



Photo: Liver

### Special Materials

## Their Products Satisfy the Most Demanding Customers

Companies are developing products that meet the highest technological requirements, while working on new solutions to reduce their carbon footprint.

Barbara Perko

Major shifts in mobility are afoot in improving the weight-to-mechanical properties balance. “Our castings customers are developing new generations of products that will be launched after 2023. Talum supports these efforts with its technological expertise, ensuring its continuing status as a development supplier by developing new solutions that upgrade existing ones.”

The company has further strengthened its market share for aluminium billets for extrusion (machinery, transport and construction industries), specifically in the market of non-standard, special billets with a higher proportion of recycled aluminium used. They are intensely focused on acquiring new business in carbon materials for new carbon baking services and the production of special carbon materials.

In 2021, Talum developed several alloys to produce slugs for tubes and containers, where the raw input material is secondary aluminium (recycled aluminium

at the end of the aluminium product lifecycle) at either 50 or 100%. The production of slugs made from PCR (post-consumer recycled) materials will increase in the coming years. The company adapted the casting and rolling process for new alloys in order to be able to supply potential customers with test discs for fire extinguishers and Teflon-coated pans.

The company’s production subsidiary Talum Izparilniki, which currently generates the largest share of its revenues in the appliances segment, is lately focusing on solar and on the auto industry, specifically in electric vehicles. “We see an opportunity here, since our products generally increase the efficiency of any device they are built into, and allow the use of more environmentally friendly gases in cooling systems. We see growth potential in the area of cooling fins for electric vehicle and vessel batteries,” the company adds.

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### Focus on Electrified Mobility Products

Aluminium casting development is tending toward technological transformation (new casting and processing technologies), automation and process robotisation, and towards digital and green transformations. In the future, much attention will be paid to developing new solutions to reduce carbon footprints. The focus of product development is currently on new electrified mobility products.

The circular economy and lowering products' carbon footprint are also at the forefront in the aluminium billets segment. Talum has the necessary competences and a relatively favourable geographical location, allowing it to sell aluminium billets to a large number of buyers.

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### Meeting Customer Expectations

Despite the unpredictable and dynamic situation – especially in the automotive industry – Talum maintained its revenues at the forecast level and even slightly increased them relative to 2019. The company began regular production of non-standard billets for a number of new customers and today this product already makes up a significant share of the company's total output. The company has entered an agreement to produce billets with a new diameter. "The order for the necessary technological equipment has been placed and we plan to start production in the first half of the next year," the company says. They increased the production and sales of alloyed slugs, and compared with the previous year there has also been a considerable increase in sales of slugs made from PCR materials.

Talum is carrying out a number of development and sales activities that will enable it to increase production and sell products with higher value added.

### Demand for Slugs Is Expected to Approach Pre-pandemic Levels

"The second half of 2021 is marked by a sharp rise in the price of aluminium on the London Metal Exchange and sales premiums for billets. If demand remains strong, we expect similar levels in the first half of 2022, but what happens after that is anyone's guess," the company says about the unpredictable situation in the aluminium market. Aluminium prices on the LME are the highest since 2008, but this rise in prices was also followed by a steep increase in the costs of raw materials, natural gas and especially electricity. Alloy premiums have also increased, partly as a result of rising prices of alloying elements. Despite the high market value of aluminium and higher sales premiums, the demand for slugs is expected to approach pre-pandemic levels.

### Sales in New Markets Are Growing

In the castings segment, Talum's key markets are heat technology, general machine engineering, and transport industry (commercial vehicles, cars, motorcycles). The company supplies billets to customers in the machine, transport and construction industries, while the strongest market for evaporator plates is the domestic appliance industry. They are also increasingly focused on the solar and automotive industries. The key markets for slugs and discs are the cosmetics, pharmaceutical, and food industries. Most of the company's products are sold in the EU markets and partly in the Balkans, while sales of slugs and discs are increasing in new markets such as Latin America and the Middle East.

### SIJ Is Planning to Break into the Aircraft Industry

"By the end of this year, the SIJ Group is planning to launch the SINOXX 4501 superduplex stainless steel, as well as new top-quality SIWATT EV28 and SIWATT EV30 electrical sheets with extremely low watt losses, which are intended for the most efficient electric drive engines. We are also planning to enter another high-quality and technologically advanced product market, the aircraft industry, for which we obtained the ISO 9100 certificate last year," says Aleš Falatov, Marketing and Business Development Director, SIJ Group. In the next year, the company expects to see the biggest growth in its SIWATT electric sheets.

Reflecting on the last year's achievements, Falatov highlights a new production line for heat treatment in forges and the new EPŽ4 electro-slag remelting plant. "With this investment, we are pursuing the SIJ Group's 2020–2025 strategy and our objective of remaining at the lead of the tool steel industry. The EPŽ4 plant will enable increased production of steels with superior purity and improved malleability, thus further expanding the company's market reach and consolidating its position in the demanding niche market of tool steels. Their end users are the customers from some of the most competitive industries such as the energy sector, mechanical engineering, oil and natural gas industries and others."



