

Discover Slovenia

International Edition

December 2022



SUSTAINABLE DEVELOPMENT

**Workforce and Talent
are Slovenia's Strategic
Advantages**
Foreign Companies in Slovenia

**Ever Greater Shift
to Logistics 4.0**
Logistics

**Cosylab's State of the
Art Solutions for
Cancer Treatment**
Interview with Mark Pleško

Gospodarska
zbornica
Slovenije

Chamber of Commerce
and Industry of Slovenia

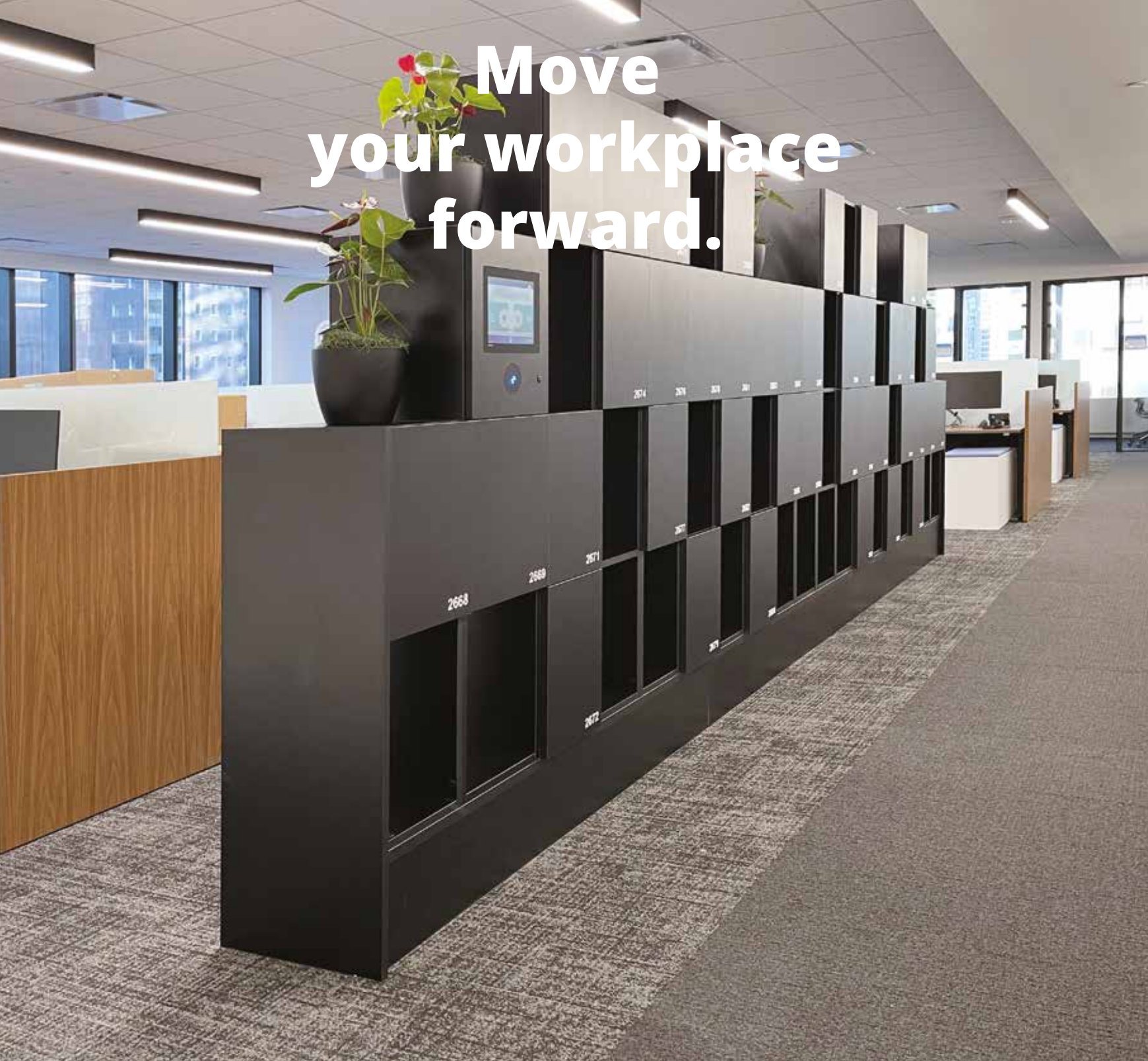


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Post-Pandemic Recovery Beating All Expectations

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Different Environments Build Character

Young Hopes

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Editor in Chief:

Ester Fidel

Executive Editor:

Nina Šprohar

Design:

Samo Grčman

Editorial Board:

Grit Ackermann, Antonija Božič Cerar, Marko Djinović, Ariana Grobelnik, Bojan Ivanc, Tomaž Kordiš, Tajda Pelicon, Petra Prebil Bašin, Matej Rogelj, Igor Zorko

Editorial Office:

Dimičeva 13, SI-1504 Ljubljana, Slovenia
+386 1 5898 000
urednistvo@glasgospodarstva.si

Advertising Sales:

Dašis, d.o.o.
+386 1 5130 824
gg.trzenje@gzs.si

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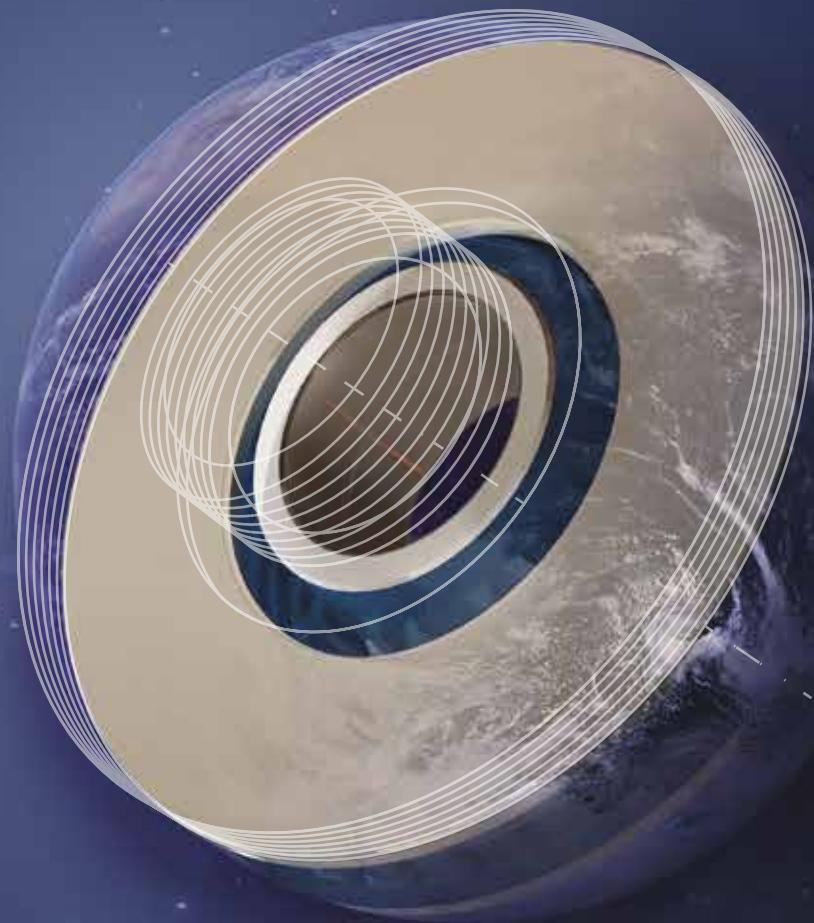
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EDITORIAL

Green - Smart - Creative

Dear reader, thank you for reading this magazine, which, from the perspective of the Chamber of Commerce and Industry of Slovenia, the most influential independent association of Slovenian business and entrepreneurship, aims to highlight the dynamics and aspirations of the Slovenian economy, and to impress our international trade partners.

Connecting and cooperating with foreign markets is a serious, long-term matter in Slovenia, and not a “flash in the pan”. The country is anchored in the region of Central Europe, where Germanic, Mediterranean, Slavic and Oriental cultures and influences intersect. To illustrate, even the Slovenian hero Martin Krpan, in a story set in the 17th century, was already involved in a kind of “international trade” – he was caught smuggling “English salt” in the Austro-Hungarian Empire. Well, they forgot to explain to us in primary school why Martin would need to smuggle salt in an empire that was also partly Mediterranean, and only later did I learn that “English salt” was not actually salt at all, but saltpetre, an essential ingredient for gunpowder. In the same story, this first Slovenian “arms dealer” portrayed in literature managed to liberate Vienna from the Turks, armed with only a club and a meat cleaver. Don't get me wrong. Many things have changed, and we have excellent trade and general relations with Türkiye today, while the Slovenian defence industry is now a more serious business, and contributes a considerable part to the balance of trade.

But there are some differences in how we do things in Slovenia that can be noted... The Turks like to do business in a big way, with a shovel, while the Slovenians prefer to do it with tweezers, some say. As for weapons, we do not make intercontinental missiles, but are pretty good at laser targeting systems. Not to mention the application of artificial intelligence and augmented reality. This shows how complex and compact the Slovenian economy is. Moreover, the Slovenian soul yearns for excellence, even supremacy, in the sporting and adventurous senses, as well as in business. The Slovenian economy is actually more industrialised than the German economy – relatively speaking, of course – and yet

is still successful in cultivating a sense of social and environmental sustainability. We can summarise all this in the slogan GREEN - SMART - CREATIVE.

Nevertheless, in our self-protection and resilience, we insist on being open to foreign influences and following the good practices and approaches we can already observe with our largest trade and investment partners – Germany, Italy, Austria, Croatia and France. Building mutual (international) resilience seems to be the best plan in times when the “mother of all crises” can hit us at any moment.

And since it is not easy to invent, create and market excellent products in the neighbourhood or even worldwide, successful Slovenian entrepreneurs and developers play the card of high specialisation in niche areas and activities. Developing innovative products and solutions that attract foreign partners is essential in key sectors such as the pharmaceutical and chemical, automotive and related industries, mechanical engineering, machinery and metals, electrical and electronics, health and medical devices, and ICT. Cross-cutting and breakthrough areas include concepts for smart factories, robotics and, if you like, the digital monitoring of insects on crops or sustainable fashion and the inflatable greenhouses that we hope to build on Mars one day. The ambition to be the best enables us both to export special steels to Sweden, and to found and host the first global (UNESCO) International Research Centre for Artificial Intelligence, as well as develop blockchain technologies that move from crypto to the real world.

All this suggests that having Slovenian partners at the intermediate links of your supply chains could be an excellent choice for the optimisation of your products, services and business. Of course, we also want to be second to none at the end of the chain, in the final product brands, and that is also our goal.

So please browse through the magazine, and I hope that it will not only inform you about Slovenian excellence in business, but also pleasantly surprise you. And of course, in your direct contact with Slovenians, do not forget to compliment us on how surprisingly good we are in (some) sports, and how unspoiled our nature is. ■



Photo: Zare Modlic

Matej Rogelj,
Director of the
International
Relations
Department
at the CCIS

OVERVIEW

Slovenia



Official name: Republic of Slovenia

Capital city: Ljubljana

Government: Parliamentary Republic

State President: Nataša Pirc Musar

Prime Minister: Robert Golob

Local government: 212 municipalities, of which 11 have urban status; 12 statistical regions, which are grouped into two cohesion regions – Western and Eastern Slovenia

Area: 20,273 km²

Population: 2,108,732 (July 2022)

Location: bordered by Austria, Italy, Hungary and Croatia; excellent connections with all European markets

Currency: Euro

GDP per capita: EUR 24,678 (2021)

GDP annual growth rate in 2021: 8.1 %

Projected growth for 2022: 5.6 % (Consensus Economics, October 2022)

Time zone: CET (GMT+1), and CEST (GMT+2) in summer

Official languages: Slovene, together with Italian and Hungarian, respectively in the areas with Italian and Hungarian minorities. ■

Source: Statistical Office of the Republic of Slovenia (SURS)

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TOP BUSINESS DATA

Top Business Linked Data

Ease of doing business, openness to trade, education and innovation remain the strongest pillars of success.

