the survival of enterprises, especially SMEs. The preparation of the Programme for the promotion of investments and Slovenian business internationalisation is in progress. The programme sets three strategic areas in the centre: sustainability, innovation and digitalisation. The measures will aim to mitigate the consequences of the COVID-19 pandemic and to work in the direction of a dynamic, resilient and competitive Slovenia. The main objectives of the programme are to diversify exports, increase the number of exporters (SMEs), gain positioning in global value chains, reduce the backlog of incoming foreign direct investment behind other EU countries, effect target orientation and improve the efficiency of the ecosystem.

Internationalisation in research, development and innovation is also important. Therefore, it is necessary to:

- Speed up the inclusion in European and global development and research as well as technological projects, initiatives and programmes (e.g. Horizon, Eureka, European Space Agency, European Defence Agency, CERN, FAIR, CTA, Life+ programmes),
- Promote cooperation with different European and international institutions (e.g. European Institute of Technology - EIT/ Knowledge and Innovation Communities - KICs, Biobased industry Joint Undertaking - BBI JU),
- Strengthen cooperation with the current and new networks of the support environment and other stakeholders abroad (e.g. European Enterprise Network – EEN, EU DIH network),
- Identify and monitor technological achievements/trends in the European and global market, and transfer from and to Slovenia best practices which encompass international economic events, the Innovation Radar Network, a network of economic representatives abroad, international network in CCS and entrepreneurship, such as European Creative Business Network (ECBN), Creative Business Network and others.

The option to carry out pilot and demonstration projects in internationalisation will be studied with the purpose of exporting knowledge and services in foreign markets and diversifying the Slovenian economy faster. A feasibility study will be carried out in the first phase (whether an individual product/service is appropriate for an individual foreign market); if the study proves feasibility, the enterprise can be included in the selection of the pilot and demonstration project in an individual foreign market in the second phase.

7. GUIDELINES FOR CONNECTED GREEN, CREATIVE AND SMART DEVELOPMENT

As indicated in section 2.4, the scope of measures for the implementation of SIS has been greatly standardised. But it is of key importance for individual measures to have proper guidance and to support green, creative and smart development in the execution phase. Examples of measures include research, development and innovation, which are the main drivers of economic growth, but where and how they are guided to support the desired direction of development is important. The tools of economic policy for achieving goals are material and non-material initiatives. Those that direct consumption and thus determine market behaviour that is based on responsible demand are also crucial. A review of the implementation of SIS 2021–2030 guidelines will be monitored by the MGRT as the responsible line ministry every two years.

GUIDELINES by individual sets of measures	Responsible line ministries	Evaluation of financial assets[37] 2021–2030
1. Research, development and innovation (RDI): 1.1. Increasing the share for RDI to 3% of GDP, of which the public part will be 1%. 1.2. Preservation of 100-percent tax relief for investments in RDI. 1.3. Connecting the entire development cycle from TRL-1 to TRL-9. – Harmonised consecutive financing of projects from early development phases to launch. 1.4. Development and strengthening of research infrastructure. 1.5. Introducing the system of research equipment use that encompasses the supplementation of the introduced list of available research equipment and the introduction of networking between equipment users and owners. Promoting open innovation. 1.6. Accelerating the transfer of technology and knowledge for fast commercialisation of results and development. 1.7. Strengthening the number of (young) researchers in the economy and supporting researchers at the start of their careers. 1.8. Considering circular and digital by design concepts – inclusion of this demand in public tenders.	MGRT, MIZŠ, SVRK	EUR 4 billion (including tax relief for RDI and return resources)

37 Evaluation of financial assets based on the needs and envisaged sources from the Multiannual Financial Framework (Cohesion Policy 2021–2027), Recovery and Resilience Facility, Climate Change Fund and the budget of the RS.

GUIDELINES by individual sets of measures	Responsible line ministries	Evaluation of financial assets[37] 2021–2030
1.9. Strengthening RDI in new and alternative as well as naturally renewable materials, products, services and technologies, by considering the modern approach (life cycle analysis LCA, digital twins etc.). 1.10. Development of modern technologies and products in accordance with the guidelines of the new Resolution on the National Research and Development Programme and Slovenian Smart Specialisation Strategy (priority investments in niche areas with the greatest potential for growth and breakthrough to international markets).		
2. Demonstration and pilot projects 2.1. Support for pilot and demonstration projects (e.g. for production of synthetic methane and hydrogen) and demonstration centres, contributing to green, creative and smart transition, which will enable the promotion of solutions and knowledge. 2.2. Demonstration and pilot projects in internationalisation, the purpose of which is to export knowledge and services to foreign markets and to speed up the diversification of the Slovenian economy. 2.3. Introduction of pilot examples of cascaded use of wood and naturally renewable materials for closing material flows and improving the use of waste: return logistics, sorting, monitoring flows, etc. 2.4. Demonstration and pilot projects in energy intensive industry for introducing new low-carbon technologies for improving energy and material efficiency, maintaining competitiveness and preventing carbon leakage. 2.5. Demonstration and pilot projects for promoting the replacement of fossil raw materials (biorefineries that will support the development of bio-based materials on the basis of biomass).	MGRT, MIZŠ, MOP, MZI, MJU	EUR 250 million
3. Inclusion in international research and development as well as innovation projects and programmes 3.1. Accelerating the inclusion in European and global research and development as well as innovation projects, initiatives and programmes, international research infrastructure. 3.2. Promoting cooperation with various European and international institutions and supporting environment networks. 3.3. Identifying and monitoring technological achievements/trends in the European and global market, transfer of best practices.	MGRT, MIZŠ	EUR 30 million

GUIDELINES by individual sets of measures	Responsible line ministries	Evaluation of financial assets[37] 2021–2030
4. Networking and cooperation in research, development and innovation 4.1. Upgrading strategic development and innovation partnerships (SDIP) and introduction of new technologies and best practices in various fields, speeding up the cooperation and development of stakeholders by individual areas. 4.2. Speeding up other forms of cooperation of business entities with research and development institutions and other stakeholders. 4.3. Introduction of a platform for accelerating cooperation of existing and new stakeholders of the quadruple helix within S4 by introducing or upgrading infrastructural, research and development as well as content conditions for an innovation support environment. 4.4. Accelerating development partnerships for strengthening digital products, services and business models.	MGRT, MIZŠ, SVRK, MJU	EUR 25 million
5. Support environment for enterprises 5.1. Introducing a connective, inclusive and complementary platform ecosystem that will be built from entities and programmes in the fundamental areas of society (economy, academic, scientific and research sphere, public sector, local communities and the wider society). 5.2. Strengthening the support environment for a circular economy and digitalisation, including support for developing a digital economy by creating new value chains, product innovation, innovation of solutions and new business models. 5.3. Further development and upgrade of services of supporting entities, especially in the direction of green, creative and smart development.	MGRT, MJU	EUR 50 million
6. Promotion of entrepreneurship and innovation 6.1. Promotion of innovation and entrepreneurial culture as a positive value (e.g. via public media, cooperation at events, business meetings and fairs with regard to entrepreneurship, craft and innovation, selection and upgrade of the best Slovenian innovations, etc.). 6.2. Comprehensive promotion and awarding of creativity, entrepreneurship and innovation (CEI). 6.3. Promotion of strategic development and innovation partnerships and smart specialisation (promotion of development breakthroughs that are the result of introducing smart specialisation). 6.4. Promotion of entrepreneurship in special target groups. 6.5. Promotion and opening of new market paths in the domestic and foreign markets. 6.6. Strengthening of brands, including the positioning of Slovenia as a green, creative and smart country (green.creative.smart ambassadors).	MGRT	EUR 10 million

GUIDELINES by individual sets of measures	Responsible line ministries	Evaluation of financial assets[37] 2021–2030
7. Promotion of start-ups and enterprises with rapid growth potential 7.1. Promotion of the foundation of new innovative enterprises (start-ups) and fast growing (scale-up) enterprises. Special emphasis will be given to starting circular and digital enterprises. 7.2. Promotion of connection of enterprises with mentorship systems and business mentors. 7.3. Promotion of connection of start-ups with "mature" enterprises.	MGRT	EUR 40 million
8. Support for the growth, development and preservation of enterprises, especially SME 8.1. Strengthening debt financing sources (subsidising interest rates, micro loans, micro warranties, loans and mezzanine loans, guarantees, etc.). 8.2. Strengthening ownership financing sources (strengthening and effectively managing seed and risk capital) and developing new modern forms of financing. 8.3. Introducing small value initiatives (e.g. vouchers) for special content that supports green, creative and smart development. 8.4. Accelerating the digital and circular transformation of enterprises: encouraging the introduction of modern digital technologies into operations of enterprises, creating new products, services and business models and creating development partnerships for these purposes. 8.5. Initiatives for strengthening the wood processing sector. 8.6. Improving energy efficiency in enterprises, also including the introduction of energy management, introducing the ISO 50001 system and other important standards and certificates in environment and energy.	MGRT, MOP, MZI, MJU	EUR 150 million + repayable funds
9. Non-technological innovation and business models 9.1. Support for non-technological innovation and innovative business models (process and organisation innovation, new business management solutions, new business models and innovative methods of enterprise internationalisation on the basis of joint investments of knowledge, technologies and capital). 9.2. Development and restoration of business models and process improvements for speeding up the transition to a circular and digital economy, also by using modern technologies (optimising business flows, optimising material flows and their usage, line automation, sharing ...). 9.3. Support for design management and connecting cultural and creative sectors and enterprises.	MGRT	EUR 60 million

GUIDELINES by individual sets of measures	Responsible line ministries	Evaluation of financial assets[37] 2021–2030
10. Promotion of investments 10.1. Promotion of strategically important initial investments of domestic and foreign investors. 10.2. Support for investment for introducing Industry 4.0 and a low-carbon circular economy. 10.3. Green procurement in investments.	MGRT	EUR 300 million
11. Internationalisation 11.1. Promotion of internationalisation in accordance with the Programme for the promotion of investments and Slovenian business internationalisation. 11.2. Enabling and enhancing internationalisation via digitalisation. 11.3. Promoting joint performance of enterprises in value chains in the global market.	MGRT, MZZ	EUR 100 million
12. Strengthening competences, training, requalification, adaptation to demographic change 12.1. Development of platforms to strengthen the competences of employees and management staff in all branches of industry and in the circular and digital transformation of the economy in general. 12.2. Strengthening the competences necessary for green, creative and smart development, considering global trends.	MGRT, MDDSZ, MIZŠ	EUR 30 million
13. Infrastructure 13.1. Development of necessary infrastructure that enables the development of green, creative and smart industry (modern fixed and mobile connections, 5G, blockchain, development of facilities to enhance material and energy efficiency and use, open standardised data platforms, e-identity, infrastructure for e-business among companies, etc.). 13.2. Connecting industry in local energy communities and utilising waste heat. 13.3. Investing in infrastructure to enhance self-supply with regard to waste management. 13.4. Support for energy self-supply industries.	MGRT, MOP, MZI, MJU	EUR 300 million

GUIDELINES by individual sets of measures	Responsible line ministries	Evaluation of financial assets[37] 2021–2030
14. Legislation and business environment 14.1. Promotion of sustainable production and consumption; raising the awareness of the public regarding the positive effects of using natural renewable resources. 14.2. Creating a stimulating economic environment (clear, consistent and feasible legislation, fast procedures for acquiring permits, encouraging a fiscal framework, etc.) for investment in a low-carbon circular economy. 14.3. Creating and strengthening markets for secondary materials and accelerating industrial symbiosis. 14.4. Green or circular public procurement to support the use of natural/renewable resources (e.g. supporting wood construction through green public procurement). 14.5. Promoting standardisation (active inclusion in co-designing and supporting the use of international standards), use of international certificates and intellectual property protection. 14.6. Introduction of a normative environment, comparable at the European level, to establish spin-offs.	All line ministries	-

REVIEW OF FUNDS OF THE MGRT FROM 2020 TO 2022

The envisaged integral funds for the 2020–2022 period for the implementation of measures through the MGRT account for more than EUR 91 million, which is supplemented with repayable funds measures. Other ministries also contribute to the implementation of individual measures (MIZŠ, MOP, MJU, MZI) from their budget funds.

We will especially promote RDI, investments, entrepreneurship and the circular economy through European cohesion funds in the 2020–2022 period, and will earmark more than EUR 265 million from OP ECP 2014–2020. A very important segment of initiatives are repayable funds as loans, guarantees and capital inputs.

In the 2021–2027 period, we will provide funds for measures under the Recovery and Resilience Fund in the planned amount of EUR 427 million and from the Multiannual Financial Framework (around EUR 450 million) as well as the Just Transition Fund (approx. EUR 235 million). All these EU funds have not been confirmed by the EC; therefore the final value is still unknown.

There is a risk that not all activities will be implemented on a scale that would ensure achievement of the set goals, if sufficient incentives from the state are not ensured. Most measures are based on the envisaged funds from the MGRT; however, they are tied to the multiannual funds, plans and programmes of the ECP. Individual or additional funds from other ecosystem stakeholders (especially private ones) are not included in those envisaged funds.