**One of the Steelmakers with the Lowest CO<sub>2</sub> Emissions**

Industry development is moving towards replacing common steels with more specialised ones. “The driving force behind this development is the so-called lightweighting trend, that is, reducing the weight of construction, vehicles and equipment. While carbon footprints are an increasingly important factor, the SIJ Group is already among the quarter of steel-makers with the lowest CO<sub>2</sub> emissions, as it produces steel following the principles of the circular economy using secondary raw materials (scrap steel),” says Aleš Falatov. “We are also making progress here by constantly investing in the best available technology, and we are aiming to replace part of the natural gas used as fuel in heating furnaces with green hydrogen. All these measures lead to decreased fossil fuel consumption and lower CO<sub>2</sub> emissions.”

The SIJ Group, one of the largest Slovenian exporters, is active in more than 70 countries and sells more than 85% of its products in foreign markets, with nearly half of its sales generated in EU countries, primarily Germany and Italy. The SIJ Group ranks among the top three producers of stainless steel sheets in the EU, where it maintains a high, 29.4% share, among the top three tool steel producers in the



Photo: Livar

EU, and among the top ten industrial knife producers in the world.

**Their Customers Are Some of the World’s Leading Manufacturers**

Livar supplies the world’s leading manufacturers of agricultural components and machinery, of heavy industrial machinery with a focus on drivetrains, of railway brake systems, and manufacturers of equipment for energy systems. Despite the situation

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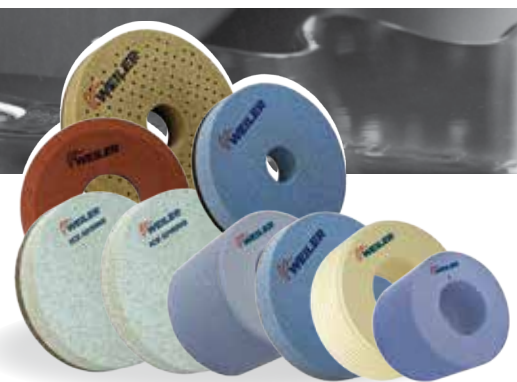
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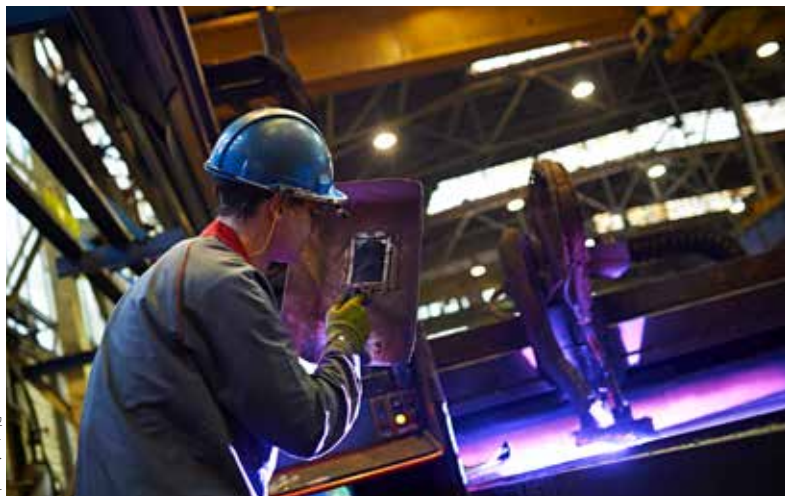


Photo: Acroni

**The common denominator in recent development has been the reduction of product weight, and the share of nodular cast iron products is increasing.**

due to the pandemic and rising demand, the company has managed to satisfy its customers, staying ahead of the competition and allowing customers to operate without interruptions. "When developing new products, we adapt to the needs of customers from various industries," they point out. The common denominator in recent development has been the reduction of product weight, and the share of nodular cast iron products is increasing.

The company has orders for the entire first half of 2022 and expects new orders to outstrip capacity. "Given the growth so far, we still expect it to settle down at the current levels, as there are no resources left, neither material nor human. The increase in the prices of input materials will also act as a brake," they predict. As the trend of sourcing products from the Far East has stopped due to higher transport costs and less flexible and reliable deliveries, the focus of supply is again on European foundries.

Over the past year, the company has managed to improve the economics of its operations by adjusting sales prices to reflect the growing cost of labour and the exceptional increase in the costs of input material. "The existing mechanisms for offsetting the growth of material costs in the sales price are not suitable for rapid changes of this kind. In agreement with our customers, we switched to a monthly offsetting dynamic, while raising the sales prices in line with the indices for other materials that were not taken into account in the previous mechanisms," they explain.