Bojan Ivanc, CFA, CAIA, Chief Economist at the Chamber of Commerce and Industry's Analytics Department

1st

(out of 190) Trading Across Borders (DB)

7th

(out of 163) Global Peace Index (IEP)

8th

(out of 190) Resolving Insolvency (DB)

10th

(out of 63) Prices (IMD)

11th

(out of 27 EU countries)
The Digital Economy and Society Index
– DESI (EC)

13th

(out of 27) European
Innovation Scoreboard (EC)

17th

(out of 127) Energy Trilemma
Index (WEC)

20th

(out of 63) Education (IMD)

23rd

(out of 190) Getting Electricity
(DB)

26th

(out of 167 countries) The
Legatum Prosperity Index

26th

(out of 63) Economic
Performance (IMD)

26th

(out of 134) Global Talent
Competitiveness Index (GTCI)

33rd

(out of 63) Infrastructure (IMD)

35th

(out of 64) World Digital
Competitiveness Ranking (IMD)

38th

(out of 63) World Competitiveness
Ranking (IMD)

Sources: Doing Business (World Bank), IMD – World Competitiveness Rankings, IMD – World Digital Competitiveness Rankings, WEC – World Energy Council, Logistics Performance Index (World Bank), Innovation Union Scoreboard and The Digital Economy and Society Index (European Commission), The Legatum Prosperity Index, Global Talent Competitiveness Index (GTCI)



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SUCCESS STORY

Post-Pandemic Recovery Beating All Expectations

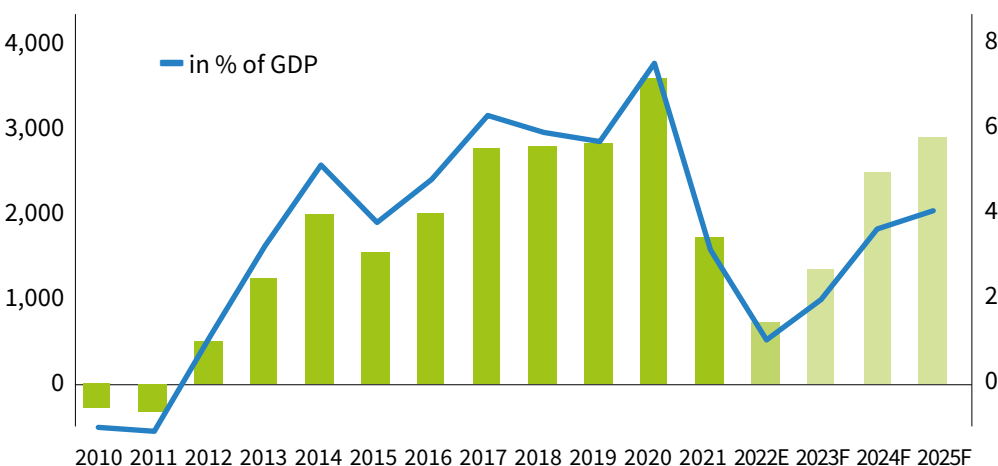
However, high level of prices and expected inflation will lower medium term real growth.

Bojan Ivanc, CFA, CAIA, Chief Economist at the Chamber of Commerce and Industry's Analytics Department

A large fiscal stimulus and structural factors helped the economy to recover rapidly after the pandemic

The year 2020, when the pandemic struck, saw Slovenia's real GDP fall by 4.3%, far above the estimates that most institutes and authorities made in May 2020, at the time of highest uncertainty. From that period onwards, however, growth exceeded all available estimates, which is mainly a consequence of fiscal policy measures, strong export competitiveness and generally favourable structural factors that enabled the strong catch-up effect. These are mainly the general low indebtedness of the Slovenian corporate sector, households, and general government, while cash buffers

Current account balance
mEUR



Sources: Eurostat, Analytics at CCIS, October 2022
(E) Estimate, (F) Forecast

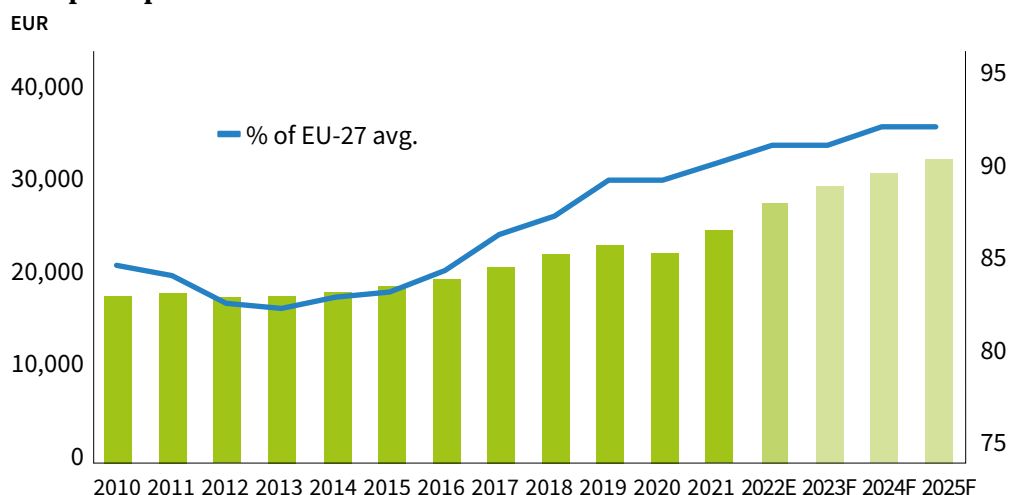
were high before the negative effects of the pandemic appeared.

In 2021 and 2022, average real growth is expected to be at 7% (the data for the first three quarters of 2022 are favourable), and nominal growth even higher, at about 11%, although this is largely a consequence of higher growth in prices across the economy. GDP per capita is therefore likely to increase from around EUR 23,000 in 2019 to EUR 27,600, and in terms of purchasing parity to about 90% of the EU-27 average.

Slovenia's GDP per capita is one tenth below the EU-27 average in terms of the Purchasing Power Standard (PPS).

In 2022, real household consumption (half of GDP) is expected to rise by 7%, following an already strong increase in 2021 (+9%). Government consumption (20% of GDP) grew by about 5% in each of the previous two years (2020 and 2021), but this is likely to have slowed down to 1.5% in 2022 as the costs of the pandemic decreased significantly due to higher vaccination and lower mortality rates, which reduced the fiscal burden with

GDP per capita



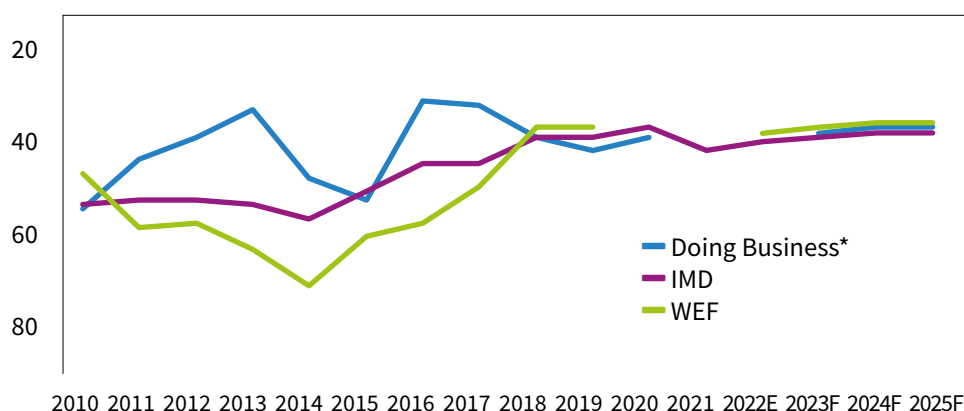
Sources: Eurostat, Analytics at CCIS, October 2022
(E) Estimate, (F) Forecast

regard to purchases of protective equipment. Investment (20% of GDP) was also a strong pillar of growth, and this is expected to rise by 7% overall in 2022, following growth of 14% in 2021. Net exports (the difference between the export of goods and services and imports of the same) reduced the growth, as the consumption and investment part of GDP

are very reliant on imports. This nevertheless masks a high increase in export competitiveness in this context, as exports grew by 15% in 2021 and are likely to increase further by 5% in 2022.

The labour market is usually a clear indicator of the state of the economy. In this sense we could say it is currently at full potential (with around 920,000 active people in employment), as the ILO unemployment rate stands at 4% and the number of vacancies is at 3.5% of total jobs, what is high in historical terms. Nevertheless, we expect the job market to level off in 2022, and in 2023 to see a gradual decline in the overall number of jobs (down by about 5,000), although it would be wrong to see this as a sign of significant weakness in the economy. Only a few thousand jobs are likely to be added after 2024, most notably due to the negative natural change in population and reduced migration flows.

Ranking



Sources: Eurostat, Analytics at CCIS, October 2022
(E) Estimate, (F) Forecast

*On September 16, 2021, World Bank Group decided to discontinue the Doing Business report. The World Bank Group is formulating a new approach to assessing the business and investment climate in economies worldwide following the discontinuation of the Doing Business project. Updates on the development of the new Business Enabling Environment (BEE) project will be published on this website as they become available. The WEF's latest Global Competitiveness Report was for the year 2020.

For 2023, only about 1% real GDP growth is expected, mostly due to inflation fatigue and continued high level of energy prices.

Inflation is also very connected to growth, as past periods of high inflation

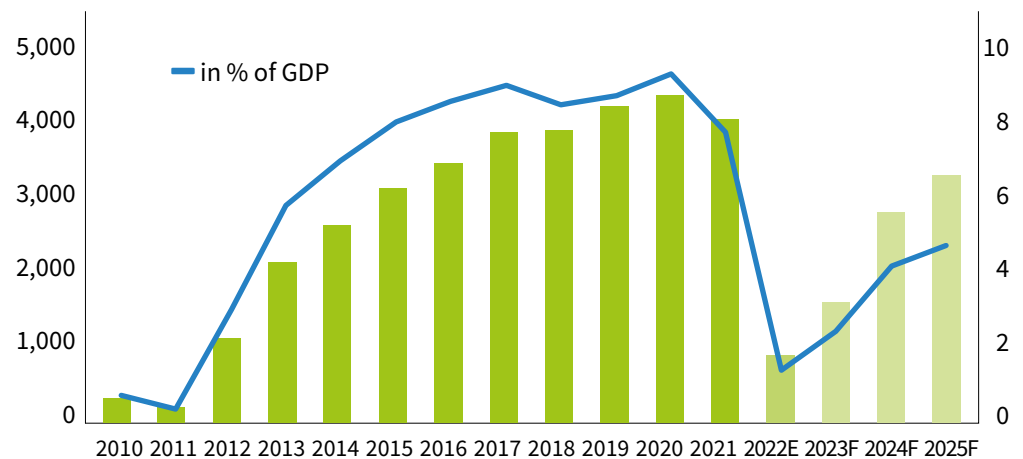
coincided with lower or even negative real GDP growth. In this sense we expect an average increase in CPI at about 6% in 2023 (2.6% in 2024 and 2% in 2025). Real wage growth should therefore remain positive (below 1% in 2023, at about 1.6% in 2024) but low compared to historical norms. Nevertheless, we believe some one-off fiscal measures will probably add 0.5 percentage point to this growth if needed.

Private sector nominal growth figures (sales, EBITDA) are likely to remain high due to inflation, although pressure will intensify in the materials sector.

Energy intensive sectors are the ones that are most likely to shed some jobs, but this should not come as a surprise. The materials sector, which includes some very energy intensive companies, most notably in the production of steel and aluminium, paper, glass, chemicals and construction materials, was under pressure from H2 2022 onwards, due to its high reliance on natural gas and electricity prices. This industry accounts for about 3% of national GDP, or one seventh of manufacturing. High wholesale prices of natural gas and electricity, and the absence of a wholesale price cap, have

Trade balance, goods and services

m EUR



Sources: Eurostat, Analytics at CCIS, October 2022

(E) Estimate, (F) Forecast

already reduced production in this sector, most notably from August 2022.

Growth in CPI is expected to be at about 6% for 2023, following a 9% average increase in 2022.