The funds envisaged for the implementation of measures (national budget - realisation 2020, adopted 2021 and 2022, OP ECP – realisation 2020, rights of use 2021, 2022)

	FUNDS 2020 (IN EUR)	FUNDS 2021 (IN EUR)	FUNDS 2022 (IN EUR)	SOURCE
Research, development and innovation (RDI)	20,512,122	21,352,629	15,049,437	ECP
Demonstration and pilot projects	23,969,999	23,369,594	15,221,773	ECP
Inclusion in international research and development as well as innovation projects and programmes	9,810,346	13,152,217	11,725,663	ECP and Integral
Networking and cooperation in research, development and innovation	1,947,220	3,922,838	3,453,106	ECP and Integral
Supporting environment for enterprises	11,165,308	12,289,594	12,019,780	ECP and Integral
Promotion of entrepreneurship and innovation	323,191	270,000	270,000	Integral
Promotion of start-ups and enterprises with rapid growth potential	1,980,559	2,160,000	2,160,000	ECP
Support to growth, development and preservation of enterprises, especially SME	28,421,058	26,498,677	4,582,939	ECP
Non-technological innovation and business models	3,638,858	3,081,470	4,066,820	ECP
Promotion of investments	7,803,120	12,325,891	15,000,000	Integral
Internationalisation	14,965,086	17,813,082	14,413,600	ECP and Integral
Strengthening competences, training, requalification, adaptation to demographic change	36,210	550,000	553,346	Integral
TOTAL	**124,573,077**	**136,785,992**	**98,516,464**	

8. REVIEW OF CONTRIBUTIONS BY INDIVIDUAL SETS OF MEASURES TO INDIVIDUAL GOALS

A review of the contributions of individual sets of measures has been made on the basis of the table in section 6 and on the basis of individual goals under section 1.3.

KEY selected goals 2030 Sets of measures	Labour productivity (the goal in 2030 is EUR 66 thousand added value per employee)	Export (goal in 2030, EUR 29.8 billion)	GREEN Resource productivity (goal in 2030, 3.50 SKM/kg)	Creative Innovation index and rise on scale EII among leading innovators (goal in 2030, 110% in EU)	Smart DESI Index (goal in 2030, 60 points, 10th place)
INVESTMENTS IN RESEARCH AND TECHNOLOGICAL DEVELOPMENT					
1. Research, development and innovation (RDI): Tax relief for R&D and financial incentives with an emphasis on projects that express the option for speedy commercialisation of innovation in the form of new products, services or patents (TRL 6-9).	✕	✕	✕	✕	✕
2. Demonstration and pilot projects RDI: Incentives for supporting the most promising projects that contribute to the development of new technologies with an emphasis on green and digital.	✕	✕	✕	✕	✕
3. Inclusion in international research and development as well as innovation projects and programmes: promotion of design and inclusion in international research and development as well as innovation projects and programmes with the aim to break through to foreign markets.	✕	✕		✕	

KEY selected goals 2030 Sets of measures	Labour productivity (the goal in 2030 is EUR 66 thousand added value per employee)	Export (goal in 2030, EUR 29.8 billion)	GREEN Resource productivity (goal in 2030, 3.50 SKM/kg)	Creative Innovation index and rise on scale EII among leading innovators (goal in 2030, 110% in EU)	Smart DESI Index (goal in 2030, 60 points, 10th place)
4. Networking and cooperation in research, development and innovation: managing and connecting established networks of innovation ecosystem stakeholders in Slovenia with certain measurable success parameters (new products, new patents, new international cooperation).	✕	✕		✕	
PROMOTING ENTREPRENEURSHIP					
5. Supporting environment for enterprises: measures for promoting start- and scale-ups, access to key information in one place, measures for digital transformation, measures for developing new business models.	✕		✕		✕
6. Promotion of entrepreneurship and innovation: communication campaigns, support for conferences, meetings and exhibitions, award programmes for entrepreneurship and innovation, entrepreneurship ambassadors.	✕		✕	✕	✕
7. Promotion of start-ups and enterprises with rapid growth potential: initiatives for new enterprises, mentorship schemes, connection.	✕	✕		✕	✕
8. Support for growth, development and preservation of enterprises, especially SME: beneficial debt financing (loans, guarantees, interest rates), seed and risk capital, initiatives for wood processing sector and energy transformation.	✕	✕	✕	✕	✕

KEY selected goals 2030 Sets of measures	Labour productivity (the goal in 2030 is EUR 66 thousand added value per employee)	Export (goal in 2030, EUR 29.8 billion)	GREEN Resource productivity (goal in 2030, 3.50 SKM/kg)	Creative Innovation index and rise on scale EII among leading innovators (goal in 2030, 110% in EU)	Smart DESI Index (goal in 2030, 60 points, 10th place)
9. Non-technological innovation and business models: support in introducing alternative business models (digital operations, sustainable operations ...), new internationalisation methods, automation of production processes.	✕	✕	✕	✕	✕
PROMOTION OF INVESTMENTS AND INTERNATIONALISATION					
10. Promotion of investments: initiatives for strategic investments and investments with greater added value growth potential and an emphasis on green and digital.	✕	✕	✕	✕	
11. Internationalisation: performances in foreign markets, establishing representative offices, strengthening delegations, promotion of joint performance of enterprises in foreign markets.	✕	✕			✕
INVESTMENTS IN HUMAN RESOURCES					
12. Strengthening competences and training: supporting models for predicting competences and strengthening knowledge and education needs for professions of the future with an emphasis on green, creative and smart development.	✕	✕	✕	✕	✕
BUSINESS ENVIRONMENT					
13. Infrastructure: support to the construction of 5G, e-services, local energy communities.	✕	✕	✕	✕	✕
14. Legislation and business environment: stability and predictability, normative regulation comparable at the European level.	✕		✕		

9. CONCLUSION

The Industrial Strategy sets the guidelines for the economy's transition to a green, creative and smart economy and thus to an increase in competitiveness. During the preparation of this strategy, the world has been facing the coronavirus pandemic, thus making the challenge even greater than ever before. The biggest challenge of this moment is most certainly an economic, social and general recovery of countries. All this demands changes in the way of thinking and functioning in all areas. Thinking outside the box has become a necessity. Without a structural restoration of the European and Slovenian economy in the direction of a sustainable, inclusive and regionally balanced development, this will not be possible. We need to catch the wave of the fourth industrial revolution. Slovenia has the opportunity to use available European funds to ensure the needed investments in research and development, innovation, digitalisation, education and training for various professions of the future. The priority in the investment of European funds is to ensure the long-term competitiveness of the Slovenian economy.

The new 2021–2031 strategy determines the goals for the developmental break-through of Slovenian industry and the path to achieving those goals. The goal of the Industrial Strategy to 2030 is to achieve EUR 66,000 added value per employee, to transition to a circular economy and to strengthen the innovation drive of enterprises. Many measures that will focus on strengthening green, creative and smart development and help enterprises to change their business processes and reinforce their long-term position in the global market will be available for the implementation of the strategy in the coming years. This strategy aims to integrate into the wider context of the EU Industrial Strategy, which highlights the joint commitment of the EU, its member states and regions, industry, SMEs and other interested parties to a renewed partnership. Europe will be able to exploit industrial transformation in the direction of a green and digital transition, and at the same time increase the strategic autonomy of the economy.

The Think Small First principle has been in place in the EU for many years, meaning that when adopting laws, we first need to think about the micro enterprises that do not have enough resources to adapt to change. This Industrial Strategy aims to introduce the Think Green, Creative and Smart First principle, meaning that we want every measure, every development of a new product, service or business model, start-up of a new enterprise, new investments to initially think about how and in what way we can contribute to green, creative and smart development. In this way, we will strengthen our position and the international competitiveness of our industry and ensure that it remains a vital part of the Slovenian economy.

LIST OF MOST COMMONLY USED ABBREVIATIONS

ARRS	Slovenian Research Agency
BAT	Best available technologies
GDP	Gross Domestic Product
GAV	Gross Added Value
CCS	Carbon Capture and Storage
CCU	Carbon Capture and Utilisation
CEE – 4	Group of 4 central European countries – Czech Republic, Hungary, Poland, Slovakia
DESI index	The Digital Economy and Society Index (DESI)
DMC	Domestic Material Consumption
AV	Added value
EBITDA	Earnings before interest, taxes, depreciation, and amortisation
EII	Energy Intensive Industry
EC	European Commission
ETS	Emission trading system
EU	European Union
EGD	European Green Deal
GZS	Chamber of Commerce and Industry of Slovenia
ICT	Information and communication technologies
IoT	Internet of Things
PRO	Public research organisations
DMCC	Design Management Competence Centre
CI	Creative industries
CCS	Cultural and creative sector
LCA	Life cycle assessment
LULUCF	Land Use Land Use Change and Forestry

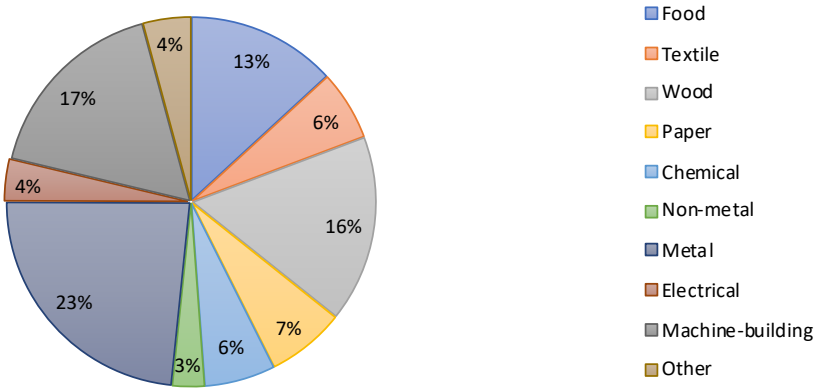
MDDSZ	Ministry of Labour, Family, Social Affairs and Equal Opportunities
MF	Ministry of Finance
MGRT	Ministry of Economic Development and Technology
MIZŠ	Ministry of Education, Science and Sport
MJU	Ministry of Public Administration
MOP	Ministry of the Environment and Spatial Planning
SME	Small and medium enterprises
MZI	Ministry of Infrastructure
NECP	National Energy Climate Plan
NGO	Non-governmental organisations
RRA	Research and developmental activity
RDI	Research, development and innovation
R&D	Research and development
S4	Slovenian Smart Specialisation Strategy
SID	Slovenska izvozna in razvojna banka d.d.
SIO	Innovative Environment Subjects
SIP	Slovenian Industrial Policy
SIS	Slovenian Industrial Strategy
PPS	Purchasing Power Standard
SPIRIT	Public Agency of the Republic of Slovenia for the Promotion of Entrepreneurship, Internationalisation, Foreign Investments and Technology
SPOT	Network of Slovenian business points
SPS	Slovenian Enterprise Fund
SRIP	Strategic development and innovation partnership
SRSS	Slovenian Regional Development Fund
SDS 2030	Slovenian Development Strategy 2030
SURS	Statistical Office of the Republic of Slovenia
SVRK	Government Office of the Republic of Slovenia for Development and European Cohesion Policy
GHG	Greenhouse gases
TRL	Technology Readiness Level
CEI	Creativity, entrepreneurship and innovation

Appendix 1: Processing activities in Slovenia in 2008–2018

Number of entities

In 2018, there were 19,705 active enterprises in processing activities (legal entities or enterprises, natural persons or sole proprietors and sole proprietors with normalised expenses, which have recorded revenue or labour costs). In the past decade, the number of enterprises increased by 1.3% per year and by 1.7% in the past five years. Compared to 2008, in 2018, the increase in the number of enterprises in processing activities was the largest in food (1,513 employees), machine-building (517 employees), wood (459 employees) and metal industry (295 employees). The number of enterprises dropped in textile, paper, chemical, electrical and non-metal industry (from 282 in textile to 18 in non-metal industry). In 2018, most enterprises were active in metal industry (23% of all), followed by machine-building (17%), wood (16%) and food industry (13%).

Share of enterprises in processing activities in 2018

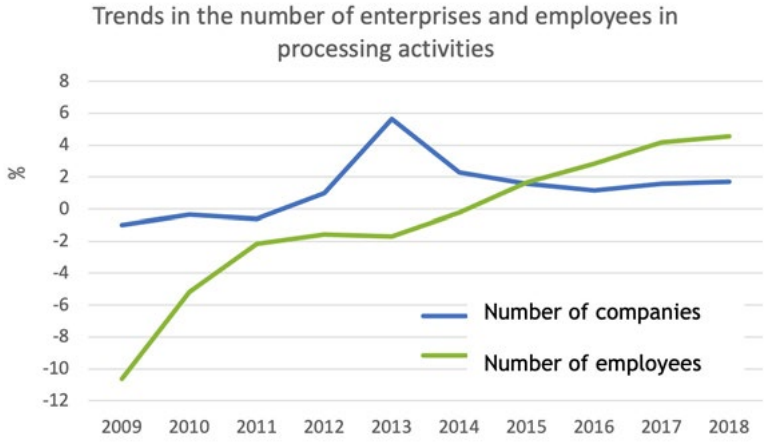


Source: SURS, structural statistics of enterprises, Analitika GZS

Methodology description

The operations of processing activities is the analysis on the basis of data on operations of business entities by Ajpes (annual financial statements of enterprises, public services, sole proprietors, associations, cooperatives, etc.) as well as data from the tax return for the prepayment of income tax on income from activity, added value tax and corporate income tax, collected by FURS.