Their key market remains Italy, which accounts for a 43% share, although this is declining. "We are focusing our sales efforts on Central European markets (Hungary, Slovakia), where our customers are companies indirectly linked to the DACH region. We also export directly to Germany and Austria. We



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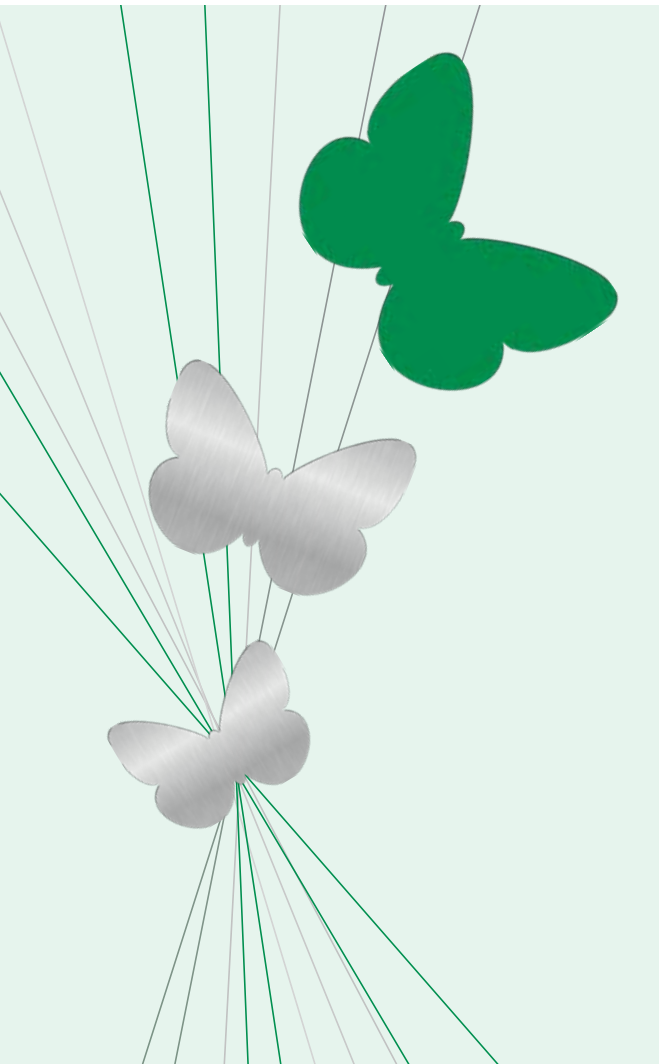
Photo: Acriom

are also strengthening our exports to Scandinavia,” the company says. “With the exception of our public utilities programme, our sales in the Slovenian market are indirectly targeted at the DACH market and Scandinavia.”

**New Breakthrough Solutions for Most Demanding Industries**

FerroČrtalič develops and manufactures machines for cutting-edge surface treatment technologies, which are marketed under their proprietary FerroECOBlast® Europe brand. Their solutions in the technologies of manual, automatic and robotic air blasting, shot peening, dry removal of ice and snow, ultra-high-pressure water jetting, as well as fully automated enamelling solutions, are being used in the most technology-intensive industries. From aviation, automotive, metalworking, foundry and casting, energy and 3D printing to medical implants and pharmaceutical industries. “Business performance allows us a high level of resistance to external shocks and investments in new areas/technologies, such as additive technology, medicines, laser cleaning and texturing, etc. These will gradually become the driving force behind the future growth of our successful business,” the company states.

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**FerroČrtalič entered the demanding field of medicine by acquiring a European R&D project, which resulted in a new line of machines for post-processing medical implants under the MiBlast™ brand, intended for the orthopaedic and dental industry.**

“At the end of 2020, we launched Addiblast™ by FerroECOBlast®Europe, a new line of machines for post-processing 3D-printed parts. We also managed to support our determination to enter the demanding field of medicine by acquiring a European R&D project, which resulted in a new line of machines for post-processing medical implants under the MiBlast™ brand, intended for the orthopaedic and dental industries.”

Their vision is to develop new breakthrough solutions based on already acquired standard surface treatment technologies, intended for most demanding industries, such as additive industry (3D printing), solutions in medicine, laser cleaning and surface structuring, solutions in the vehicle electrification industry.

The company is globally present in all markets and industries, either directly or through a partner network. “We adapt our solutions to the requirements and needs of key customers from various demanding industries, such as aerospace, automotive, medical, and additive. Currently the most important markets for us are USA, Europe, Russia, Middle East, and South-East Asia.” ■



Photo: FerroČrtalič

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Aluminium Kety Emmi d.o.o. supplies many companies, including industry leaders, with visible aluminium components and assemblies, with sophisticated surface treatments and in combination with other materials. They offer customers a wide range of support and expertise, from the development phase of their end product to reliable, punctual and high-quality supply of series production. Market proximity and electronic data exchange contribute to the prompt clarification of the challenges and supply according to their production.

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