The total level of state budget expenditure for COVID-related measures from March 2020 to the end of September 2022 amounted to EUR 5,445 million according to the Fiscal Council (roughly 10% of

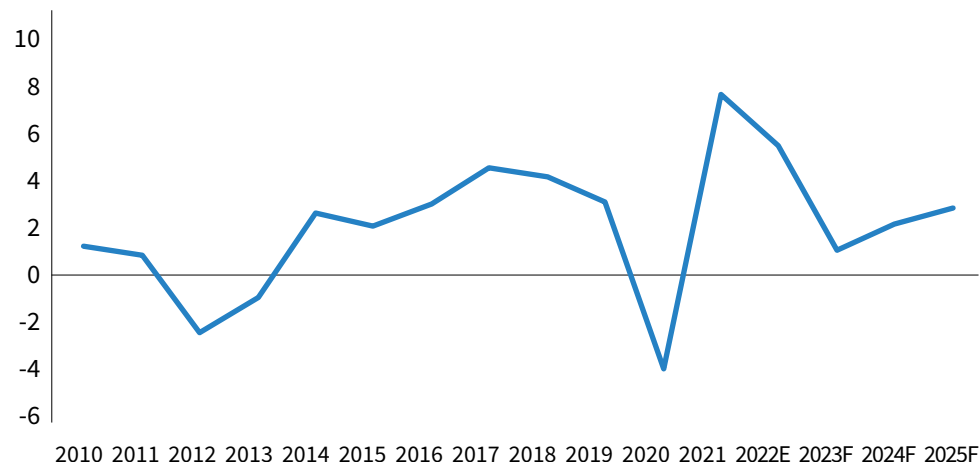
annual GDP). The direct financial impact of the measures taken so far to mitigate the impact of the price increases on the state budget this year is estimated at EUR 440 million. The debt to GDP ratio has been dropping since 2021, as a higher nominal GDP is outpacing the growth of nominal GDP by some margin. However, this ratio should fall to 70% in 2023. Moody's (A3, stable) as well as Fitch (A, stable) recently confirmed Slovenia's sovereign credit rating with a stable outlook, and pointed to high cash reserves (one sixth of GDP) and a long average bond duration (10 years). With a fixed interest rate applied to Slovenia's debt, interest expenditure is likely to fall even in 2023, despite many fiscal pressures on additional expenditure.

Growth in industrial production is likely to slow down considerably in 2023 (+1%), but should afterwards again increase at about 3% per annum.

Difficult access to energy (especially natural gas), its reduced consumption (possibly also enforced), increased uncertainty, the impact of high inflation on household purchasing power and high costs for businesses, supply chain

GDP growth

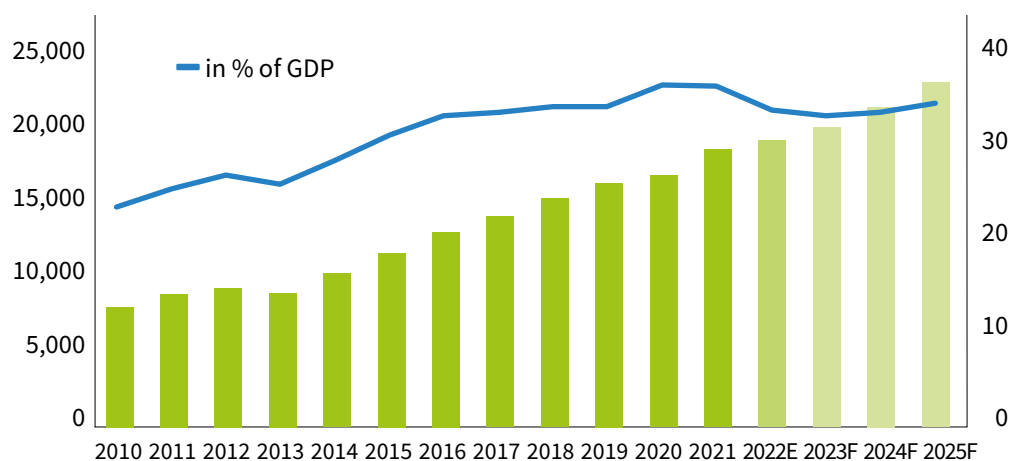
in %, real



Sources: Eurostat, Analytics at CCIS, October 2022

(E) Estimate, (F) Forecast

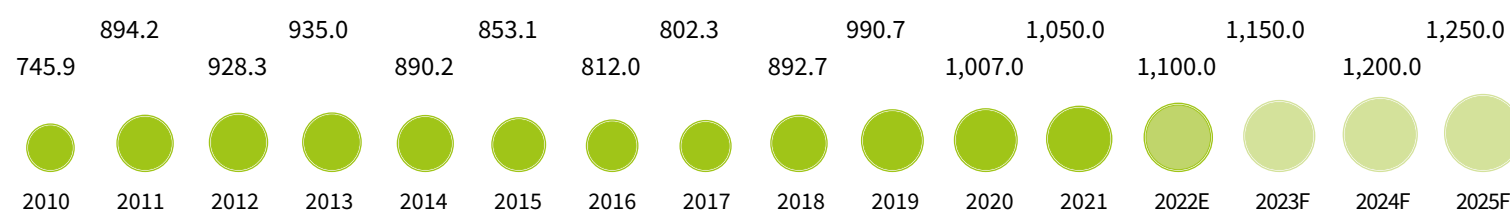
Inward FDI stock m EUR



Sources: Eurostat, Analytics at CCIS, October 2022
(E) Estimate, (F) Forecast

disruptions and tighter financing conditions due to the normalisation of monetary policy (this latter the least significant factor), will all continue to depress growth according to the base scenario. In this context (our autumn 2022 forecast), real GDP is expected to increase by 1% in 2023, 2.3% in 2024 and 3% in 2025, whereas even in a pessimistic scenario the possibility of a recession is excluded in 2023 overall. However, GDP should rebound only slowly in 2024 (+1.5%), but more strongly in 2025 (+3.7%). One should also not underestimate the possibility of an optimistic scenario, which models a 2.5-3% growth rate in 2023-2025. In this case, energy prices would need to come down from current highs (especially electricity prices, in addition to natural gas prices), although they would remain higher than the pre-pandemic level. ■

R&D expenditure m EUR



Sources: Eurostat, Analytics at CCIS, October 2022
(E) Estimate, (F) Forecast

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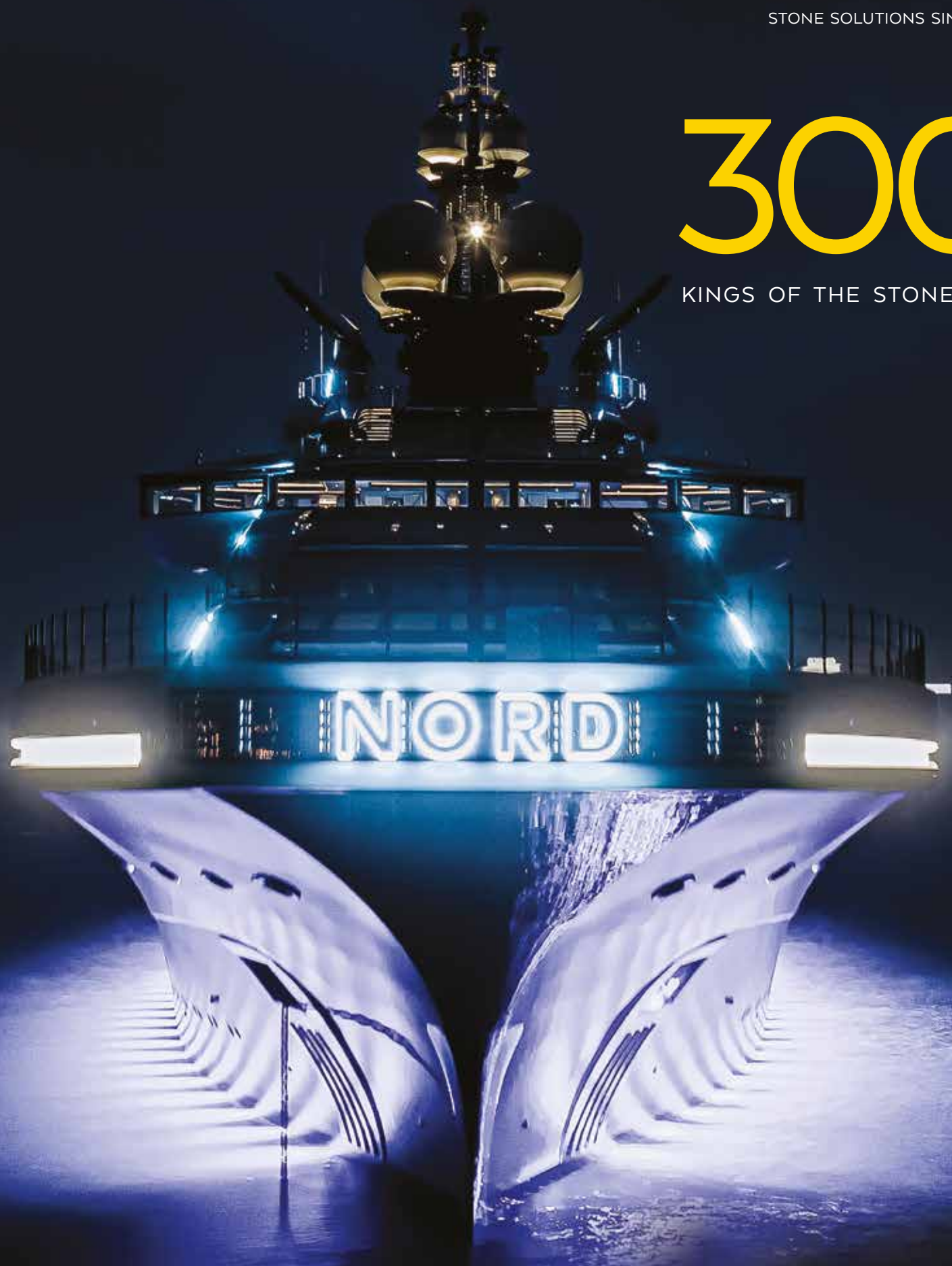


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KINGS OF THE STONE AGE



FOREIGN COMPANIES IN SLOVENIA

Workforce and Talent Are Slovenia's Strategic Advantages

Kofola were convinced of Radenska's great potential, Novartis are strengthening their presence in Slovenia with investments, and MOL believe that the risks of doing business in Slovenia are lower than in other markets.

Darja Kocbek

On the Global Competitiveness Index for 2022, published by the Swiss Institute for Management Development (IMD), Slovenia is one of the 30 countries to have improved its competitive position in comparison with the year before. Slovenia now ranks 38th, two places higher than last year. The areas in which Slovenia scored most highly were the same as in 2021: international trade, price levels, social framework (social cohesion, income equality, gender equality) and education. It performed best this year in the economic performance pillar (26th place), returning to the position it held before the global financial and economic crisis.

Despite the general shortfall of workers, Kofola are impressed by the range and quality of the workforce in Slovenia, and are always able to find good staff.

Kofola: Seven Happy Years in Slovenia
Marian Šefčovič, Radenska's Executive Director, explains that Kofola are a company oriented towards expansion, with a particular interest in the Adriatic region. "We were convinced from the very beginning that Radenska was a company with great potential and ambition," he

says. "We've been here seven years and are more than satisfied."

The Slovenian environment has its own specific features to which companies have to adapt, although this is the same in every country. "The histories of our countries differ considerably. For example, the collapse of Yugoslavia was very different from the break-up of Czechoslovakia. The consequences have also been very different, and this is reflected in the business environment as well. Nevertheless, we have managed to adapt to all the factors on the Slovenian market and are working well, despite the challenges and certain differences," adds Šefčovič.

Despite the general shortfall of workers, Kofola are impressed by the range and quality of the workforce in Slovenia, and are always able to find good staff. They are less satisfied with the pressures on the minimum wage level, which they believe the country can ill afford given its current GDP level.

Novartis Highlight Slovenian Knowledge, Experience and Hard Work
Pharmaceutical company **Lek** continue to go from strength to strength – something that **Novartis**, with more than 50 years of knowledge and experience behind it, recognised when it acquired Lek in 2003.