Food industry: C10 Manufacture of food and C11 Manufacture of beverages; **textile industry:** C13 Manufacture of textiles, C14 Manufacture of clothes, C15 Manufacture of leather and leather products; **wood industry:** C16 Processing and reprocessing of wood, C31 Manufacture of furniture; **paper industry:** C17 Manufacture of paper and paper products; C18 Printing and reproduction of recorded media; **chemical industry:** C19 Manufacture of coke and oil derivatives, C20 Manufacture of chemicals, C21 Manufacture of pharmaceutical raw materials, C22 Manufacture of rubber and plastic products; **non-metal mineral products:** C23; **metal industry:** C24 Manufacture of metals, C25 Manufacture of metal products; **electrical industry:** C26 Manufacture of computers, electronic and optic products, C27 Manufacture of electrical devices; **machine-building industry:** C28 Manufacture of other machinery and devices, C29 Manufacture of motor vehicles, C30 Manufacture of other vehicles and vessels, C33 Repairs and installation of machinery and devices; **other activities:** C32 other processing activities.

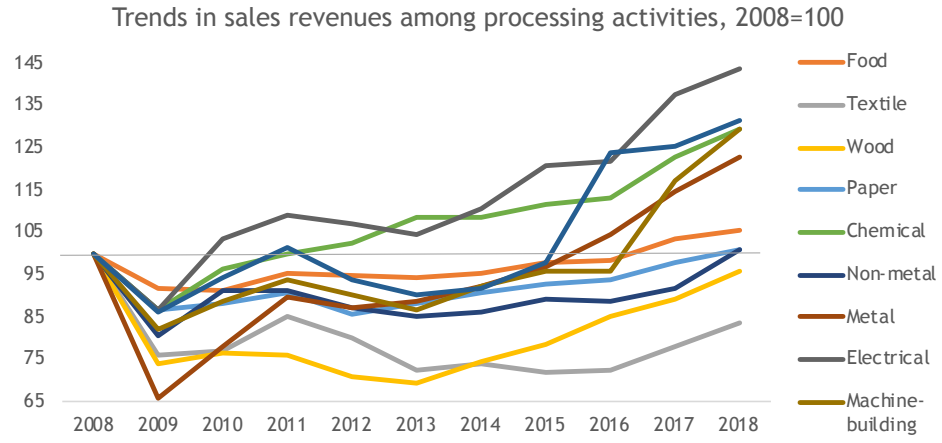


Source: SURS, structural statistics of enterprises, Analitika GZS

Sales revenue in processing activities

Business entities in processing activities in 2018 generated EUR 31.3 billion sales revenue on the basis of the sales value of products or merchandise sold and charged to buyers as well as material and implemented services. In 2018, processing activities generated EUR 5.4 billion more revenue than in 2008, or they nominally grew by 21%. In the last eleven years, processing activities in average generated EUR 25.4 billion sales revenue, due to conjuncture and greater integration in international flows in the past five years, the average sales revenue was EUR 27.4 billion.

In the past ten years (2018/2008), revenue in processing activities mostly increased in machine-building (EUR 1.6 billion), chemical (EUR 1.3 billion), electrical (EUR 1.3 billion) and metal industry (EUR 1.2 billion). Textile and wood industry in 2018 did not reach the 2008 level due to bankruptcies of many enterprises as well as due to restructuring (reduction of manufacture in existing enterprises). The crisis in 2009 affected most sectors in processing activities, but most industries exceeded the level of the year before the crisis.

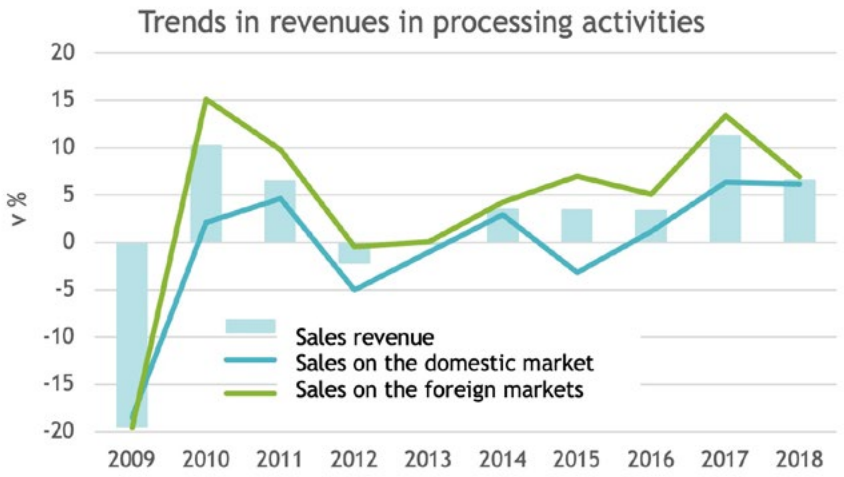


Source: SURS, structural statistics of enterprises, Analitika GZS

In the past five years (2014–2018), revenue in processing activities increased on average by 5.6% per year. Within processing activities, the highest increases were recorded in machine-building industry (by 8.3% per year), other processing activities (by 7.8% per year), wood and metal and electrical industry (6.7% or 6.6% per year respectively).

Sales revenue	Value 2018 EUR mio	Ø Value 2008–2018, EUR mio	Diff. in value 2018–2008, EUR mio	Change in % 2018–2008	Ø Value 2014–2018, EUR mio	CAGR[38] in the 2014–2018 period
PROC. ACT. TOTAL	**31,279**	**25,360**	**5,450**	**21.1%**	**27,446**	**5.6%**
Food	2,384	2,196	125	5.5%	2,263	2.2%
Textile	895	846	-173	-16.2%	812	2.9 %
Wood	1,415	1,191	-58	-3.9%	1,247	6.8%
Paper	1,297	1,188	10	0.8%	1,226	2.7%
Chemical	6,048	5,010	1,375	29.4%	5,473	3.6%
Non-metal	1,014	907	9	0.9%	919	3.4%
Metal	6,431	4,951	1,198	22.9%	5,559	6.7%
Electrical	4,387	3,454	1,337	43.8%	3,870	6.6%
Machine-building	6,995	5,275	1,583	29.3%	5,739	8.3%
Other	484	380	115	31.3%	420	7.8%

Source: SURS, structural statistics of enterprises, Analitika GZS



Source: SURS, structural statistics of enterprises, Analitika GZS

Sales in the domestic market

Sales in processing activities in the domestic market in the past ten-year period mostly increased in the past two years (2017 and 2018). It was higher due to higher consumption among the population and enterprises. Net sales revenue drastically dropped in 2009, while two cycles of a reduction in sales in the domestic market in 2012–2013 and in 2015 followed. Sales revenue in the domestic market in 2018 amounted to EUR 9.4 billion and dropped in

38 Average annual growth (geometrical average).

the past ten years by an average of 0.7% per year. In the past eleven years, processing activities created an average of EUR 8.6 billion sales revenue in the domestic market. In 2018, compared to 2008, processing activities recorded EUR 682 million less in sales revenue in the domestic market, which accounts for a 6.8% drop.

In the past ten years (2018/2008), revenue in the domestic market decreased only in the machine-building industry (EUR 27u million), in other processing activities (EUR 16 million) and metal industry (EUR 44,000). All other activities in sales in the domestic market have not yet reached the level recorded in 2008. The largest shortfalls were recorded in non-metal industry (EUR 244 million), textile (EUR 188 million) and food industry (EUR 124 million).

In the past five-year period (2014–2018), revenue in the domestic market increased by an average of 2.6% per year. Revenue in the domestic market in processing activities on average mostly grew in wood industry (5.9% per year), electrical and metal industry (3.9 and 3.8% per year), paper (3.6% per year) and chemical industry (3% per year).

Revenue in the domestic market	Value 2018, EUR mio	Ø Value 2008–2018, EUR mio	Diff. in value 2018–2008, EUR mio	Change in % 2018–2008	Ø Value 2014–2018, EUR mio	CAGR[39] in the 2014–2018 period
PROC. ACT. TOTAL	**9,364**	**8,639**	**-682**	**-6.8%**	**8,628**	**2.6%**
Food	1,638	1,630	-124	-7.0%	1,620	0.1%
Textile	212	238	-188	-46.9%	203	1.5%
Wood	754	650	-14	-1.9%	668	5.9%
Paper	585	534	-73	-11.1%	514	3.6%
Chemical	1,271	1,166	-35	-2.7%	1,164	3.0 %
Non-metal	403	434	-244	-37.7%	370	1.2%
Metal	2,223	1,913	0	0.0%	1,993	3.8%
Electrical	829	764	-48	-5.4%	772	3.9%
Machine-building	1,311	1,185	27	2.1%	1,201	1.4%
Other	138	123	16	13.3%	122	3.3%

Source: SURS, structural statistics of enterprises, Analitika GZS

Sales in the foreign market

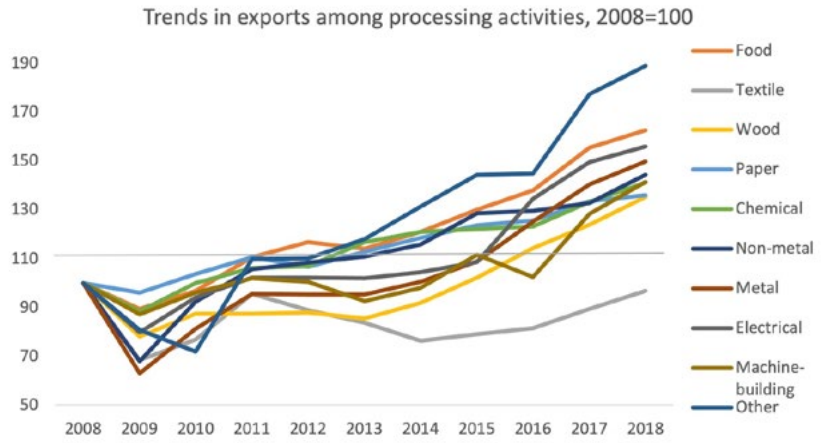
After the start of the crisis in 2009 and a drastic drop in domestic demand as well as exports, processing activities quickly made up for the losses in exports. In 2018, processing activities recorded EUR 21.7 billion export and by 43.8% or EUR 6.6 billion exceeded the exports recorded in 2008.

In the past ten years (2018/2008), exports mostly increased under processing activities, i.e. in machine-building, metal, chemical, electrical and non-metal industry. Only the textile industry in 2018 did not manage to reach the levels of exports from 2008. In the past five years (2014–2018), exports in processing activities increased by an average of 7.3% per year. Among processing activities, exports on average mostly grew in other processing activities

39 Average annual growth (geometrical average).

(by 9.9% per year), wood (9.6% per year) and metal industry (by 9.4% per year) as well as electrical and machine-building industry (8.9% and 8.8% per year).

Source: SURS, structural statistics of enterprises, Analitika GZS



Within the processing sectors in 2018, the major exporters were in the machine-building industry, which generated EUR 5.5 billion in exports or 25% of the exports in the entire processing sector, followed by the chemical industry with EUR 4.8 billion, metal with EUR 4.3 billion and electrical industry with EUR 3.5 billion in exports. The latter exports 83% of the total exports in the processing sector.

Revenue in foreign market	2018 EUR mio	Ø 2008–2018, EUR mio	2018–2008, EUR mio	Change in % 2018–2008	Ø 2014–2018, EUR mio	CAGR[40] in the 2014–2018 period)
PROC. ACT. TOTAL	**21,764**	**16,406**	**6,634**	**43.8%**	**18,627**	**7.3%**
Food	630	470	243	62.7%	548	7.4%
Textile	661	581	-21	-3.1%	578	2.9%
Wood	777	571	203	35.3%	652	9.6 %
Paper	743	629	197	36.1%	696	3.8%
Chemical	4,762	3,861	1,391	41.3%	4,322	3.9 %
Non-metal	589	459	181	44.4%	532	5.4%
Metal	4,293	3,010	1,427	49.8%	3,582	9.4%
Electrical	3,525	2,534	1,266	56.0%	2,953	8.9%
Machine-building	5,479	4,089	1,603	41.4%	4,512	8.8%
Other	304	201	143	89.1%	253	9.9%

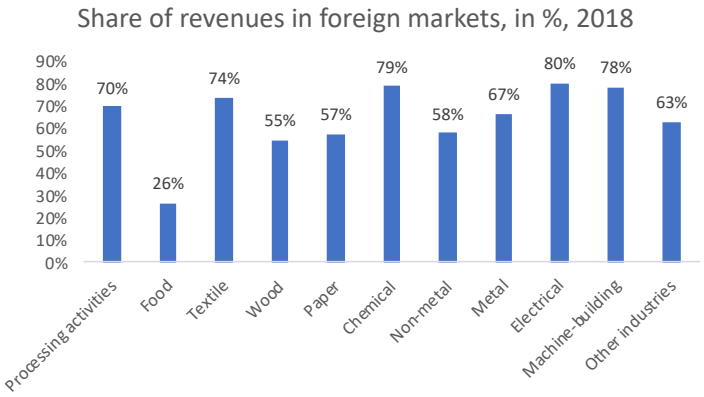
Source: SURS, structural statistics of enterprises, Analitika GZS

Enterprises in processing activities in 2018 achieved a 70-percent share of revenue in foreign ~~markets in sales~~ revenue in processing activities. By more active collaboration and searching

40 Average annual growth (geometrical average).

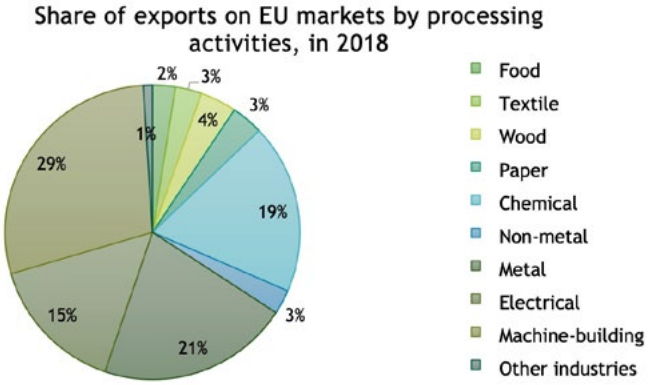
out new markets for processing activity, the share of exports in revenue increased by 59% in 2008. In 2018, the electrical industry was most **export oriented** (it generated an 80-percent share in exports), followed by chemical (79%), machine-building (78%) and textile industry (74%).

Source: SURS, structural statistics of enterprises, Analitika GZS



Sales in foreign EU markets (where we include only the data of enterprises and sole proprietors, which otherwise present the majority of exports) are the most important for processing activities, as 80% of total exports or EUR 17.2 billion exports of goods and services was generated in this market. The EU export market was most important for the machine-building industry, as among processing activities in 2018 in the EU, the latter exported 29% of total EU exports, followed by metal (21%), chemical (19%), electrical industry (15% or EUR 4.9 billion of export), while the paper, textile and food industries in the EU export 3.5–2.5% of total exports in processing activities in the EU.

Source: SURS, structural statistics of enterprises, Analitika GZS



Sales revenue in the EU market in the past ten years increased by an average of 4.5% per year. In 2008, sales revenue in EU markets accounted for EUR 11.1 billion (exports to Croatia were

not included) and in 2009 they dropped to EUR 9 billion. In 2011, they exceeded the level of the pre-crisis year, then exports to those markets were accelerated due to the favourable economies of the EU. In the past five years, processing activities in EU markets created an average of EUR 14.6 billion in sales revenue. In the past five years (2018/2014), revenue in the EU market in processing activities increased by an average of 8.5% per year, relatively the most in the food industry (13.6% per year), which is among the least export-oriented industries in processing activities. In terms of growth in the past five years, the aforementioned industries are followed by wood (11.8% per year in average), electrical, machine-building and metal industry (10% per year).

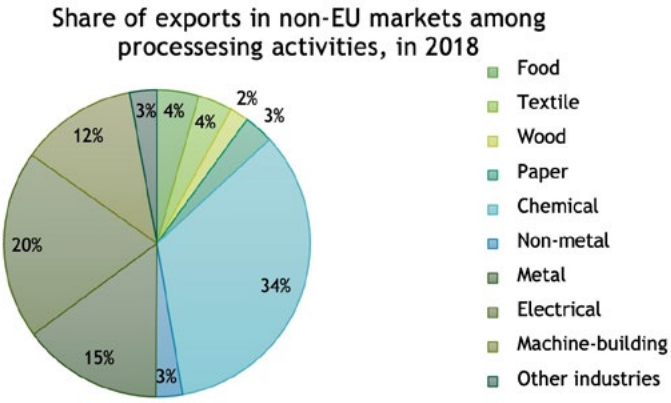
Net sales revenue in non-EU markets (where we only consider data for enterprises and sole proprietors) is less relevant for processing activities than the EU markets, but exports to those markets have been strengthening. In 2018, processing activities exported 20% of total exports to non-EU markets, which accounted for EUR 1.5 billion of exports of goods and services. The largest exporters to non-EU markets in 2018 were in the chemical industry, achieving EUR 1.5 billiion in exports or 34% of the exports of the total processing sector outside the EU, followed by electrical (20%), metal (15%) and machine-building industry (12%). In the past five-year period (2014–2018), revenue from exports to non-EU markets in processing activities increased by an average of 3.1% per year. Among the processing activities, exports to non-EU markets on average mostly increased in other processing activities (14% per year), textile (9% per year), metal (8.7% per year), electrical industry (5.4% per year), and dropped in the paper, wood and food industry (from 3 in wood to 1.5% per year in the food industry).

Revenue in foreign market	2018 EUR mio EU market	Ø 2004–2018, EUR mio EU market	Ø Change In %/year (2014–2018) EU market	2018 EUR mio Non-EU markets	Ø 2004–2018, EUR mio Non-EU markets	CAGR[41] in the 2014–2018 period
PROC. ACT. TOTAL	**17,239**	**14,595**	**8.5%**	**4,526**	**4,031**	**3.1%**
Food	431	358	13.6%	199	189	-1.4%
Textile	498	456	1.3%	164	122	9.0%
Wood	687	563	11.8%	90	89	-1.9%
Paper	601	542	5.9%	142	154	-2.9%
Chemical	3,216	2,896	5.5%	1,547	1,427	0.9%
Non-metal	462	409	6.3%	127	123	2.5%
Metal	3,625	3,047	9.6%	668	535	8.7%
Electrical	2,625	2,172	10.2%	901	781	5.4%
Machine-building	4,920	4,000	9.8%	559	512	2.1%
Other	174	153	7.3%	130	100	14.0%

Source: SURS, structural statistics of enterprises, Analitika GZS

Source: SURS, structural statistics of enterprises, Analitika GZS

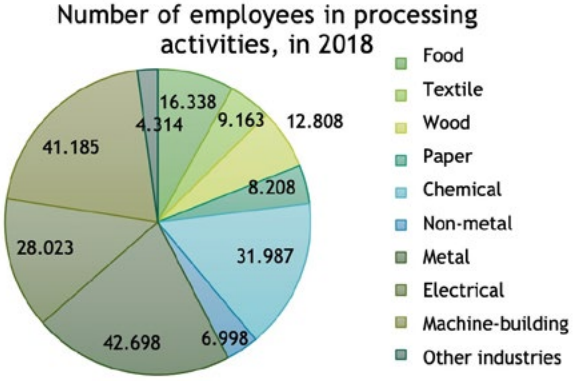
41 Average annual growth (geometrical average).



Number of employees

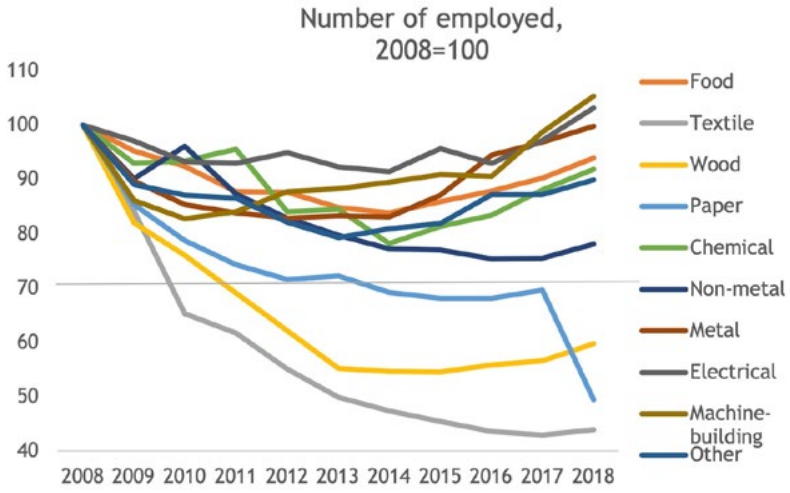
In 2018, processing activities employed 202,000 people, who worked for employers (legal entities, sole proprietors and other registered natural persons), who received salaries and were included in mandatory social insurance based on employment contracts, which accounts for 20,000 people or 8.9% fewer than in 2008. In this period, the number of employees mostly grew in chemical (+5,081 employees), machine-building (+2,066 employees, especially in repairs and installation of machinery and devices) and electrical industry (+847 employees), there was a reduction especially in textile (-11,731 employees), wood (-9,219 employees) and paper industry (-3,337 employees). There was an average of 189,708 employees in the past eleven years (2008–2018) and 187,546 employees in the past five years (2014–2018). In the past five years, the number of employees increased by 2.6% per year, mostly in chemical, metal and machine-building industry, the largest drop was recorded in paper, textile and non-metal industry.

Source: SURS, structural statistics of enterprises, Analitika GZS



Number of employees	Value 2018 EUR mio	Ø Value 2008–2018, EUR mio	Diff. in value 2018–2008, EUR mio	Change in % 2018–2008	Ø Value 2014–2018, EUR mio	CAGR[42] in the 2014–2018 period
PROC. ACT. TOTAL	**201,896**	**189,724**	**-19,586**	**-8.8%**	**187,581**	**2.6 %**
Food	16,247	15,565	-1,054	-6.1%	15,288	2.1%
Textile	9,166	12,142	-11,728	-56.1%	9,325	-2.5%
Wood	13,169	14,536	-8,858	-40.2%	12,398	1.6%
Paper	5,705	8,467	-5,840	-50.6%	7,495	-7.3%
Chemical	24,712	23,804	-2,194	-8.2%	22,752	1.7%
Non-metal	6,967	7,459	-1,958	-21.9%	6,840	-0.4%
Metal	42,712	38,378	-79	-0.2%	39,496	3.7%
Electrical	28,024	25,965	848	3.1%	26,115	2.2%
Machine-building	41,193	35,704	2,074	5.3%	37,161	3.6%
Other	4,315	4,149	-484	-10.1%	4,099	2.6%

Source: SURS, structural statistics of enterprises, Analitika GZS



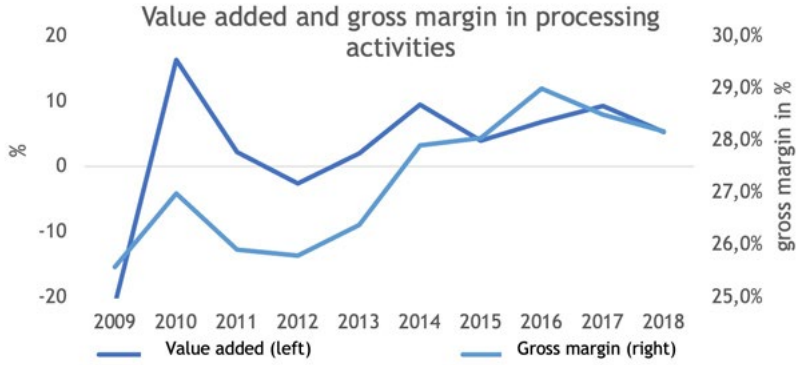
Source: SURS, structural statistics of enterprises, Analitika GZS

Added value and gross margin

In costs of factors, added value is calculated as gross income from business activities after adjustments for subsidies for operations and indirect taxes. Generated added value that represents the difference between sales revenue and some other operating revenue (gross operating return) and costs of goods, materials and services as well as other operating expenses,

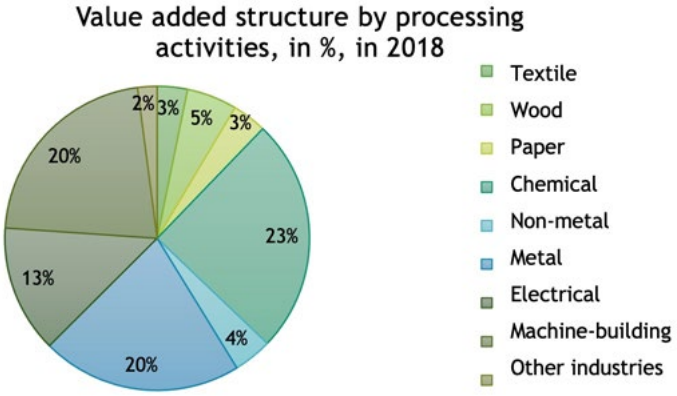
42 Average annual growth (geometrical average).

amounted to EUR 8.8 billion in 2018 in processing activities or EUR 2.1 billion (30.7%) more than in 2008. Added value in processing activities in the past eleven years on average amounted to EUR 6.9 billion per year. The largest drop in added value in processing activities was recorded in 2009, an average increase of 2.7 percent was recorded in the past ten years per year.



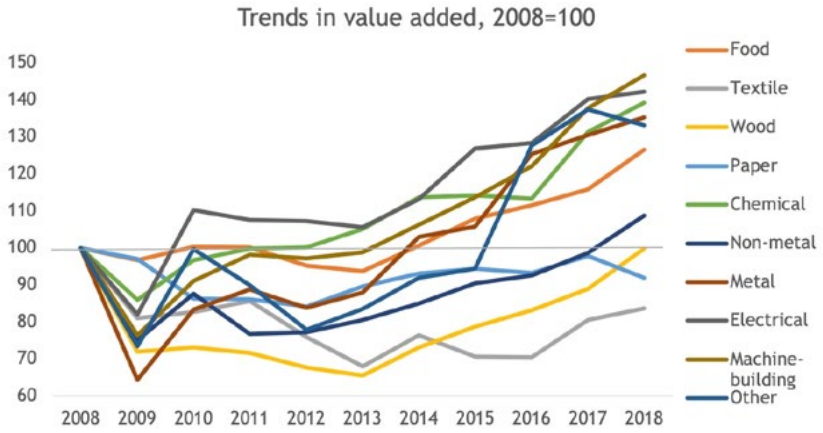
Source: SURS, structural statistics of enterprises, Analitika GZS

In terms of the structure of added value of all processing activities in 2018, most added value was created by chemical industry (23% share), followed by machine-building (20.4%), metal (19.8%), food (6.7%) and wood industry (5%).