Since that time, it has invested more than EUR 3 billion in the company. Around half the investments have gone towards research and the other half to expanding and updating digital transformation and automation capacities based on the very latest technologies. This has enabled them to be more agile and flexible in production. "We have shown that, with the help of Slovenian knowledge, experience and hard work, we can be successful in the most demanding operating conditions" say Novartis's Slovenian division.

Novartis believe that Slovenia has a well-regulated ecosystem in terms of education, taxes and healthcare infrastructure.

They are currently the leading supplier of drugs in Slovenia, a market that also contains Lek, Novartis Pharma Services and Sandoz. Their portfolio includes state-of-the-art biological and innovative drugs, as well as generic drugs with high value added. If all its divisions are added together, Novartis hold the leading position on the pharmaceutical market with a 14.2% market share. They can offer Slovenian patients more than 70 ground-breaking modern drugs and medications in key therapeutic areas, including haematology,

oncology, cardiology, immunology, dermatology, neurology, pulmonology and ophthalmology.

“We are consolidating our presence in Slovenia with continuous investments in development and production capacities. Last year, in Mengeš, we opened Slovenia’s first and so far only industrial centre for the modern production of biological and biosimilar drugs. We have just announced a new investment of USD 110 million in clinical production and technical development capacities. We will use this to set up a biological drugs development centre, again in Mengeš,” they explain.

In Novartis’s opinion, Slovenian experts and specialists are extremely competitive, as well as being pioneers in knowledge and innovation.

An incentivising external environment is a foundation upon which companies can further their development and innovation activities. In Novartis’s words, Slovenia has a well-regulated ecosystem in terms of education, taxes and health-care infrastructure. In Slovenia, Novartis are moving towards the sustainable digital transformation of R&D at all levels of the company. They are always on the lookout for innovative approaches that improve patient care and lead to greater cost-effectiveness, greater transparency and better drug production and development. They need the very best talents for this, but they are proving hard to find on the current labour market. They would like to see greater flexibility in labour legislation to make it easier for companies that wish to recruit talent from abroad, for example. They believe that the current recruitment procedures can sometimes take an unreasonably long time.

Systemic cooperation and the search for synergies between educational institutions, employers, careers centres and regulators are also important. “The aim is to find a common path to success for everyone involved,” they say. Strategic integration, networking and innovation – these are, in the company’s opinion, vital

activities for creating an incentivising environment, acquiring major investment in research, and putting Slovenia on the map of innovative development countries.

“We have good foundations in all areas,” say the company, “but would like to further enhance this so that the business environment becomes more predictable and enterprise-friendly. Only then will we be able to focus on fulfilling our mission and on driving growth and development with ground-breaking innovations.” Cooperation with regulators is of crucial importance here, as they are the ones who can ensure that the working and tax environment is an incentivising one, and one that is capable of motivating the best to develop their career at home or to return to Slovenia after honing their skills abroad. This will also increase Slovenia’s attractiveness on the international jobs market and encourage the very best talents to come here, they add.

The company believe that Slovenian experts and specialists are generally extremely competitive, as well as being pioneers in knowledge and innovation. This allows their Slovenian division to master and also develop their own advanced technologies and technologies of the future at rapid pace. “A huge amount of experience and knowledge, based on

innovative thinking, has flowed into the company here in recent years. But as we have already pointed out, we need the best talents if this development is to continue,” they add. Owing to the conditions on the labour market and elsewhere, one of their key targets is to acquire raw talent that they can then develop themselves.

For this, cooperation between the academic and research sectors is vital. It is here that they encounter the principle of “open innovation” by creating mixed research groups tasked with developing new knowledge and comprising their own experts and experts from faculties and institutes. “We are working with faculties on a number of projects. Our experts mentor young people and also occasionally give lectures to students. We also collaborate with faculty teaching staff to continuously update study programmes. Novartis therefore invest in in-house talent development as well as in developing talents within the wider social ecosystem.”

As they are aware that finding specialists in their fields of work will continue to be a challenge into the future, they are committed to providing adequate education, familiarising young people with new technologies, and working more closely with the education system and the academic profession to introduce the latest



industrial biotechnology and production practice topics into curricula at the appropriate education levels.

Slovenia Is Very Well-Organised, say the MOL Group

The **MOL Group** arrived in Slovenia in 1996 when they founded the MOL Slovenija company with the aim of developing a retail network of petrol stations and wholesale operations on the Slovenian market. This was followed by the gradual construction of petrol stations, with the first two opening in 1998 and 1999 and a further six in 2003. The two years highlighted by the company as major milestones were 2011, when they merged with **Tuš Oil**, and 2016, when they joined **Agip**. Today the company operate 53 petrol stations. "We have continuously progressed towards our objectives, which include the successful introduction of the Fresh Corner concept seven years ago. Providing quality to every customer is a key aim of both the MOL Group and MOL Slovenija, as are being accountable

to shareholders through successful business performance and ensuring that Slovenia enjoys fuel supply security," say MOL Slovenija.

Customers and suppliers, who are mainly all Slovenian and with whom the MOL Group have been working for a number of years, are exceptionally reliable.

In their opinion, Slovenia is a very well-organised country, and the risks of doing business here are extremely low compared to certain other markets. Although the economic environment can be slightly unpredictable at times, it does enable the company to operate very reliably. Cooperation with partners is particularly important. Customers and suppliers, who are mainly all Slovenian and with whom the MOL Group have been working for a number of years, are exceptionally reliable. Building stable long-term partnerships has always been (and remains) one of MOL Slovenija's chief priorities.

As advantages enjoyed by Slovenia, the company highlight the experienced, well-educated and well-qualified staff; they are proud, therefore, of employing an almost exclusively Slovenian workforce, despite being part of a large international group. "That Slovenia has extremely high-quality staff is also shown by the fact that some of our employees have progressed to jobs in the MOL Group abroad," they say. ■

Online Catalogue of Investment Opportunities in Slovenia

Attracting foreign investment is one of the SPIRIT Slovenija agency's key areas of operation. They have therefore produced an online catalogue that provides a comprehensive overview of investment opportunities in Slovenia. It is aimed at those in charge of investment projects as well as potential investors themselves.

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INTERNATIONALISATION

Slovenian Exporters Still Heavily Dependent on European Market

Despite European markets' great importance to Slovenia's merchandise exports, average growth in its exports to the Americas (12%), Africa (9%), Asia (9%) and Oceania (6%) have outpaced its European exports over the last decade. Exports to Europe grew by 5.1% on average each year.

Darja Močnik, Analytical Department, Chamber of Commerce and Industry of Slovenia

Slovenia's annual merchandise exports have increased by just over EUR 18 billion over the last decade, when annual growth in exports to foreign markets averaged 6.5%. The largest increase in value terms was in annual merchandise exports to the EU27, which increased by EUR 11 billion, or an average of 5.3% each year. A majority of value-added is also generated by exports of merchandise and services to EU27 markets. Proximity and connections mean that Slovenia is most heavily integrated into international flows in central Europe, particularly with neighbouring EU Member States and the countries of the western Balkans. Slovenia's advantages are its strategic position and good logistics, its infrastructure (telecommunications and energy), and its educated workforce, which allows Slovenian firms to be more integrated in the European space. Slovenia is also an attractive location for the reloading of imports from other continents. Slovenian firms are an important developmental supplier for European industry, particularly in the areas of mobility and mechanical engineering. Alongside its large exports to the EU27, Slovenia has also increased its annual merchandise exports to EFTA countries by EUR 5 billion over the last decade, equivalent to average growth of

one-third each year (re-exports of pharmaceutical products to Switzerland accounted for the majority of the increase¹). Slovenia's annual exports to other European countries (neither EU Member States nor EFTA) have increased by EUR 1.4 billion over the last decade, or an average of 3.6% each year. The performance of the Slovenian economy depends largely on the four EU Member States to which it exports close to 42.4% of all the merchandise that it sells abroad: Germany (which accounts for 17.4% of total merchandise exports), Italy (10.6%), Croatia (7.9%) and Austria (6.5%). Over the last decade Slovenia has seen the largest increases in its annual merchandise exports to Germany (by EUR 2.5 billion), Italy (EUR 1.8 billion), Croatia (EUR 1.7 billion), Austria (EUR 858 million), France (EUR 576 million) and Poland (EUR 529 million). Slovenia has room to expand its exports to European countries in the areas of industrial machinery and parts, electrical machinery and appliances, pharmaceutical products, motor vehicles and

parts, fabricated metal products, plastic products and rubber products.

The largest increase in annual merchandise exports to other continents over the last decade was recorded by Asia (EUR 720 million, or an average of 7% each year), followed by the Americas (EUR 592 million or an average of 8% each year) and, some way behind, Oceania (EUR 86 million or an average of 11% each year) and Africa (EUR 48 million or an average of 2% each year). Their growing wealth and the increase in consumption are creating opportunities on these markets for Slovenian firms. For larger firms it is important to have representative offices on different continents, as certain opportunities and also crises are limited to a local scope.

Exports of merchandise and services have increased by just over 6% each year on average over the last decade.

Slovenia has room to increase its exports to the Americas in the areas of motor vehicles and parts, machinery and parts, electrical components, pharmaceutical products, and plastic and rubber parts. Slovenia could export more retail pharmaceuticals, motor vehicles and

¹ The SORS figures for adjusted merchandise exports include re-exports, namely the re-export of medical and pharmaceutical products to Switzerland, which yield the Slovenian economy a below-average level of domestic value-added.

parts, electronic equipment, lights for motor vehicles and parts for electrical motors, ferrous metals, chemicals and wood to Asia. Its exports to Africa could be increased through pharmaceuticals, motor vehicles and parts, construction components, pipe appliances, and iron and steel products.

Slovenia exported EUR 44 billion of merchandise and services to Europe in 2021, or 92% of its total exports.

Developing countries want to strengthen their potential for innovation, and aim to become players in global value chains and to export complex final products to European countries, which is an opportunity for Slovenian firms. Many important Asian countries are increasingly environmentally aware, and are therefore striving for sustainable and non-polluting manufacturing, and an efficient energy market, which is pursuing a green and digital transformation. They are strengthening investment in R&D, where the aim is to increase output and the volume of

exports of products with high value-added by increasing the competitiveness and efficiency of manufacturing. Their purchasing power will strengthen over the coming decades, which will also increase Slovenia's export potential to the aforementioned countries.

Breakdown of Slovenia's exports of merchandise and services by continent, 2021

Continent / grouping	Exports of merchandise and services, EUR million	Share of total, %
Total	47,890	100,0
Europe	44,151	92,2
of which: EU27	32,723	68,3
Africa	371	0,8
Americas	1,419	3,0
Asia	1,788	3,7
Oceania	140	0,3

Source: Statistical Office of the Republic of Slovenia. Note: merchandise includes re-exports of medical and pharmaceutical products with Switzerland (provisional figures) and services includes the Bank of Slovenia.

Slovenia has a profoundly export-oriented economy, which means that it is highly exposed to the situation in the international environment. Europe, comprising the EU27, EFTA and other European countries, is Slovenia's most important economic partner, and accounted for 88% of Slovenia's total trade in merchandise and services in 2021, with the EU27 accounting for two-thirds. Next comes Asia, which accounts for 9% of Slovenia's trade. This is followed by the Americas with around 3% of the total, Africa with 1%, and Oceania with 0.2%.

Alongside merchandise exports, services exports are also important to Slovenia (accounting for around a fifth of total exports). Annual services exports have strengthened by just under EUR 4 billion over the last decade, or just over 5% each year. The largest increase over the last decade was in annual exports of transport services (which were up EUR

Breakdown of Slovenia's merchandise exports by continent

NORTH AND CENTRAL AMERICA	Share of exports to continent, %	Exports, EUR million
Nuclear reactors, boilers, machinery and mechanical appliances, parts thereof	17.6	170.0
Electrical machinery and equipment, parts thereof	14.8	143.6
Pharmaceutical products	10.7	103.7
Optical, photographic and measuring apparatus, parts thereof	7.6	73.6
Toys, games and sports requisites	7.6	73.3

SOUTH AMERICA	Share of exports to continent, %	Exports, EUR million
Boilers, machinery and mechanical appliances, parts thereof	18.4	21.3
Electrical machinery and equipment, parts thereof	17.3	20.0
Pharmaceutical products	16.5	19.1
Optical, photographic and measuring apparatus, parts thereof	10.4	12.1
Aluminium and aluminium products	6.4	7.4

EUROPE	Share of exports to continent, %	Exports, EUR million
Pharmaceutical products	21.1	7,616.2
Vehicles and parts and accessories thereof	12.0	4,332.4
Electrical machinery and equipment, parts thereof	11.2	4,040.5
Boilers, machinery and mechanical appliances, parts thereof	9.1	3,286.7
Mineral fuels and oils	4.5	1,621.3

AFRICA	Share of exports to continent, %	Exports, EUR million
Wood and wood manufactures, wood charcoal	22.7	76.4
Pharmaceutical products	15.2	51.1
Paper and paperboard, articles of paper pulp, of paper or of paperboard	9.1	30.4
Boilers, machinery and mechanical appliances, parts thereof	8.2	27.5
Electrical machinery and equipment, parts thereof	6.9	23.2

ASIA	Share of exports to continent, %	Exports, EUR million
Pharmaceutical products	18.4	335.6
Electrical machinery and equipment, parts thereof	12.0	218.5
Boilers, machinery and mechanical appliances, parts thereof	11.6	210.5
Optical, photographic and measuring apparatus, parts thereof	7.4	134.4
Vehicles and parts and accessories thereof	7.2	131.4

OCEANIA	Share of exports to continent, %	Exports, EUR million
Boilers, machinery and mechanical appliances, parts thereof	37.9	46.5
Pharmaceutical products	15.4	19.0
Electrical machinery and equipment, parts thereof	8.2	10.1
Vehicles and parts and accessories thereof	8.1	9.9
Optical, photographic and measuring apparatus, parts thereof	5.6	6.8

Source: Statistical Office of the Republic of Slovenia

1.3 billion, or an average of 7.3% each year), which means that Slovenian transport firms being hired by foreign clients are significantly strengthening their export opportunities. They are also seeing growing volume in connection with the Port of Koper, where foreign clients have high-quality logistics services available. Annual exports of other business services have strengthened over the last decade (by just over EUR 1 billion, or an average of 10% each year), most notably technical services, trade-related services and miscellaneous business services and construction services (by EUR 600 million, or an average of 17% each year). Spending by foreign tourists in Slovenia was also a significant factor in the growth in services exports in previous years. This has not yet returned to its pre-pandemic level. There is great potential in the coming years for exports of construction and transport services to European countries in particular, primarily on account of proximity. When it comes to attracting foreign tourists, Slovenia will focus more on boutique

tourism and high-quality services for foreign guests. For countries outside Europe, Slovenia's competitive advantages lie in attracting foreign tourists, exports of ICT services, and niche business services (IT, consulting, trade-related services) that foreign markets need.

The EU accounts for 65% of Slovenia's merchandise imports and 67% of its merchandise exports


The Covid-19 pandemic, the Russian military aggression against Ukraine and the disruption to availability of energy and semi-finished products have all shown how important it is to forge solid progressive partnerships, where firms must be willing to compromise between competitive pricing and the resilience of the business model. Crises of this kind reveal the need for multiple suppliers in different locations. Firms must set out their export strategies with regard to current information on trends and their

business strategies, and must be prepared for a variety of backup scenarios, as only in this way can they build a lasting presence on foreign markets. To increase their penetration into foreign markets, firms should also strengthen their local presence, which includes investing in new production capacity in local markets. Trade agreements with other countries help firms in overcoming barriers to gaining access to the desired market. ■

In terms of the Standard International Trade Classification (SITC), Slovenia's largest merchandise exports in 2021 were in machinery and transport equipment (a third of the total), chemicals (28%), manufactured goods classified chiefly by material (18%), miscellaneous manufactured articles (10%) and mineral fuels and lubricants (just over 4%).

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C-ASTRAL, D. O. O.

The C-ASTRAL SQA eVTOL uncrewed aircraft systems are flying high!



C-ASTRAL Aerospace has launched its new SQA [BELIN-V] eVTOL uncrewed aircraft system in April 2022 at the XPONENTIAL 2022 trade fair in Orlando, Florida. The system has immediately gathered the attention of the international customer base and large orders for the system followed in Q3 and Q4 of 2022 with the production capacity of the company booked for the whole of 2023.

C-ASTRAL systems are flying over all continents in the most demanding conditions, and in 2021 and 2022 have been delivered to Africa as well as the Arctic. After completing the Expeditionary Organic Tactical Airborne Intelligence, Surveillance and Reconnaissance (AISR) Capability Set (EOTACS) evaluations with the United States Special Operations Command (SOCOM) as the most successful system, the company has made new inroads in the demanding US governmental market. Besides these achievements, C-ASTRAL also functions as a technologically vertically integrated company. One of its distinctive advantages is a unified command and control software suite

called C3P which is designed around an open architecture for maximum interoperability and integration in larger networked systems and the multisensor and multirole capability of the new SQA eVTOL. The open architecture approach is visible also in the large amount of different sensor payloads that the company has integrated in its systems.

The new division of C-ASTRAL ASTRAL-DYNAMIK has tested also a new waveform digital radio link in 2022 and is currently producing the first 20 batch 1 production units. With these diversification, C-ASTRAL is entering a completely new vertical market with great potential. Up to now, C-ASTRAL has sold systems to 7 NATO and large number of allied countries and small unmanned systems are widely used as imagery intelligence assets by the NATO Enhanced Forward Presence Battle Group in Latvia. In 2021, C-ASTRAL has also supported the NATO Mountain Warfare Center of Excellence exercise Triglav Star 2021 and in 2022 the NATO Adriatic Strike exercise. C-ASTRAL systems were also extensively used in the mitigation of the largest wildfire

in Slovenian history on the Kras plateau. The research and development activities of C-ASTRAL are supported by the European Defense Agency, European Commission as well as local and international research partnerships and the company is open for strategic partnership in Europe and beyond.

C-ASTRAL Aerospace was founded in 2007 as a result of a multi-year research and development effort centered on autonomous and remote sensing systems and their analysis and reflection. In 2004 the first prototype, SYSTEM-77CCR was unveiled and in 2005 the first Slovenian unmanned system, Spectral System performed its maiden flight. In 2022, more than 450 C-ASTRAL built systems are flying in 72 countries operated by scientific, commercial, governmental and non-governmental entities.

The company based in Ajdovščina, Slovenia, is one of the global leaders in Small Uncrewed Aircraft System (sUAS) production and integration. Besides integrated systems, the company manufactures communications and command and control hardware and software as well as data processing systems and subsystems.

C-ASTRAL built systems achieved many firsts in the sUAS world, such as the first successful mapping flights above high altitude mines in Chile in 2012 (4500m ASL) as well as the first official fixed wing BVLOS flight in the Canadian airspace in 2017.

C-ASTRAL is active in the Unmanned Traffic Management research and development initiatives (it was partner in 3 Single European Sky Air Traffic Management Research i.e. SESAR projects) and is supporting the fielding of beyond visual line of sight operations with small UAS in Europe, Asia, Africa, Oceania the Americas and Antarctica.

The company is a true uncrewed systems integrator with verticals in command, control and intelligence systems, uncrewed aircraft systems and communications systems integration.



FOREIGN DIRECT INVESTMENT

FDI Flows to Foreign Countries Remain Limited to Set of Traditional Countries

A highly diversified set of foreign investors account for inward FDI at 35% of Slovenian GDP.

Bojan Ivanc, CFA, CAIA, Chief Economist at the Analytical Department, Chamber of Commerce and Industry of Slovenia

In the last few years, the importance of foreign investment in the Slovenian economy has grown considerably, but about at a third (35%) of GDP it is still lower than in comparable CEE countries¹ (median: 55% of GDP), although higher than in the more developed Germany (23%). Owing to its small size and high integration into value chains, along with the absence of a functioning domestic capital market (due to the lack of IPOs), the importance of foreign investment can only be expected to grow in Slovenia. On the other hand, the importance of Slovenian FDI abroad increased in 2021 (by EUR 830 m) to EUR 7.8 billion, standing at 15% of GDP. This was mainly due to banking takeovers in the SEE region, most notably in Serbia.

In the last few years, the importance of foreign investment in the Slovenian economy has grown considerably, mainly due to takeovers in the manufacturing and financial sectors.

The stock of inward FDI in Slovenia stood at EUR 18.4 billion at the end of 2021 (35% of GDP), up by EUR 1.7 billion compared to the end of 2020. No major greenfield or brownfield investments took place in past two years (2020 and 2021), and the FDI stock increased mainly due to higher liabilities (EUR 0.7

billion), reinvested earnings (EUR 0.5 billion) and equity transactions (EUR 0.2 billion).

The region of Osrednjeslovenska accounts for 60% of all inward FDI.

Since 2011 (10-year horizon), inward FDI increased by EUR 9.5 billion, which was largely driven by acquisitions (brownfield investments) of various manufacturing companies, previously in domestic private or government ownership, and financial companies (banks and insurance), in the wholesale and retail trade and the repair of motor vehicles and motorcycles, as well as in higher retained profits. Owing in part to the relatively high valuation of companies, quite a few Slovenian firms opted to be sold to foreign owners (strategic owners or private equity funds), who were the highest bidders as domestic capital providers are both smaller in size and have a lower appetite for risk. Greenfield investments were limited to a handful of examples in manufacturing, most notably in the automotive value chain.

Germanophone Countries the Biggest Foreign Investors

The complex structures of multinational firms, which are a response to several factors (value chain optimisation, optimisation of the tax burden and

other regulatory burdens, etc.), can conceal the ultimate source of FDI, so we analysed inward FDI in terms of the ultimate country of ownership. This kind of analysis reveals the actual control of investments. While there should be awareness about the limitations in determining ultimate investing countries, as certain domestic entities do not have the detailed ownership schemes of their owners available, the best possible assessment is used here. The region of Osrednjeslovenska accounts for 60% of all inward FDI.

Manufacturing, trade and financial business are the most popular sectors for foreign investors.

Under this methodology the biggest foreign investors in Slovenia (exceeding a threshold of EUR 1 billion) are from Austria, Germany, the USA, Italy, Switzerland, Croatia and the Netherlands. Together these countries account for 69% of all foreign investments. In national terms the structure of ownership is quite diverse, as none of the countries exceeds a 14% threshold.

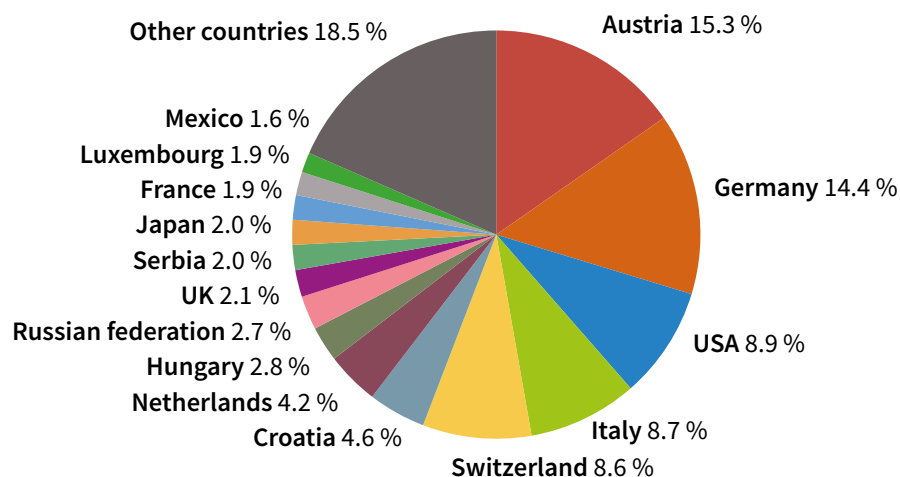
German ultimate investors hold the majority of their indirect investments in Slovenia via Austria in the form of affiliates and branches. Investors from the USA have conducted a large portion of

their investments in Slovenia via companies based in Luxembourg and Austria. UK investors' largest holdings of FDI in Slovenia were also via affiliates located in Luxembourg. Russia as the ultimate investing country was responsible for EUR 515 million in FDI in 2021, putting it in 9th place, with Russian investors holding the majority of their indirect investments in Slovenia via affiliates based in Austria and the Netherlands. In terms of the relative importance of the ultimate investing country compared with the immediate partner country, there are also significant advances made by China, mostly via branches in Luxembourg, and Japan, mostly via Austrian branches. Manufacturing, trade (wholesale and retail) and finance (22% of total FDI) are the most popular sectors for foreign investors, since in tandem with their parent companies they can most often offer an appropriate level of economy of scale. German, Austrian, Italian, Swiss, Russian and Croatian companies are the most prominent in manufacturing. In finance the most powerful foreign investors are from the USA, Italy and Austria. Croatian, Austrian and German companies occupy an important position in tourism, while in retail trade the big investors are from Germany, Austria, Croatia and Italy.