Source: SURS, structural statistics of enterprises, Analitika GZS

In the past ten years (2018/2008), added value in processing activities mostly increased in machine-building and chemical industry (EUR 598 billion), metal (EUR 456 million), electrical (EUR 330 million) and food industry (EUR 124 million). Textile, paper and wood industry in 2018 did not reach the added value level from 2008.



Source: SURS, structural statistics of enterprises, Analitika GZS

In the past five years (2014–2018), added value in processing activities on average grew by 7% per year and recorded EUR 7.8 billion added value on average. Added value in processing activities mostly increased in other processing activities (9.8% per year), by 9% in metal industry, 8.7% in wood and 8.2% per year in machine-building industry.

Added value [43]	Value 2018 EUR mio	Ø Value 2008–2018, EUR mio	Diff. in value 2018–2008, EUR mio	Change in % 2018–2008	Ø Value 2014–2018, EUR mio	CAGR[44] in the 2014–2018 period
PROC. ACT. TOTAL	**8,812**	**6,901**	**2,068**	**30.7%**	**7,775**	**7.0 %**
Food	593	490	124	26.5%	527	6.2%
Textile	263	250	-51	-16.3%	240	4.3 %
Wood	439	350	-1	-0.3%	373	8.8%
Paper	300	301	-26	-8.1%	307	0.5 %
Chemical	2,022	1,583	570	39.2%	1,776	5.8%
Non-metal	337	274	27	8.6%	294	6.2 %
Metal	1,748	1,301	456	35.3%	1,550	9.0 %
Electrical	1,115	901	330	42.1%	1,021	6.1%
Machine-building	1,795	1,322	570	46.5%	1,534	8.2 %
Other	170	129	42	33.1%	149	9.8%

Source: SURS, structural statistics of enterprises, Analitika GZS

Gross margin (share of added value in revenue) has in the past five years fluctuated between 28 and 29%, which means that there was no qualitative progress made at the level of sold products and services, but the increase in added value was mostly connected to a greater manufactured quantity of products or services. Compared to 2008, the gross margin in 2018 was 2.1 percentage points higher. In that time, the largest increase in gross margin was re-

43 Added value in mio of euros.

44 Average annual growth (geometrical average).

corded in food, machine-building and chemical industry as well as in metal and non-metal industry, while it dropped in textile and paper industry.

Among all processing sectors in 2018, the highest gross margin was recorded in other processing activities (35%), followed by chemical industry (34%), non-metal (33%) and wood industry (29%), while the lowest was recorded in paper and food industry (25%).

Gross margin[45] in %	Value 2018 in %	Ø 2018–2018	Ø 2014–2018	Difference 2018–2008	CAGR[46] in the 2014–2018 period
PROC. ACT. TOTAL	**28.2%**	**27.1%**	**28.3%**	**2.1 p.p.**	**1.3%**
Food	24.9%	22.3%	23.3%	4.1 p.p.	3.9%
Textile	29.4%	29.6%	29.6%	0.0 p.p.	1.3%
Wood	31.0%	29.3%	29.9%	1.1 p.p.	1.9%
Paper	23.1%	25.3%	25.1%	-2.2 p.p.	-2.1%
Chemical	33.4%	31.5%	32.4%	2.4 p.p.	2.1%
Non-metal	33.2%	30.1%	32.0%	2.4 p.p.	2.7%
Metal	27.2%	26.1%	27.9%	2.5 p.p.	2.1%
Electrical	25.4%	26.1%	26.4%	-0.3 p.p.	-0.4%
Machine-building	25.7%	25.0%	26.8%	3.0 p.p.	-0.1%
Other	35.2%	33.6%	35.4%	0.5 p.p.	1.8%

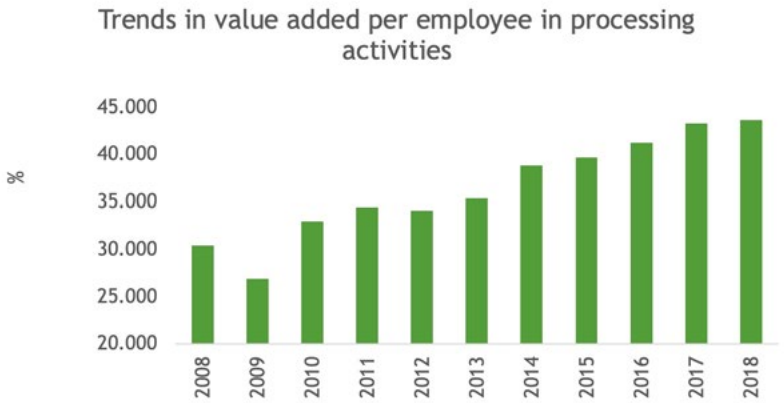
Source: SURS, structural statistics of enterprises, Analitika GZS

Added value per employee

Added value per employee in 2018 in processing activities amounted to EUR 44,000 or 43% more than in 2008. Added value in processing activities per employee in the past eleven years on average amounted to EUR 36,000 per year. The largest drop in added value per employee in processing activities was recorded in 2009 (-12%), an average increase of 3.7 percent was recorded in the past ten years per year.

45 Gross margin is the calculation added value in revenue.

46 Average annual growth (geometrical average).



Source: SURS, structural statistics of enterprises, Analitika GZS

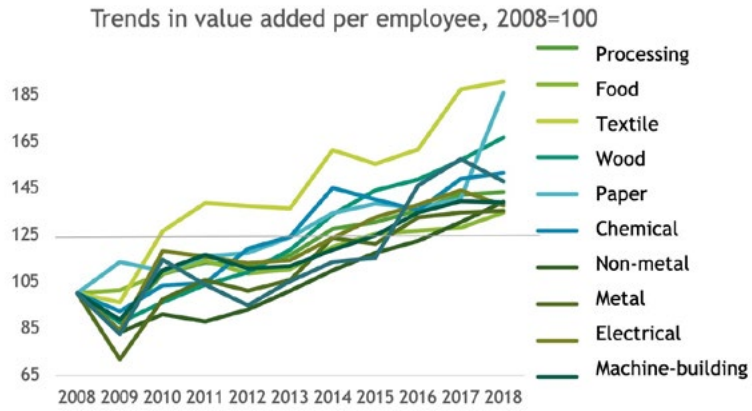
Added value per employee[47]	Value 2018, EUR	Ø Value 2008–2018, in EUR million	Change in % 2018–2008	Ø Value 2014–2018, in EUR million	CAGR[48] in the 2014–2018 period
PROC. ACT. TOTAL	**43,645**	**36,464**	**43.3%**	**41,364**	**4.3%**
Food	36,521	31,515	34.7%	34,454	4.0%
Textile	28,731	21,802	90.7%	25,810	6.9%
Wood	33,347	24,818	66.8%	30,006	7.1%
Paper	52,595	36,426	85.9%	41,636	8.4%
Chemical	81,840	67,032	51.6%	77,954	4.0%
Non-metal	48,323	37,119	39.2%	43,026	6.6%
Metal	40,920	33,750	35.5%	39,120	5.1%
Electrical	39,803	34,701	37.8%	39,061	3.8%
Machine-building	43,571	36,860	39.1%	41,144	4.5%
Other	39,434	31,045	48.0%	36,272	7.0%

Source: SURS, structural statistics of enterprises, Analitika GZS

In the past ten years (2018/2008), added value per employee in processing activities mostly increased in wood and textile industry (EUR 14,000), non-metal (EUR 13,000), other processing activities (EUR 13,000) and machine-building industry (EUR 12,000).

47 Added value per employee is the calculation ofadded value i in costs of factors with regard to the number of employees.

48 Average annual growth (geometrical average).

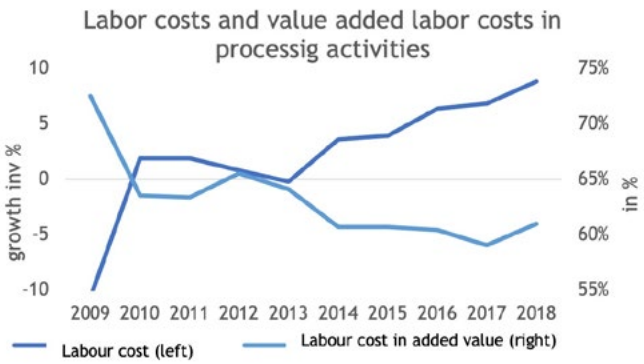


Source: SURS, structural statistics of enterprises, Analitika GZS

In the past five years (2014–2018), added value per employee in processing activities on average grew by 4.3% per year and recorded EUR 41,371 added value per employee. In the past five years, added value per employee was highest in chemical (EUR 61,000), non-metal (EUR 43,000), paper (EUR 38,000) and machine-building industry (EUR 41,000). The largest increase was achieved in wood industry (7.6% per year), other processing activities (7% per year), textile (6.9% per year) and non-metal industry (6.5% per year). The lowest added value in the past five years was recorded in textile (EUR 26,000) and wood industry (EUR 30,000).

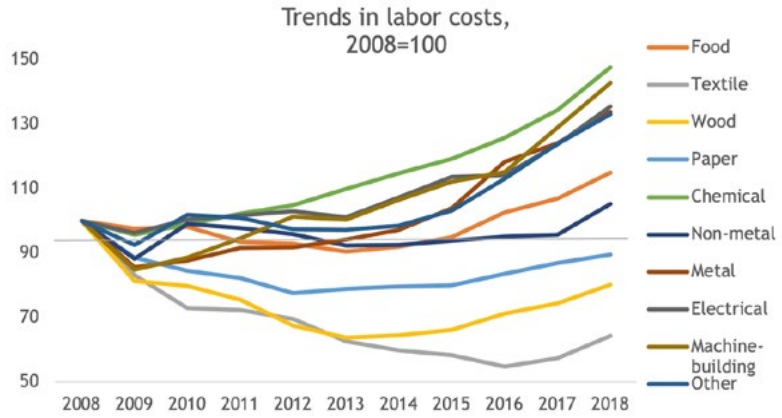
Labour costs in added value

Labour costs, which in most enterprises represent the highest expense among operating expenses, amounted in 2018 in processing activities to EUR 5.4 billion and increased eight times in the past five years, with the exception of 2009 and 2013. Labour costs in 2018 compared to 2008 increased by 24.4%. In the past eleven years, processing activities on average recorded EUR 4.3 billion labour costs, in the last five years labour costs due to greater pressure on salary growth on average amounted to EUR 4.7 billion.



Source: SURS, structural statistics of enterprises, Analitika GZS

In processing activities in the past ten years (2018/2008) labour costs despite the drop in the number of employees increased in chemical (EUR 349 million) and machine-building industry (EUR 346 million), which was mostly affected by new employment, and in metal industry EUR 280 million) due to a rise in wages. In textile, wood and paper industry, labour costs in 2018 were lower than in 2008 because the number of employees in these sectors more than halved, so that labour costs dropped between 10 and 35%.



Source: SURS, structural statistics of enterprises, Analitika GZS

In the past five-year period (2014–2018), labour costs in processing activities on average increased by 5.9% per year. Labour costs in processing activities mostly increased in metal and machine-building industry (7.3% per year), by 6.5% per year in other processing activities, 6.1% per year in chemical industry and 6% per year in electrical industry.

Labour costs	Value 2018, EUR mio	Ø Value 2008–2018, EUR mio	Diff. in value 2018–2008, EUR mio	Change in % 2018–2008	Ø Value 2014–2018, EUR mio	CAGR[49] in the 2014–2018 period
PROC. ACT. TOTAL	**5,376**	**4,333**	**1,056**	**5.9%**	**4,693**	**5.9%**
Food	364	312	48	4.9 %	324	4.9 %
Textile	180	192	-100	0.5%	165	0.5 %
Wood	271	253	-67	4.7%	241	4.7%
Paper	200	189	-24	2.5%	188	2.5%
Chemical	1,079	832	349	6.1 %	938	6.1 %
Non-metal	186	170	9	2.6%	171	2.6%
Metal	1,106	847	280	7.3%	954	7.3%
Electrical	741	594	194	6.0%	650	6.0%

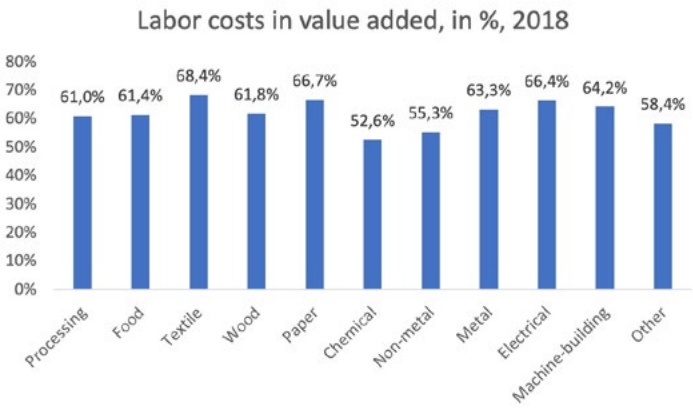
49 Average annual growth (geometrical average).

Labour costs	Value 2018, EUR mio	Ø Value 2008–2018, EUR mio	Diff. in value 2018–2008, EUR mio	Change in % 2018–2008	Ø Value 2014–2018, EUR mio	CAGR[49] in the 2014–2018 period
Machine-building	1,153	863	346	7.3%	978	7.3%
Other	99	79	25	6.5%	85	6.5%

Source: SURS, structural statistics of enterprises, Analitika GZS

The share of labour costs in added value tells us what share of added value remains after labour force payments for the capital owner for development, investment, costs of financing, taxes, payment or retention of profit. The share of labour costs in added value in processing activities is above 60 percent because many sectors are labour intensive with lower generated added value. In processing activities, labour costs in added value gradually dropped from 2013 to 2017, i.e. from 64.1% to 59.1%, in 2018 they increased because labour costs increased by more than the amount of the added value increase. The highest labour costs in added value were recorded in processing activities in 2009 (72.6%) because labour costs dropped by half the amount of the drop in added value due to the financial and economic crisis. In the past eleven years, labour costs in added value on average amounted to 63%, in 2008–2013 they averaged 66%, while in the next five years (2014–2018) they reached 60%.

In processing activities, the highest labour costs in added value in 2018 were recorded in textile (68.4%) and paper industry (66.7%), which are labour intensive sectors and generate lower added value per employee. They are followed by electrical (66.4%), machine-building (64.2%), metal (63.3%), wood and food industry (61%).



Source: SURS, structural statistics of enterprises, Analitika GZS

In the past ten years (2018/2008), labour costs in added value in processing activities dropped by 3 p. p., as processing activities, despite 20,000 fewer employees, generated higher added value (by 31%) along with higher labour costs (24%). In that period, labour costs in added value mostly dropped in textile and wood industry (by 21 and 15 p. p.) as well as in food industry (by 6 p. p.) and grew in chemical industry (by 2.3 p. p.). In the past five years, la-

bour costs in added value mostly dropped in non-metal and wood industry (6.9 and 6 p. p.), in which labour-intensive sectors generated products with higher added value. This is followed by non-metal processing activities, in which labour costs dropped by 4.2 p. p., and machine-building industry.

Labour costs in AV	Value 2018 in %	Ø 2018–2018	Ø 2014–2018	Change in p. p. 2018–2008	Change in in p. p. 2014–2018
PROC. ACT. TOTAL	**61.0%**	**63.2%**	**60.4%**	**-3.0 p.p.**	**0.3 p.p.**
Food	61.4%	63.9%	61.4%	-6.1 p.p.	-0.4 p.p.
Textile	68.4%	76.6%	68.9%	-20.7 p.p.	-1.3 p.p.
Wood	61.8%	73.1%	64.9%	-15.0 p.p.	-6.0 p.p.
Paper	66.7%	63.0%	61.1%	-1.8 p.p.	8.1 p.p.
Chemical	52.6%	52.6%	52.7%	2.3 p.p.	1.8 p.p.
Non-metal	55.3%	62.6%	58.2%	-1.7 p.p.	-6.9 p.p.
Metal	63.3%	66.2%	61.5%	-0.7 p.p.	2.9 p.p.
Electrical	66.4%	66.6%	63.6%	-3.2 p.p.	0.4 p.p.
Machine-building	64.2%	65.7%	63.9%	-1.7 p.p.	-1.9 p.p.
Other	58.4%	62.5%	57.8%	0.1 p.p.	-4.2 p.p.

Source: SURS, structural statistics of enterprises, Analitika GZS

Gross operating surplus (EBITDA) and margin of gross operating surplus

Gross operating surplus is surplus from operating activities after the payment of input labour factors. It can be calculated from added value in costs of factors by deducting labour costs from that value. The gross operating surplus in processing activities in 2018 exceeded EUR 3.4 billion, exceeding the level from 2008 by EUR 1 billion or 41.8%. The gross operating surplus has been constantly rising for the past six years; while in the past ten years processing activities on average recorded a 3.6-percent increase per year, in the past five years, annual growth reached 8.8%.

In the past eleven years, processing activities on average generated a EUR 2.6 billion gross operating surplus and EUR 3.1 billion in the past five years. In the past ten years (2018/2008), the gross operating surplus in processing activities mostly increased in machine-building and chemical industry (EUR 224 and 221 million), metal (EUR 176 million) and electrical industry (EUR 136 million). Only the paper industry has not reached the level of gross operating surplus from 2008.

Source: SURS, structural statistics of enterprises, Analitika GZS

In the past five-year period, (2014–2018) the gross operating surplus among processing activities every year on average mostly increased in wood and textile industry (by 18 and 17% per year), other processing activities (by 16% per year), metal and non-metal (12 and 11% per year) and machine-building industry (by 10% per year). Among all processing branches in 2018, the most gross operating surplus was created in chemical industry (27% of total processing branch), followed by metal and machine-building (19%), electrical (11%), food (7%) and wood industry (5%).

Gross operating surplus (EBITDA)	Value 2018 EUR mio	Ø Value 2008–2018, EUR mio	Diff. in value 2018–2008, EUR mio	Change in % 2018–2008	Ø Value 2014–2018, EUR mio	CAGR[50] in the 2014–2018 period
PROC. ACT. TOTAL	**3,436**	**2,568**	**1,013**	**41.8%**	**3,082**	**8.8%**
Food	229	177	77	50.3%	203	8.4%
Textile	83	58	49	142.4%	75	16.7%
Wood	168	96	66	64.4%	132	18.2%
Paper	100	111	-3	-2.8%	119	-2.9%
Chemical	944	751	221	30.6%	839	5.5%
Non-metal	151	104	18	13.2%	124	11.8%
Metal	642	454	176	37.7%	596	12.3%
Electrical	375	307	136	56.9%	372	6.4%
Machine-building	642	459	224	53.7%	555	10.0%
Other	71	50	18	32.9%	64	15.6%

Source: SURS, structural statistics of enterprises, Analitika GZS

The gross operating surplus margin calculated as the ratio between the gross operating surplus and sales revenue (calculated in %) shows how much gross operating surplus is realised

50 Average annual growth (geometrical average).

in the sector per monetary unit of sales revenue, shown in %. In 2018 it amounted to 11% in processing activities and was lower than in 2017 (11.7%). It increased from 2004 to 2017 and amounted to an average of 11.2% in the last five years. The highest operating surplus margin in 2018 was recorded in chemical (15.6%) and non-metal industry (14.9%), other processing activities (14.6%), while a lower margin was reported in electrical (8.5%), machine-building, textile and food industry (9%).

Gross operating surplus margin[51], in %	Value 2018, in %	Ø 2008–2018, in %	Ø 2014–2018	Change in 2018–2008	CAGR[52] in the 2014–2018 period
PROC. ACT. TOTAL	**11.0%**	**10.0%**	**11.2%**	**1.6 p.p.**	**3.0%**
Food	9.6%	8.0%	9.0%	2.9 p.p.	6.0%
Textile	9.3%	6.9%	9.2%	6.1 p.p.	13.5%
Wood	11.9%	7.9%	10.5%	4.9 p.p.	10.7%
Paper	7.7%	9.4%	9.8%	-0.3 p.p.	-5.5%
Chemical	15.6%	14.9%	15.3%	0.1 p.p.	1.8%
Non-metal	14.9%	11.4%	13.4%	1.6 p.p.	8.1%
Metal	10.0%	8.9%	10.7%	1.1 p.p.	5.3%
Electrical	8.5%	8.7%	9.6%	0.7 p.p.	-0.2%
Machine-building	9.2%	8.6%	9.7%	1.5 p.p.	1.5%
Other	14.6%	12.8%	15.0%	0.2 p.p.	7.2%

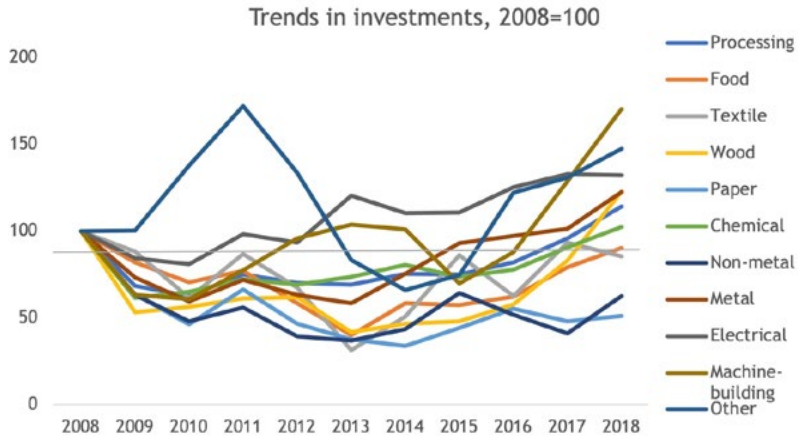
Source: SURS, structural statistics of enterprises, Analitika GZS

Investments

Business entities earmarked less than EUR 2 billion in 2018 for investment in tangible fixed assets or 14% more than in 2008. Gross investments in tangible fixed assets comprise all investments in new and existing tangible fixed assets (buildings, machinery, patents, licences, etc.) with a useful life of longer than one year, including non-produced tangible fixed assets such as land. Investment in tangible fixed assets has been strengthening from their nadir in 2015 (EUR 1.3 billion) or historical nadir in 2010 (EUR 1.1 billion). In the past eleven years (2008–2018), enterprises on average earmarked EUR 1.4 billion per year for investment in tangible fixed assets. The last two business years (2017 and 2018) were very intensive with regard to investments, which is connected to a high utilisation of capacities in processing activities and to growth of available income. Low-cost financial resources impact the increase in investment but are not decisive in regard to their strengthening as the share of own funds in investment is increasing.

51 EBITDA margin is the calculation of operating surplus in revenue.

52 Average annual growth (geometrical average).



Source: SURS, structural statistics of enterprises, Analitika GZS

Among all processing sectors in 2018, most gross investments in tangible fixed assets were earmarked in machine-building industry (24% in total processing activities), followed by chemical (22%), metal (21%) and electrical industry (10%), the least investments are earmarked in textile industry, other processing activities and paper industry (below 2%).

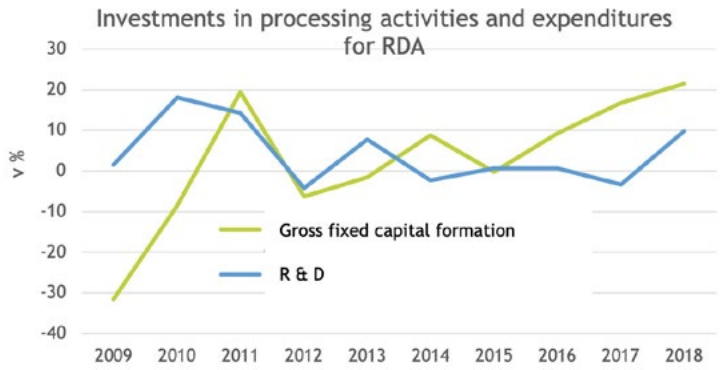
When measures in sales revenue, processing activities earmarked for gross investments in tangible fixed assets in 2018 6.3% of annual sales, which was more than in the 11-year business cycle (5.5%). The largest share of investments in sales in 2018 was achieved by wood industry (9.5% in 2018, 6.0% in 11-year average), followed by chemical (7.3% in 2018, 6.7% in 11-year period), machine-building (6.7% in 2018, 4.9% in 11-year period) and non-metal (6.7% in 2018, 6.6% in 11-year period) and metal industry (above 6% in 2018, 5.8% in 11-year period).

Gross investments in tangible fixed assets	Investments 2018, EUR mio	Ø Investment 2008–2018, EUR mio	Change in % 2018–2008	Change in %/year 2014–2018	Investments in sales 2018	CAGR[53] in the 2014–2018 period
PROC. ACT. TOTAL	**1,975**	**244**	**14.1%**	**10.6%**	**6.3%**	**5.5%**
Food	118	-13	-9.8%	17.7%	4.9%	4.0%
Textile	38	-7	-14.8%	22.2%	4.3%	4.2%
Wood	134	25	22.8%	24.1%	9.5%	6.1%
Paper	60	-58	-49.1%	6.2%	4.7%	4.5%
Chemical	437	10	2.3%	6.9%	7.3%	6.7%
Non-metal	68	-41	-37.7%	11.2%	6.7%	6.2%
Metal	424	77	22.3%	16.0%	6.6%	6.1%
Electrical	204	49	32.1%	1.9%	4.6%	4.9%

53 Average annual growth (geometrical average).

Gross investments in tangible fixed assets	Invest-ments 2018, EUR mio	Ø In-vestment 2008–2018, EUR mio	Change in % 2018–2008	Change in %/year 2014–2018	Invest-ments in sales 2018	CAGR[53] in the 2014–2018 period
Machine-building	469	194	70.4%	10.4%	6.7%	5.2%
Other	24	8	47.5%	12.1%	5.0%	4.1%

Source: SURS, structural statistics of enterprises, Analitika GZS



Source: SURS, Analitika GZS calculations

Gross domestic expenditure for RDA (BIRR) includes internal **expenditure for RDA,** carried out in the territory of the Republic of Slovenia. Expenditure for RDA, carried out by the providers of RDA in the business sector, in processing activities in 2018 amounted to EUR 488 million in 2018 or EUR 159 million more than in 2008 (49%). In the past eleven years, expenditure for RDA in the business sector accounted for EUR 429 million, in the past five years for EUR 461 million.