Firms in foreign ownership are more integrated in global and regional value chains. Their productivity exceeds the average of all companies by one fifth.

At the end of 2021, firms with FDI accounted for 1.9% of the entire population of Slovenian firms (excluding financial intermediaries). They represented 30% of total sales, 24% of total capital and 23% of all employees in the Slovenian economy. They were disproportionately export- and import-oriented, as their share of total exports stood at 47% and of total imports at 52%. Their productivity exceeded the average of all companies by one fifth. Regions where foreign companies are especially important are

Stock of inward FDI by the end of 2021



Source: Foreign direct investment 2021, Bank of Slovenia, by ultimate investing country

Osrednjeslovenska, Gorenjska and Podravska. The FDI statistics give an above average-weighting to capital-intensive activities, and less to services, which also create a lot of jobs in Slovenia but account for a low share in these figures.

Most important ultimate investing country for inward FDI as at 31 December 2021

	in EUR, millions
Austria	2,817
Germany	2,647
USA	1,630
Italy	1,594
Switzerland	1,584
Croatia	839
Netherlands	774
Hungary	514
Russian Federation	493
UK	392

Major Importance of Former Yugoslav Republics for Outward FDI

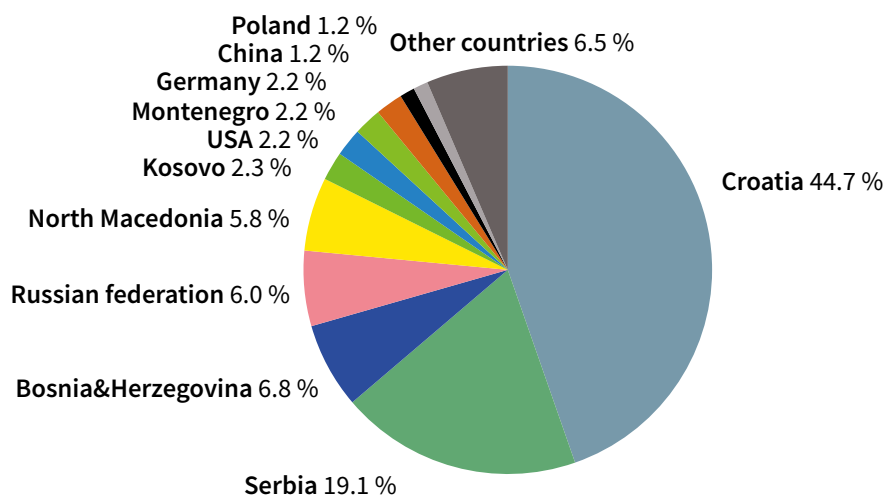
The stock of Slovenian outward FDI amounted to EUR 7.8 billion at the end of 2021, equivalent to 15% of GDP. This was an increase of EUR 825 million (+12 %) on

the previous year, mainly due to the acquisition of the largest Slovenian bank in Serbia. One quarter of the total FDI stocks is represented by real estate, mostly residential real estate owned by Slovenian households on the Croatian coast. In past 10 years, the stock of outward FDI has increased by EUR 2.2 billion.

The stock of equity had reached EUR 6.8 billion by the end of 2021. Slovenian investors added net inflows of equity in the amount of EUR 780 million in 2021 (of which EUR 480 million were related to acquisitions and the rest to net retained earnings) and increased their net liabilities by EUR 320 million. EUR 280 million were other transactions that subtracted from the equity and net liabilities changes.

The stock of Slovenian outward FDI amounted to EUR 7.8 billion at the end of 2021, up 12% on the previous year.

Almost three quarters of Slovenian outward FDI was accounted for by the five largest countries, most notably Croatia (EUR 3.5 billion) and Serbia (EUR 1.5 billion), the only ones exceeding EUR 1 billion. The relative and absolute importance of the largest economies from the former Yugoslavia and Russia has only increased in the last 10 years. On the

Stock of outward FDI by end 2021

Source: Foreign direct investment 2021, Bank of Slovenia

other hand, the importance of Austria has decreased, possibly due to the more integrated EU market which reduced the need for capital intensive FDI in the Slovenia's neighbouring country to the north.

Slovenian companies allocated 26% of their FDI stock to the manufacturing sector (EUR 2 billion), 21% to the financial sector (EUR 1.6 billion) and 15% to trade (retail and wholesale). Three quarters of all FDI in host countries was in the same sectors as their investor companies in Slovenia. We also have to point out that about a fifth of all outward FDI stock is controlled by Slovenian companies that are in foreign ownership. Within

the manufacturing sector, the main beneficiaries of Slovenian outward FDI were Russia, Serbia and Croatia (accounting for half of the total), whereas in the financial sector they were Serbia, North Macedonia and Bosnia and Herzegovina (70% of the total). In terms of the trade sector, 57% of FDI was accounted for by Croatia and Serbia.

A total of 425 Slovenian firms held a controlling interest in a total of 1,107 foreign firms in 2021, which generated total sales of EUR 12.8 billion and employed around 68,000 people. Of these 425 Slovenian firms, 329 (77% of them) were under ultimate Slovenian ownership,

while 96 (23%) were under foreign ownership. A total of 77% of all employees related to Slovenian outward FDI were working in other countries of the former Yugoslavia. The average annual labour cost in these countries was 40% that in Slovenia in 2021, and this difference, together with their geographic proximity, makes them attractive destinations for Slovenian companies, especially for the production of goods with high labour inputs. In addition, as the GDP per capita in these countries is also lower, expected growth in the financial and trade sectors is relatively high. ■

1 The Visegrad countries, namely Poland, Slovakia, the Czech Republic and Hungary

- Krka's factory is the largest Slovenian FDI in the Russian Federation.
- A diverse set of foreign investors holds inward FDI stock.
- The former Yugoslav republics, especially Serbia and Croatia, are extremely important for the outward stock of FDI. These are important manufacturing bases for Slovenian exporting value chains, and important growth markets for the domestic financial sector.

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hibited motion and full freedom of movement within the whole training area. The only laserless solution on the market gathers shooter data and weapon position at an incredible level of efficiency and speed. Data from multiple devices is instantly available for qualitative analysis, resulting in rapid adaptation and personalization of training plans.

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Another remarkable Guardiaris innovation is its own patented 3D game engine GUARD™, which ranks among the most advanced 3D graphics engines in the training and simulation industry. GUARD™ features extremely fast real-world terrain data integration. It instantly turns any place on Earth into a highly realistic synthetic environment replica, which ensures superb immersion into training environments.

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With inspiration in mindset and focus of native warriors, Guardiaris' solutions are all trainee-based, taking into account the innovative scientifically adjusted approach for the new generation of conscripts. Their learning process is provenly triggered by kinaesthetic and visual materials and that is exactly what Guardiaris incorporated into the training solutions. Focusing on their cognitive responses, biometrics, and visual feedback optimizes the training and significantly shortens the training cycle. Truly an optimum training solution for new-gen warriors.

LATEST INVENTIONS

SAMT™: SMALL ARMS MOBILE TRAINER

SAMT™, an ingenious all-in-one single box training solution offers straightforward installation and adaptability to infantry small arms, anti-tank weapons, military vehicles, and remote weapon stations. Complete SAMT™ system comes in easily transportable rugged cases, which reshapes the concept of military training. This mobile solution brings marksmanship and tactical training to the trainees on demand.

MTC: MOBILE TRAINING CENTER

In cooperation with the company Continvest, Guardiaris successfully launched the ultimate Mobile Training Center - MTC. Guardiaris' laserless SAMT™ is permanently preinstalled in Continvest's foldable container, enabling a simple use at any chosen location. After the training, the center is folded to 30% of its original size, making warehousing and transport extremely easy. MTC presents a completely mobile and infrastructurally independent solution for best-in-class tactical and marksmanship training.

INNOVATIONS

Flying into the Future with Innovations

Innovations address the current challenges faced by the economy and wider society. As every year passes, Slovenian companies prove that they have what it takes to make ground-breaking innovations in a wide variety of fields.

Ester Fidel, photos: archives of innovators

Every year the Chamber of Commerce and Industry (CCIS) gives out national awards for innovation. At the 20th National Innovation Awards, seven companies received a Gold Award, 23 received a Silver Award, 12 received a Bronze Award and three received an Innovation Challenge Award. This time round the innovations addressed current challenges facing the economy and wider society, which meant that they focused mainly on sustainable, socially responsible innovations and on raising the international profile of the products of Slovenian knowledge and ingenuity.

In the last 20 years, the CCIS has given awards to over 11,000 innovators for more than 3,440 innovations, including 169 national Gold Awards.



RECIPIENTS OF CCIS NATIONAL GOLD AWARDS FOR INNOVATION:



Lek farmacevtska družba d.d. – Ferumoxytol for intravenous use – Colloid suspension of superparamagnetic iron nanoparticles for the treatment of anaemia

At its Slovenian development centre, Lek have become the first and so far only company to have developed a complex generic nanotechnological drug containing the active ingredient ferumoxytol. Ferumoxytol for intravenous use, a colloid suspension of superparamagnetic iron nanoparticles, is used to treat anaemia. It is based on superparamagnetic nanoparticles of iron oxide with a polymer-based sugar coating. Successful development of the drug and knowledge of nanotechnology have both enabled the company to construct a plant for the production of

ferumoxytol. Manufactured in Slovenia and launched onto the US market in 2021, the drug provides patients with better access to state-of-the-art nanotechnological medication.



TPV AUTOMOTIVE, d.o.o. – Development of a lightweight, thin-walled wheel carrier for high dynamic loads for the entire BMW vehicle platform

This innovation is the product of five years of development by TPV AUTOMOTIVE d.o.o., which worked with more than 20 domestic and foreign institutions and partners to bring all development stages, from concept to mass production, to completion. The universal product covers the entire platform of BMW vehicles, from those with conventional or hybrid drives to fully electrified vehicles. The innovation successfully solves a series of conflicting challenges: how to produce a dynamically loaded vehicle chassis safety element that is as light as possible and

highly complex in terms of geometry, strength and rigidity, with narrow tolerance limits, high corrosion resistance and minimal use of materials in the mass production process. The product will be installed into more than 40% of new BMW vehicles and is a ground-breaking innovation at the global level.



HighFly, d.o.o. – FLYWAY – Electric water scooter

FlyWay can be used safely by families and children, but will also appeal to adrenalin junkies who wish to push the scooter to its limits. The product of development by HighFly, d.o.o., the world's first electric water scooter allows the rider to float above the water and make soundless jumps and turns that produce no waves at all. It is extremely stable and therefore suitable for gentle leisure rides as well. In line with its nature conservation concept, FlyWay is an environmentally friendly vessel.



DOMEL d.o.o. – EC wet/dry vacuum unit

The universal EC motor contains many high-efficiency innovations and technological solutions, and benefits from a modular design. This new concept, of a dimensionally small rotor with permanent magnets, enables laser balancing;

and it is on this basis that a new wet/dry vacuum unit has been produced. In addition to the introduction of laser-welding to bond the plastic parts of the motor together, Domel have developed and produced a line-balanced appliance for the automatic laser-balancing of rotors, which is a world first hidden within Domel's range of products. In 2020, Domel's modular EC motor was in the final stage of development. Increasingly smaller dimensions and the use of strategic materials per unit of output power, along with maximum energy efficiency, call for new opportunities to be exploited. Domel have identified these opportunities in new strategic technologies that demand fresh construction approaches and, at the same time, provide a competitive advantage.