Most expenditure was earmarked for RDA in 2018 in the chemical industry (EUR 212 million), followed by electrical industry (EUR 129 million), machine-building industry (EUR 80 million) and metal industry (EUR 20 million). In the past ten years (2018–2008), expenditure for RDA was most increased in the chemical and electrical industry (by EUR 53 million), followed by machine-building (EUR 22 million) and food industry (EUR 6 million).

RDA in business sector[54]	Value 2018 EUR mio	Ø Value 2008–2018, EUR mio	Diff. in value 2018–2008, EUR mio	Change in % 2018–2008	Ø Value 2014–2018, EUR mio	CAGR[55] in the 2014–2018 period
PROC. ACT. TOTAL	**488.6**	**428.5**	**159.3**	**48.4%**	**461.3**	**1.0%**
Food	7.6	4.7	6.2	444.8%	6.8	3.5%
Textile	7.0	6.4	2.6	57.4%	6.3	-2.6%
Wood	4.2	3.4	2.7	180.1%	3.9	10.7%
Paper	4.4	3.1	1.6	58.4%	3.0	14.6%
Chemical	204.5	191.9	45.6	28.7%	205.3	1.5%
Non-metal	4.1	5.9	-0.1	-2.5%	6.4	-22.2%
Metal	20.1	28.5	0.1	0.7%	24.5	-13.3%
Electrical	128.8	108.8	53.3	70.7%	127.3	0.3%
Machine-building	79.4	69.0	21.5	37.0%	68.0	2.4 %
Other	4.6	5.1	1.9	69.5%	5.7	4.8%

Source: SURS, structural statistics of enterprises, Analitika GZS

54 Internal expenditure for RDA in the business sector, by processing activities, some data are estimated due to confidentiality for 2017–2018.

55 Average annual growth (geometrical average).

Appendix 2: Processing activities in Slovenia, EU-27 and group of comparable central European countries (CEE-4) in 2008––2017

Processing activities in Slovenia in 2017 recorded a higher **gross margin** than the median in EU-27 countries and the median in the CEE-4 (SLO 28.5%, EUR 23.8%, CEE-4 22%). The largest deviation of Slovenia's gross margin compared to EU states is recorded in chemical (8.8 p. p.), food (3 p. p.) and wood industry (2.8 p. p.), where Slovenia recorded the highest gross margin. Compared to the CEE-4 countries, the largest deviations were recorded in the Slovenian chemical (10.1 p. p.), electrical (8.2 p. p.) and machine-building industry (6.4 p. p.).

The share of gross investment in tangible fixed assets compared to revenue was slightly higher in Slovenia than in the CEE-4 countries and higher than in the EU-27 countries (SLO 5.6%, EU 4.2%, CEE-4 5.2%). Wood, machine-building and textile industry mostly contributed to a higher Slovenian share of investment in revenue compared to the EU-27. Compared to the CEE-4 countries, deviations in the share of investment in revenue are lower. Higher shares are recorded in the Slovenian wood, electrical and chemical industry, while they lag behind the CEE-4 in paper industry and other processing activities.

Slovenia thus created the highest **added value per employee** (EUR 44.3 thousand) than the median in the CEE-4 countries (EUR 33,000 thousand) and slightly lower than the median of the EUR-27 (EUR 43.7 thousand). As per generated added value per employee and compared with other EU-27 countries, Slovenia gained the most and is further ahead among other processing activities, i.e. in other processing activities (by EUR 14,000), textile (by EUR 3,000), food (EUR 3,000) and wood industry (by EUR 2,000 added value per employee). On the other hand, Slovenia is mostly behind the EU-27 (median) in chemical (EUR 8,000), electrical (EUR 3,000) and paper industry (EUR 2,000). Compared to the CEE-4 countries, Slovenia gained the most in generated added value per employee, especially in chemical industry (by EUR 20,000) and other processing activities (by more than EUR 19,000), as well as in textile, wood, metal and non-metal industry (between EUR 12 and 14 thousand). Measured by added value per employee, Slovenia recorded a higher added value than comparable sectors in the CEE-4 (media).

Slovenia's deviation[56] by sectors of processing activities compared to the indicator median in the group of central European countries (CEE-4), 2017

Key groups of processing activities	Gross margin in p. p.	Investment/ revenue in p. p.	EBITDA margin in p. p.	Labour costs in AV in p. p.	AV/employee	Revenue/ employee
PROC. ACT. TOTAL	**6.5**	**0.5**	**0.9**	**7.7**	**10,839**	**281**
Food	4.5	-0.8	-0.1	7.4	9,520	19,632
Textile	0.3	0.4	1.6	-5.1	13,932	45,400
Wood	4.8	1.4	0.9	4.2	12,692	26,859
Paper	-1.6	-4.2	-3.5	12.5	4,677	26,011
Chemical	10.1	0.7	3.8	10.5	20,364	-25,364
Non-metal	3.0	-1.8	-1.0	4.8	11,711	26,965
Metal	2.5	0.4	-0.4	5.9	12,137	34,206
Electrical	8.2	0.8	2.8	3.1	10,477	-22,085
Machine-building	6.4	0.2	0.1	8.3	6,296	-31,765
Other	5.2	-2.7	4.0	-7.4	19,347	36,315

Source: Eurostat, structural statistics of enterprises, Analitizka GZS calculations

Processing activities in Slovenia in 2017 recorded higher labour costs in added value (59.1%) than the median value in the EU-27 countries (56.8%) or the median value in the CEE-4 (51.3%). Slovenia's deviation from the CEE-4 was largest in paper and chemical industry, where labour costs in added value in Slovenia were higher by more than 10 percentage points, as well as in machine-building, food and metal industry (by more than 6 percentage points). Only in textile industry and other processing activities were labour costs in added value lower in Slovenia than in the CEE-4. Compared to the EU-27 countries, labour costs in added value was higher only in food, chemical and paper industry, while it was lower in other sectors.

Processing activities in Slovenia in 2017 recorded significantly lower revenue per employee than in the EU-27 and slightly higher than in the CEE-4 (SLO EUR 152,000, EU-28 EUR 190,000, CEE-4 EUR 152,000). Compared to the EU-27, revenue per employee in Slovenia mostly lagged behind in chemical (by EUR 57,009), electrical (by EUR 46,000), machine-building (EUR 32,000) and non-metal industry (EUR 23,000). Only in other processing activities were revenues per employee in Slovenia higher than in the EU-27. Compared to the CEE-4, revenue per employee in processing activities mostly lagged behind in machine-building and chemical industry (EUR 31,000 or 25,000). By revenue per employee, Slovenia was mostly ahead of the CEE-4 in textile (EUR 45,000), other processing (EUR 36,000) and metal industry (EUR 34,000).

56 The amount by which the indicator value in Slovenia is higher than the indicator median in the central European countries CEE-4.

Slovenia's deviation[57] by sectors of processing activities compared to the indicator median for the EU-27, 2017

Key groups of processing activities	Gross margin in p. p.[58]	Investment/ revenue in p. p.	EBITDA margin in p. p.[59]	Labour cost in added value in p. p.	AV/employee	Revenue/ employee
PROC. ACT. TOTAL	**4.7**	**1.5**	**1.5**	**2.3**	**-379**	**-38,048**
Food	3.0	0.0	0.4	3.8	2,714	-4,797
Textile	-0.1	2.0	1.8	-6.9	3,316	-1,271
Wood	2.8	2.4	0.8	0.0	2,096	0
Paper	-2.6	-2.7	-2.4	2.0	-2,310	0
Chemical	8.8	1.6	4.0	2.6	-7,668	-56,751
Non-metal	2.1	-0.3	1.7	-4.7	-1,538	-23,168
Metal	0.0	1.6	0.5	-0.7	0	-1,113
Electrical	-0.8	1.6	0.8	-0.3	-3,419	-45,981
Machine-building	0.2	2.1	0.6	-2.1	0	-32,280
Other	2.5	0.3	4.7	-9.3	13,999	30,145

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

The share of expenditure for RDA in the business sector in sales in Slovenia in 2017 amounted to 1.5%, which is more than the EU-23 median (0.7%) and CEE-4 median (0.5%). A similar dynamic was recorded in the 2008–2017 period, in which the share of expenditure for research and development of the business sector in sales in Slovenia amounts to 1.7%, 0.6% in the EU-27 and 0.4% in the CEE-4. Among the EU countries in 2017, the share of expenditure for RDA in the business sector in sales in Sweden was 3.3%, in Denmark 2.6%, in Austria and Germany 2.7%.

Share of expenditure for RDA in total business sector in revenue, in %

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
EU-23 (median)	0.6%	0.6%	0.5%	0.7%	0.7%	0.6%	0.7%	0.7%	0.6%	0.7%	n.a.
CEE-4 (median)	0.3%	0.3%	0.4%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	n.a.
Slovenia	1.3%	1.6%	1.7%	1.8%	1.8%	2.0%	1.8%	1.8%	1.7%	1.5%	1.6%

Source: Eurostat, Analitika GZS calculations

Processing activities in Slovenia in 2017 recorded significantly lower revenue per employee than in the EU-27 and slightly higher than in the CEE-4. Processing activity in Slovenia created the highest **added value per employee** (EUR 43.3 thousand) than the median in the

57 The amount by which the indicator value in Slovenia is higher than the indicator median in the EU-27.

58 Calculation of added value in revenue.

59 EBITDA margin is the calculation of operating surplus in revenue.

CEE-4 countries (EUR 32.5 thousand) and slightly lower than the median of the EUR-27 (EUR 43.7 thousand). Processing activities in Slovenia in 2017 recorded a higher **gross margin** than the median in the EU-27 countries and the median in the CEE-4 (SLO 28.5%, EUR 23.8%, CEE-4 22%). **The share of gross investments in tangible fixed assets compared to revenue** was slightly higher than in the CEE-4 countries and higher than in the EU-27 countries (SLO 5.6%, EU 4.2%, CEE-4 5.2%). Processing activities in Slovenia in 2017 recorded higher labour costs in added value than the median value in the EU-27 countries (60.5%) or in the CEE-4 (50.7%). Processing activities in Slovenia in 2017 recorded a higher EBITDA margin (business surplus/revenue) than the median in the EU-27 countries and the median in the CEE-4 (SLO 11.7%, EU-27 10.2%, CEE-4 10.8%). In the 10-year period (2008–2017) the highest **EBITDA margin** was recorded by the CEE-4 countries (median), which was higher than the recorded margin in Slovenia.

Processing activities		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	23.8%	22.0%	28.5%
Gross margin (AV/rev.)	Ø 2008–2017	20.8%	21.5%	27.1%
Investment/revenue	2017	4.2%	5.2%	5.6%
Investment/revenue	Ø 2008–2017	3.8%	4.8%	5.4%
EBITDA margin	2017	10.2%	10.8%	11.7%
EBITDA margin	Ø 2008–2017	9.2%	10.6%	10.0%
Cost of labour in AV	2017	56.8%	51.3%	59.1%
Cost of labour in AV	Ø 2008–2017	48.6%	50.7%	63.0%
AV/employee	2017	43,703	32,485	43,324
AV/employee	Ø 2008–2017	40,244	29,453	35,596
Revenue/employee	2017	190,061	151,732	152,013
Revenue/employee	Ø 2008–2017	193,828	136,875	131,390

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In the food industry in 2017, Slovenia created higher **added value per employee** (EUR 35,000) than the median in the CEE-4 countries (EUR 25,000) and the median in the EUR-27 (EUR 32,000). In the 2008–2017 period, **added value per employee** in the food industry in Slovenia was higher than the median in the CEE-4 and lower than the median in the EU-27.

Food industry		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	20.3%	18.8%	23.3%
Gross margin (AV/rev.)	Ø 2008–2017	20.6%	18.9%	22.0%
Investment/revenue	2017	4.4%	5.2%	4.4%
Investment/revenue	Ø 2008–2017	3.9%	4.2%	4.1%
EBITDA margin	2017	8.4%	8.9%	8.8%
EBITDA margin	Ø 2008–2017	8.4%	8.8%	7.9%
Cost of labour in AV	2017	58.5%	54.9%	62.3%
Cost of labour in AV	Ø 2008–2017	57.0%	53.3%	64.1%

Food industry		EU-27, median	CEE-4, median	Slovenia
AV/employee	2017	31,685	24,879	34,399
AV/employee	Ø 2008–2017	34,876	22,691	30,891
Revenue/employee	2017	152,605	128,176	147,808
Revenue/employee	Ø 2008–2017	169,683	120,100	140,322

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In 2017, Slovenia generated higher **added value per employee** in textile industry (EUR 28,000 EUR) than the median in the CEE-4 (EUR 14,000) and the median in the EU-27 countries (EUR 24,000).

				Slovenia
Gross margin (AV/rev.)	2017	30.4%	30.0%	30.3%
Gross margin (AV/rev.)	Ø 2008–2017	30.0%	30.0%	29.6%
Investment/revenue	2017	3.0%	4.6%	5.0%
Investment/revenue	Ø 2008–2017	3.8%	4.9%	3.9%
EBITDA margin	2017	9.3%	9.4%	11.1%
EBITDA margin	Ø 2008–2017	8.9%	10.1%	6.6%
Cost of labour in AV	2017	70.5%	68.7%	63.5%
Cost of labour in AV	Ø 2008–2017	73.3%	66.3%	77.8%
AV/employee	2017	24,906	14,290	28,222
AV/employee	Ø 2008–2017	17,860	13,560	20,010
Revenue/employee	2017	94,331	47,661	93,060
Revenue/employee	Ø 2008–2017	59,504	45,230	67,602

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In the wood industry in 2017, Slovenia created higher **added value per employee** (EUR 31,000) than the median in the CEE-4 countries (EUR 19,000) and the EUR-27 (EUR 29,000). In the 2008–2017 period, **added value per employee** in the wood industry in Slovenia was higher than the median in the CEE-4 and lower than the median in the EU-27.

Wood industry		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	27.0%	25.0%	29.8%
Gross margin (AV/rev.)	Ø 2008–2017	29.4%	25.2%	29.1%
Investment/revenue	2017	4.5%	5.5%	6.9%
Investment/revenue	Ø 2008–2017	4.5%	5.9%	5.7%
EBITDA margin	2017	9.9%	9.7%	10.6%
EBITDA margin	Ø 2008–2017	8.8%	11.5%	7.6%
Cost of labour in AV	2017	64.3%	60.1%	64.3%
Cost of labour in AV	Ø 2008–2017	53.8%	54.5%	73.9%
AV/employee	2017	29,283	18,687	31,379

Wood industry		EU-27, median	CEE-4, median	Slovenia
AV/employee	Ø 2008–2017	31,509	19,179	23,213
Revenue/employee	2017	105,127	78,268	105,127
Revenue/employee	Ø 2008–2017	107,325	76,121	79,670

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In the paper industry in 2017, Slovenia generated higher **added value per employee** (EUR 40,000) than the median in the CEE-4 countries (EUR 35,000) and slightly lower than the median in the EUR-27 (EUR 42,000 thousand). In the 2008–2017 period, the **added value per employee** in the paper industry in Slovenia was higher than the median in the CEE-4 and lower than the median in the EU-27.

Paper industry		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	28.0%	27.0%	25.4%
Gross margin (AV/rev.)	Ø 2008–2017	29.4%	25.4%	25.6%
Investment/revenue	2017	6.9%	8.4%	4.2%
Investment/revenue	Ø 2008–2017	5.8%	7.6%	5.4%
EBITDA margin	2017	12.3%	13.4%	9.9%
EBITDA margin	Ø 2008–2017	10.7%	12.2%	9.6%
Cost of labour in AV	2017	58.9%	48.4%	60.9%
Cost of labour in AV	Ø 2008–2017	61.2%	52.1%	62.6%
AV/employee	2017	42,029	35,043	39,719
AV/employee	Ø 2008–2017	28,623	26,303	34,413
Revenue/employee	2017	156,277	130,266	156,277
Revenue/employee	Ø 2008–2017	97,229	103,389	134,671

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In the chemical industry in 2017, Slovenia created higher **added value per employee** (EUR 80,000 thousand) than the median in the CEE-4 countries (EUR 42,000 thousand) and slightly lower than the median of the EUR-27 (EUR 70,000 thousand). In the 2008–2017 period, **added value per employee** in the chemical industry in Slovenia was higher than the median in the CEE-4 and the median in the EU-27.

Chemical industry		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	24.3%	23.1%	33.2%
Gross margin (AV/rev.)	Ø 2008–2017	19.0%	20.4%	31.4%
Investment/revenue	2017	5.1%	6.1%	6.7%
Investment/revenue	Ø 2008–2017	4.3%	4.6%	6.7%
EBITDA margin	2017	12.1%	12.3%	16.1%
EBITDA margin	Ø 2008–2017	10.2%	12.3%	15.0%
Cost of labour in AV	2017	48.9%	40.9%	51.5%

Chemical industry		EU-27, median	CEE-4, median	Slovenia
Cost of labour in AV	Ø 2008–2017	42.5%	39.8%	52.5%
AV/employee	2017	70,364	42,331	62,696
AV/employee	Ø 2008–2017	67,452	43,443	57,548
Revenue/employee	2017	244,512	213,125	187,761
Revenue/employee	Ø 2008–2017	354,357	213,357	183,034

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In the non-metal industry in 2017, Slovenia created higher **added value per employee** (EUR 45,000 thousand) than the median in the CEE-4 countries (EUR 33,000 thousand) and slightly lower than the median in the EUR-27 (EUR 47,000 thousand). In the 2008–2017 period, the **added value per employee** in the non-metal industry in Slovenia was higher than the median in the CEE-4 and lower than the median in the EU-27.

Non-metal industry		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	30.9%	30.1%	33.0%
Gross margin (AV/rev.)	Ø 2008–2017	30.9%	31.4%	29.8%
Investment/revenue	2017	5.1%	6.6%	4.8%
Investment/revenue	Ø 2008–2017	6.1%	6.9%	6.6%
EBITDA margin	2017	13.0%	15.7%	14.7%
EBITDA margin	Ø 2008–2017	12.5%	15.2%	11.1%
Labour costs in AV	2017	60.1%	50.6%	55.4%
Labour costs in AV	Ø 2008–2017	54.3%	51.6%	62.8%
AV/employee	2017	46,867	33,618	45,329
AV/employee	Ø 2008–2017	43,996	30,707	35,629
Revenue/employee	2017	160,356	110,223	137,188
Revenue/employee	Ø 2008–2017	142,197	97,885	119,399

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In the metal industry in 2017, Slovenia created higher **added value per employee** (EUR 41,000 thousand) than the median in the CEE-4 countries (EUR 29,000 thousand) and the same as the median in the EUR-27 (EUR 41,000 thousand). In the 2008–2017 period, **added value per employee** in the metal industry in Slovenia was higher than the median in the CEE-4 and lower than the median in the EU-27.

Metal industry		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	28.1%	25.7%	28.1%
Gross margin (AV/rev.)	Ø 2008–2017	26.2%	24.7%	26.2%
Investment/revenue	2017	4.3%	5.5%	5.8%
Investment/revenue	Ø 2008–2017	5.3%	5.5%	5.7%
EBITDA margin	2017	10.5%	11.4%	11.0%

Metal industry		EU-27, median	CEE-4, median	Slovenia
EBITDA margin	Ø 2008–2017	8.9%	10.4%	9.1%
Cost of labour in AV	2017	61.5%	54.9%	60.8%
Cost of labour in AV	Ø 2008–2017	58.0%	58.3%	65.4%
AV/employee	2017	40,664	28,527	40,664
AV/employee	Ø 2008–2017	31,181	25,213	33,110
Revenue/employee	2017	145,668	110,349	144,555
Revenue/employee	Ø 2008–2017	119,071	102,042	126,573

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In the electrical industry in 2017, Slovenia created higher **added value per employee** (EUR 41,000 thousand) than the median in the CEE-4 countries (EUR 31,000 thousand) and slightly lower than the median in the EUR-27 (EUR 45,000 thousand). In the 2008–2017 period, **added value per employee** in the electrical industry in Slovenia was higher than the median in the CEE-4 and lower than the median in the EU-27.

Electrical industry		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	27.1%	18.0%	26.2%
Gross margin (AV/rev.)	Ø 2008–2017	23.7%	16.5%	26.3%
Investment/revenue	2017	3.3%	4.0%	4.9%
Investment/revenue	Ø 2008–2017	3.0%	2.9%	4.9%
EBITDA margin	2017	9.3%	7.3%	10.1%
EBITDA margin	Ø 2008–2017	7.6%	7.6%	9.0%
Cost of labour in AV	2017	61.8%	58.3%	61.5%
Cost of labour in AV	Ø 2008–2017	52.7%	53.3%	65.9%
AV/employee	2017	45,038	31,143	41,619
AV/employee	Ø 2008–2017	54,585	28,315	34,322
Revenue/employee	2017	204,605	180,710	158,625
Revenue/employee	Ø 2008–2017	230,548	171,494	130,402

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In the machine-building industry in 2017, Slovenia created higher **added value per employee** (EUR 44,000 thousand) than the median in the CEE-4 countries (EUR 37,000 thousand) and the same as the median in the EUR-27 (EUR 44,000 thousand). In the 2008–2017 period, **added value per employee** in the machine-building industry in Slovenia was higher than the median in the CEE-4 and lower than the median in the EU-27.

Machine-building industry		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	26.4%	20.3%	26.6%
Gross margin (AV/rev.)	Ø 2008–2017	19.7%	22.2%	25.0%

Machine-building industry		EU-27, median	CEE-4, median	Slovenia
Investment/revenue	2017	3.5%	5.4%	5.6%
Investment/revenue	Ø 2008–2017	3.5%	4.8%	4.8%
EBITDA margin	2017	9.6%	10.1%	10.2%
EBITDA margin	Ø 2008–2017	7.0%	11.3%	8.7%
Cost of labour in AV	2017	63.8%	53.4%	61.7%
Cost of labour in AV	Ø 2008–2017	59.3%	48.3%	65.4%
AV/employee	2017	43,670	37,374	43,670
AV/employee	Ø 2008–2017	45,308	35,744	36,204
Revenue/employee	2017	196,400	195,885	164,119
Revenue/employee	Ø 2008–2017	229,743	161,338	144,915

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

In other processing activities in 2017, Slovenia created higher **added value per employee** (EUR 42,000 thousand) than the median in the CEE-4 countries (EUR 23,000 thousand) and the median in the EUR-27 (EUR 28,000 thousand). In the 2008–2017 period, **added value per employee** in other processing activities in Slovenia was higher than the median in the CEE-4 and the median in the EU-27.

Other processing activities		EU-27, median	CEE-4, median	Slovenia
Gross margin (AV/rev.)	2017	35.5%	32.8%	38.0%
Gross margin (AV/rev.)	Ø 2008–2017	30.4%	34.0%	33.7%
Investment/revenue	2017	4.4%	7.4%	4.7%
Investment/revenue	Ø 2008–2017	4.9%	7.6%	5.0%
EBITDA margin	2017	13.3%	13.9%	18.0%
EBITDA margin	Ø 2008–2017	11.2%	14.5%	13.0%
Cost of labour in AV	2017	62.0%	60.0%	52.6%
Cost of labour in AV	Ø 2008–2017	66.8%	53.9%	61.5%
AV/employee	2017	27,981	22,633	41,979
AV/employee	Ø 2008–2017	24,223	21,470	30,183
Revenue/employee	2017	80,362	74,193	110,508
Revenue/employee	Ø 2008–2017	79,707	63,171	89,558

Source: Eurostat, structural statistics of enterprises, Analitika GZS calculations

Appendix 3: Mega trends

Megatrend Types	Threats	Opportunities
Technological megatrends (Automation, lntegration of subjects and objects, Data-driven world and Cybersecurity and blockchain)	Inadequate regulatory approach to keep pace with technological advances and social demands (e.g., regarding rules on data protection, cybersecurity...) Low levels of cybersecurity (risk for operations and innovation) Limited social acceptability of technological change Limited environmental sustainability Limited interoperability and standards Limited integration of the different technologies into business processes Technological unemployment (especially in sectors such as transportation) Changing skills requirements and difficulties for redundant workers	Combination of mass production and customisation/flexibility using advanced technologies Greater implication of the customer in the production processes Development of new markets (especially using ICT) Emergence of new job opportunities Reduction of labour shortage risks in the context of an ageing population (robotisation) Increased productivity Potential for reshoring industrial activities to developed countries (e.g. use of 3D printing)
Socio-politial megatrends (Globalisation and geopoliticsand Demographic shifts)	Political tensions(domestic and international level) Opposition to migration Trade war, escalation of protectionism (e.g. commercial tensions with China) Increased unfair competition (e.g.dumping) Increased global competition and its negative consequences (e.g. closure of traditional industries) Failed adaptation of healthcare and welfare systems (ageing population context) Labour shortages due to ageing/retiring population Environmental adverse effects of globalisation and population growth	Increase in business opportunities related to population ageing Increase in business opportunities in developing countries (population growth and economic development) Successful integration of migrants and older workers into the workforce (changing HR, education and training practices) Increase in global talent pool (rising and more educated population) Emergence of a new/more balanced model of globalisation (e.g. glocalisation) Emergence of shorter / regional and/or circular value chains

Environmental and smart economy mega-atrends (Green and circular economy, Urbanisation and smartcity and Slnart mobility)	Inadequate regulatory approach (e.g. targets on recycling, environmental norms, safety rules on autonomous vehicles...) Inertia of current economic models, lack of social acceptability (e.g.regarding increases in fuel or carbon taxes) Conflict between environmental andother economic and social objectives Technical difficulties in adapting business models Burden some rise in costs(energy, natural resources ..) Technological unemployment (especially in the transportation/logistics sector) Disadvantages of intensive urbanisation (e.g. congestion costs)	Emergence of new business models (circular economy, ICT integration in cities and transportation...) and challenges to incumbents Development of new sectors with potential benefits for first·movers (green economy, smart citiesand mobility...) Rise of a urban middle class in the developing world, unlocking new markets Emergence of shorter / urban·regional valuechains Better integration of cities into value chains andbusines.s strategies Emergence of new forms of mobility / improved logistics Increased sustainability, reduced ecological impact of human activities Climate change mitigation and-adaptation New models of cities (especially smartcities)

Source: Authors of study: "How to tackle challenges in a future-oriented EU industrial strategy" on the basis of the European Observatory/ of Clusters and Industrial Change (2019).