Cleangrad d.o.o. – Sliding doors for clean rooms

Sliding doors for clean rooms are adaptable to a variety of business processes and help to ensure the highest level of security in regulated premises. The doors are suitable for all wall systems and are totally flush with any kind of flooring. Considerable emphasis is placed on the fact that the entire surface of the doors can be thoroughly cleaned and disinfected using highly aggressive cleaning agents, and that maintenance of the door-control elements can be carried out quickly and easily without the need to enter the clean room. The doors are equipped with solid particle catchers that prevent particles from entering the clean room. The floor-mounted guide rail has been created in such a way as to create minimal amounts of particles. Moreover, the doors have no moving parts and are easy to clean. They are manufactured in line with

customer requirements, which means that they can be equipped with glass, contactless card readers, alarms, detectors and all sorts of sensors to enable automated access to and from the room.



Steklarna Hrastnik d.o.o. and RC eNeM d.o.o. – Production of sustainable glass packaging using green hydrogen and recycled glass

By producing innovative carbon-neutral bottles, Hrastnik glassworks wanted to prove that the transition to carbon neutrality is already possible today and to create a leading-edge and sustainable solution that will position the company as a trendsetter in the increasingly competitive premium glass packaging market, thereby securing a significant place on that market and creating an opportunity to generate high value added. At Hrastnik, they are committed to the goal, whatever the challenge involved, of maintaining sustainable development as one of the company's key strategic objectives. The challenge and the goal, to find a solution and implement sustainable technological innovations, is the company's commitment to society and the environment. They are therefore becoming a company engaged in process-driven innovations in the area of carbon balance at European level, forging a path to a brighter and more sustainable period in their sector of business.

PIPISTREL VERTICAL SOLUTIONS

d.o.o. – Pipistrel Velis Electro

Velis Electro is the first electric aircraft in the world to be granted a type certificate from the European Union Aviation Safety Agency. This two-seater, designed for



pilot training, is a gamechanger in terms of technological innovation and cost-efficiency. The revolutionary powertrain, with a type-certified electrical motor and inverter, is entirely liquid-cooled, as are the batteries. Its silent operation and zero emissions means that the Velis Electro can bring flight training much closer to urban areas without adversely affecting the environment.

RECIPIENTS OF A SPECIAL 2022 NATIONAL INNOVATION CHALLENGE AWARD – Innovations that transcend boundaries:



ENGROTUŠ d.o.o. – Ana Roš & Tuš project – Wider social aspects

The Ana Roš & Tuš product line represents the very best local products available in Slovenian stores. With Covid interrupting established supply lines for local producers of food for hospitality, tourism and educational institutions, Tuš decided to open its doors to every Slovenian household. Product design begins with Ana Roš and her team, continues with a search for the proper ingredients from local producers, and ends in boutique, small-series production by small local

manufacturers. Seventy Ana Roš & Tuš products have come to market since 2020, scooping three innovative food awards in 2021 and 2022 from the Nutrition Institute.



ISKRAEMECO d.d. – Green Penguin – Wider environmental aspects

The Green Penguin resolves environmental and social challenges. It is a solution designed for smart cities and their residents (primarily schools, but it can also range much wider). It provides support to smart cities for achieving carbon neutrality through the use of smart technologies, real-time data on the consumption of resources, education, and the involvement of pupils in game-based learning. The Green Penguin is a leader of change, a friend and a visionary. With the Green Penguin's help, schoolchildren compete to reduce their carbon footprint by

reducing their consumption of resources. The data is presented in a tangible, easy-to-understand and entertaining way.



Tushek d.o.o. – TUSHEK digitalised electric hypercar in the GRID LEGENDS computer game – Wider promotion of Slovenia throughout the world

Tushek, the Slovenian manufacturer of sports cars, have, in collaboration with EA sports, the world's biggest computer games developer, and digital studio Code Masters, presented one of their vehicles in the GRID LEGENDS computer game, which has 14 million players. Working with Tushek's engineers, EA sports and their digital studio Code Masters digitised the TS 900 car and inserted it into the game. ■



The innovations addressed current challenges facing the economy and wider society.

Statements Regarding Innovations

“Currently we have several projects in the development department. We are developing completely new things, as well as perfecting existing products and innovations. The aim is to develop or improve at least two things each year. Without innovation there is no progress or future for the company. Our aim is to use innovative solutions to define the guidelines in the development of our products, and we are among the best innovators in our segment in the EU market.”

Jernej Zupančič, Managing Director of Cleangrad

“Innovation is the fruit of years of effort that staff at the Slovenia Development Centre have invested in the development of active medical ingredients and final pharmaceutical forms. Intravenous ferumoxytol represents an important step in the treatment of anaemia, since it increases the availability of the most advanced

nanotechnology medication to a wider circle of patients. Innovation is woven into the DNA of our company and has distinguished us right from the beginning. Lek's researchers have always been regarded as leading innovators in Slovenia, and our teams are involved in the development and production of numerous ground-breaking projects in the fields of original biologic, biosimilar and generic drugs.”

Lek

“At Tuš we believe in Slovenian quality, so our shelves are stocked more than 70 percent with products of Slovenian origin. In cooperation with world-famous chef Ana Roš we have taken another step forward, combining respect for the local environment and sustainably oriented practices with superlative cuisine. In this way we have offered our customers high-quality Slovenian products for everyday purchases using local ingredients prepared by Slovenian boutique producers to the

original recipes of chef Ana Roš. Through this project we are demonstrating that local supply, sustainability and traceability can be the future of Slovenia's food chain.”

Dušan Mitič, Managing Director of Engrotuš

“Technological innovation is global. The type certificate obtained from EASA enables the use of the aircraft in more than 75 countries via the validation mechanism. Pipistrel is therefore expanding its production capacities, which will double this year for the product in question and will account for EUR 25 million in turnover already in the coming year. In 2021 Pipistrel was already producing more electric aircraft than others and holds a 100% global market share for electric aircraft. Indirect competitors are manufacturers of general category aircraft. Since the market is heavily regulated by the regulatory agencies, there are no direct competitors.”

Pipistrel



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- Extensive research and development activities for every product
- Clinically-tested medicines
- High international pharmaceutical production standards

KRKA

Living a healthy life.

“The award-winning innovation reflects the high level of internal expertise in the area of research and development of complex products for premium vehicle manufacturers. It has enabled the TPV Automotive company to secure its largest business deals to date and one of the biggest deals in the history of the Slovenian automobile industry. It will be installed in more than 6 million vehicles and represents a major competitive innovative breakthrough both for the customer BMW and for other car makers. With the aim of project implementation we have built an entirely new factory, created new, high-qualification jobs and affirmed the innovative spirit of the company.”

Dr Ivan Erenda, Managing Director of TPV Automotive

“Innovativeness and creativity are essential components of the Iskraemeco culture. Our success and competitive

advantage depend on innovativeness in all areas of our operation. We pride ourselves on our responsiveness, and rapid exploitation of new trends and opportunities. We believe that outstanding ideas are generated best through cooperation – both internally, among our teams, and externally, with partners and experts in this field. This approach led to the creation of the Green Penguin idea, which is a social and technological innovation for smart cities. Green Penguin deals with environmental and social challenges using technology, and it educates, motivates and includes people in working towards a common goal – reducing the carbon footprint.”

Iskraemeco

“The Steklarna Hrastnik glassworks wanted to demonstrate through a carbon-neutral bottle that the transition to carbon neutrality is possible today. At the same time we wanted to create an

innovative and sustainable solution that will position the company as a trendsetter in the increasingly competitive premium glass packaging market. In this way it has secured important differentiation in the market and an opportunity to create higher value added. The complexity of innovation can be seen through the range of involved stakeholders: manufacturing companies, public research organisations and private development companies in interdisciplinary fields of the environment, hydrogen, energy, combustion, development of glass and software solutions that needed to be incorporated and set as the common denominator. The project included numerous external providers, including most prominently the Chemistry Institute, University of Ljubljana, University of Maribor and Messer AG. In four years of development more than 60,000 development hours were performed.”

Steklarna Hrastnik

DOMEL

Domel is a leading global developer and supplier of brushless and universal motors.

At Domel, our engineering experts use high-tech equipment, automation, and robotics to set professional and home appliances into motion. As one of the largest global development suppliers of electric motors and vacuum cleaner units, we have been delivering excellent business products to end users since 1946. Today, more than 300 million high-end devices and consumer devices worldwide are powered by Domel motors. Built with sustainability in mind, our finished products have longer lifetimes, produce less noise, and contribute to lower energy consumption. Domel products are the result of our own in-house development and technology.





SeanTech
process engineering

SeanTech process engineering
solving modern technological
challenges



SeanTech process engineering Ltd. is a Slovenian company with the Gostol process equipment brand present on international markets and focuses on the development and implementation of comprehensive process equipment solutions tailored to customer technology in accordance with the ATEX directive for the implementation of equipment in potentially explosive atmospheres, GAMP, 21 CFR Part 11 and EU standards.

Through the development and manufacturing of customised process equipment, its implementation in the customer's production, start-up and training of the personnel, as well as after-sales activities including maintenance and provision of spare parts, SeanTech Ltd. provides solutions to technological and technical challenges the customers face in their industry.

SeanTech Ltd. sales programme offers specially devised solutions for single machines and automated industrial, pilot or laboratory lines in Ex-environments and other industrial applications. It consists of various types of mixers, mixer kneaders, hydraulic presses, two roll mills, extruders, cutting machines, mills, shredder-mills, mixer granulators, winding machines for GRP pipes and other solutions for the rubber, foundry, pharmaceutical, food, chemical and dedicated industries, production of GRP composite pipes, technical ceramics and other products. The goal is providing customers with efficient, automated and controlled processes of mixing, kneading, homogenizing, pressing, rolling, extruding, cutting, milling-crushing, shredding, drying, granulating, sieving, coating, winding and others.

SeanTech, procesni inženiring, d.o.o.

Phone: + 386 (0)5 33 11 700, Fax: + 386 (0)5 33 11 709
e-mail: info@seantech.eu, website: www.seantech.eu
Headq.: Mekinčeva ul. 15, SI-1000 Ljubljana
Branch: Prvomajska ul. 37, SI-5000 Nova Gorica
Office: Kidričeva ulica 9a, SI-5000 Nova Gorica, Slovenia, EU

process equipment

 **gostol**

 YEARS OF
TRADITION

FOTONA, D. O. O.

The Medical Power of Light – Since 1964

In the Slovenian capital, some of the best made medical devices in the world are developed, designed and manufactured. Fotona, with decades of experience and innovation in the laser industry, creates award-winning medical systems for aesthetics & dermatology, dentistry, surgery and gynecology.

Advanced Technology

Tracing its origin back to 1964, only 4 years after the first laser was invented, Fotona is one of the pioneers of the laser industry. Using a science-based approach and working closely with top universities and medical research centers, the company has developed advanced laser pulse technologies, groundbreaking optical solutions and much more.

Fotona's business philosophy is simple: it aims to choose perfection in all its products. In order to achieve this, its laser systems are designed and created almost entirely in-house, enabling full control over the quality, reliability and safety of the finished medical devices.

The Value of Education

Fotona has one of the most highly educated workforces in the industry, with an exceptionally high number of PhDs specializing in laser and medical technology. Strong R&D capabilities have always been a key competitive advantage of the company. Fotona is also a founding partner of the Laser and Health Academy, which provides a complete educational platform for medical practitioners to continue their professional growth.

Improving the Quality of Life

Whether it is facial rejuvenation, laser podiatry, root canal or incontinence



treatments, Fotona's medical devices enable highly effective, patient-friendly treatment options, which in many cases can offer a superior alternative to surgery. The quest to improve the quality of patients' lives is the main reason driving the innovations and research at Fotona in the fields of aesthetics & dermatology, dentistry, surgery and gynecology.

Global Presence

Based in Ljubljana, Slovenia, with regional subsidiaries in the US, China, Germany and France, Fotona's global distribution network spans across more than 80 countries, ensuring comprehensive support and service to Fotona users worldwide. The increasing popularity of the company's non-invasive treatments, such as Fotona4D®, is bringing global brand recognition through the statements of celebrities, such as Kim Kardashian, who have publicly praised the non-invasive procedures.

The Fotona Family

Being a Fotona laser user not only means working with the best technology, but also being an integral part of the Foto-

na Family. Fotona offers continuous support and opportunities for further professional development through professional workshops, individual training sessions, hands-on demonstrations, symposiums and more. Through long-term cooperation and professional ties amongst medical experts, Fotona's employees and distributors from all over the world, the Fotona family and its members enjoy access to an extraordinary breadth of experience and opportunity for further development.

Exporter of the Year

In September 2022, Fotona was officially presented the prestigious Slovenian Exporter of the Year award. The company was recognized for its exceptional sales growth in 2021 and 2022, which convinced the judges to choose the company as the winner. In the coming years, Fotona plans to continue along on its path to becoming one of the most respected medical device brands in the world.

Fotona
choose perfection

Fotona[®]
choose perfection

A leader & pioneer
in the laser industry
since 1964

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Patented, leading-edge medical technology for
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Committed to Engineering

The Highest Performance, Best Made Laser Systems in the World

STARTUPS

Slovenia Increasingly Adapting To Startup Companies

Startups have a fairly extensive network of support to help them on their way. There is still room for improvement in financing and legislation, although things are already moving forward even here.

Jerneja Srebot

Slovenia has a robust and varied start-up ecosystem fed by a mix of public and private incentives, with the number of companies increasing all the time. “Between 100 and 150 new startups are created in Slovenia every year, driving enterprise growth within the country. However, despite the growth in this ecosystem, Slovenia is still in a lowly position on the international startup scale,” says **Žiga Lampe, Director of Strategic Development at the Chamber of Commerce and Industry of Slovenia.**

Most of the public funding for startups in Slovenia goes through the Slovene Enterprise Fund (SPS) and SID Banka.

One of the priorities of recent years in this area has been the development of a startup ecosystem that includes active assistance from the public sector in improving the way the field is regulated. “This is even more important in financial and technological activities and cryptocurrencies, which are areas of focus for the Slovenian ecosystem,” says Lampe, who adds: “Slovenia has the same opportunities to create a strong ecosystem as other small European countries such as Estonia and Latvia.” Figures from the

Start:up Slovenija platform show that there are currently around 300 startups and scaleups in Slovenia, the majority in the fields of entertainment, sport, health and IT.

Financing Struggles To Meet Needs

Most of the public funding for startups in Slovenia goes through the Slovene Enterprise Fund (SPS) and SID Banka, with support from the Ministry of Economic Development and Technology (MGRT). These are the two best-known institutions providing financial support to startups.

The SPS provides various sources of financing, while for startups and scaleups, three calls for application are crucial. The first is the P2, which provides funding to 40 enterprises each year. Its aim is to develop companies and transform development ideas created by enterprising individuals and groups into undertakings that can be successful on the market. Another aim is to create new innovative companies with growth potential, with an emphasis on developing and commercialising products, processes and services. Startups may receive EUR 54,000 over a two-year period, during which time they develop their product and launch it onto the market. However, as Lampe points out: “This is a relatively small amount

when you consider the large needs of innovative startups, particularly if we want them to become ‘unicorns’, i.e. companies that achieve a market value of a billion dollars or more within a short space of time.”

The fund also runs the SK75 seed capital project, which awards EUR 75,000 for entry onto the market. Applicants to this call may receive a loan of up to EUR 75,000, in three equal instalments and an interest rate of 4%, to start an innovative company. Companies may also receive help from the SPS in the form of vouchers, which is a simple method of access to the co-financing of services.

“Companies can redeem a maximum of three vouchers a year throughout the year. They can choose between vouchers for various things, such as quality certificates, a voucher for intellectual property protection, a voucher for market research abroad, and so on,” explains Lampe.

More and More Private Financers

In addition to the above, the SPS also offers joint investment by private investors. The SI-SK 2022 financial product is aimed at investments in fast-growing enterprises and at providing equity financing in the seed phase for innovative companies that find it difficult to access classic forms of

financing. The capital investment ranges from EUR 100,000 to EUR 600,000, or a maximum of EUR 400,000 if the final beneficiary is based in the Central Slovenia statistical region, in the Municipality of Ankaran, the City of Koper or the City of Kranj. In the case of the financing of an innovative company, the maximum amount is doubled. There is one weakness with this system, which is, as Lampe points out, that “the applicant must acquire the private investor themselves, which is quite difficult in Slovenia.”

Slovenia is home to a range of enterprise incubators, accelerators and technology parks, a large number of business mentors and advisors, and support in a variety of areas.

The financing options for startups are therefore not extensive – or rather, the money offered through these calls for applications is relatively low when set against the actual needs of a large proportion of startups. However, equity financing is being developed in Slovenia by a number of established companies. The Business Angels of Slovenia helps startups acquire investors, and several other risk capital funds are available, including ABC Accelerator, SID Banka, Alpvent, Silicon Gardens, South Central Ventures, Meta Ingenium, Alf Private Equity Fund, and the DTK Murka venture capital firm.

Well-Developed Support System

In addition to financial support, Slovenia offers a large amount of non-financial support to startups. “This takes the form of consultation, specialist help, mentoring, workshops and similar types of support. This is a wide support network,” says Lampe.

Slovenia is home to a range of enterprise incubators, accelerators and technology parks. Entrepreneurs can come together within established networks and work on enterprise events, such as the international PODIM conference in Maribor, the PowerUp! challenge for startups in Central and Eastern

Europe, the Štartaj Slovenija project, to name just a few. Slovenia is also able to offer a large number of business mentors and advisors, as well as support in a variety of areas, with some mentors having more than one area of expertise. There are currently 175 mentors registered on the Start:up Slovenija website.

Lampe points out that “a 2020 study by the Global Entrepreneurship Monitor (GEM) was most critical of Slovenia on account of the insufficient amount of seed capital and subsidies that could be received by startups. There is also too little venture capital and too few professional foreign investors.”

Several Obstacles Have Already Been Overcome

While there are fairly considerable opportunities for startups in Slovenia, they are faced with a large number of obstacles. The action plan drawn up by the Slovenian Ministry of Economic Development and Technology in 2017 defined 17 obstacles, most of which concerned over-complex and protracted administrative procedures.

Some progress has been made in this area since the plan was published – for example, a register of startup companies

has been established that provides a comprehensive overview of the startup ecosystem and gives startup status to those companies that appear in it, which then enables them to apply to calls for applications and acquire investors. The ministry’s activities will enable Slovenian startups to operate via the Amazon and Google Merchant platforms, and for the first time Slovenian companies can be founded or recapitalised by foreign investors, something that had hitherto not been possible unless they were physically present in Slovenia.

Slovenia offers financial and various forms of non-financial support to startups.

One of the biggest problems faced not only by startups but also by other Slovenian enterprises is the long and complicated process of recruiting staff from abroad. Improvements in this area have been introduced by the Employment, Self-Employment and Work of Foreign Nationals Act, which will simplify the recruitment process for startups, while the eBDP project will also enable recruitment procedures to be digitalised. ■



Comprehensive Electrical Protection and Control



Residential



Industrial



PV Systems



DEMOGRAPHICS AND QUALIFICATIONS IN SLOVENIA

Tertiary Education Gains Increasing Share in Slovenia

Slovenia's population is relatively well educated and the education level among young people is high. The rapid recovery of the economy after the pandemic and the resulting increased demand for labour have once again brought to the fore the challenges of a lack of available labour and the gap between supply and demand for knowledge and skills.

Darja Močnik, Analytical Department, Chamber of Commerce and Industry of Slovenia

Population Growth in the First Half of 2022

In the first six months of 2022 the number of inhabitants in Slovenia increased by around 1,500 to 2.108 million. With in this shift, the number of Slovenian citizens fell by 4,300, while the number of non-Slovenians grew by 5,800. In the second quarter of 2022 significantly more inhabitants died (a little under 900) than were born. The number of people moving to Slovenia grew by almost 3,400, so the overall growth was positive (2,500). Slovenia's population is aging. On 1 January 2022 a total of 444,743 persons or roughly a fifth (21%) of the country's inhabitants were aged at least 65. Children under the age of 14 accounted for 15% of the population. Life expectancy for males and females in Slovenia at birth was increasing right up until 2020. Life expectancy at birth for women in 2021 amounted to 83 years and for men 77 years. Lower infant mortality, the rise in living standards, improved lifestyles, higher education and advances in healthcare and medicine have contributed significantly to us living longer. There are approximately 318,000 people younger than 14 in Slovenia, or 15.1% of the population, and

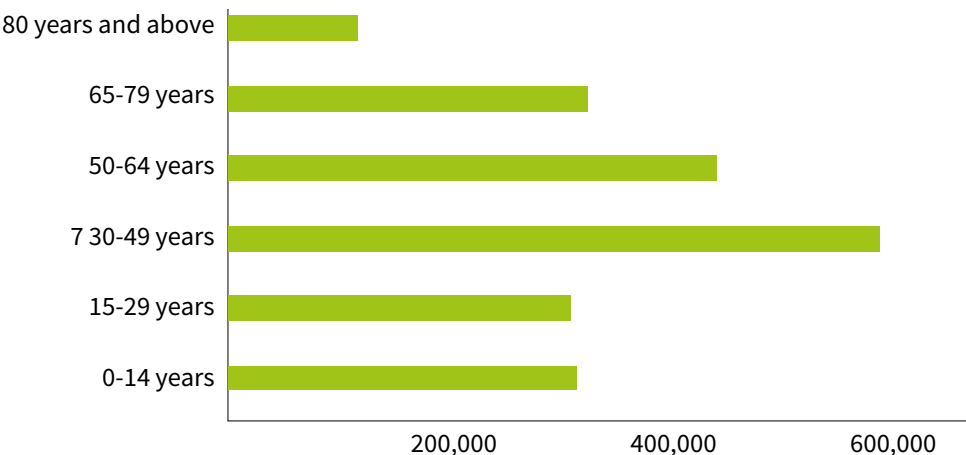
there are 445,000 older than 65 (21.1% of the population). The largest population group is those aged 30 to 49 (28.1% of the total).

The education level of the Slovenian population older than fifteen is good and continues to improve.

High Participation of Young People in Tertiary Education

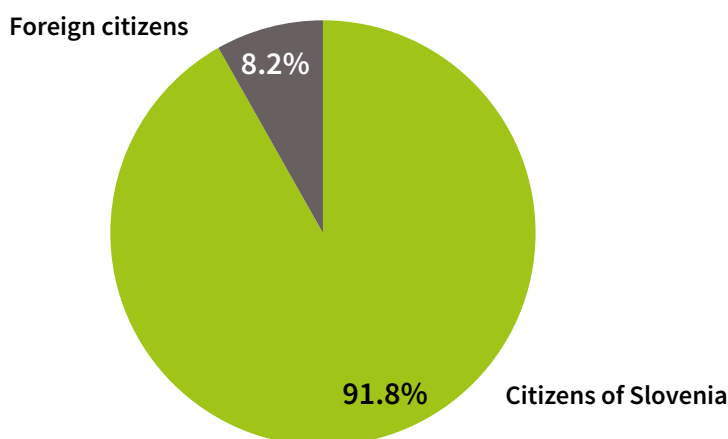
Against the backdrop of demographic change and a desired transition to a highly competitive, digital and green economy, developing adequate employee expertise and skills is posing an ever-greater challenge. The education level of the Slovenian population older than fifteen is good and continues to improve. In 2021,

Age structure of population



Data as of 1H 2022
Source: Statistical Office of Republic of Slovenia

Population



Data as of 1q 2022

Source: Statistical Office of Republic of Slovenia

25% of people over 15 had a higher education degree (compared to 23.7% in 2018) and 52.8% had a secondary or vocational degree (52.4% in 2018). In the last few decades tertiary education has experienced exceptional growth. From 2000 to 2021 in the OECD countries the share of 25-34 year-olds with tertiary education has increased on average by 21 percentage points, and in Slovenia even more, by 29 percentage points. In Slovenia 48% of 25-34 year-olds had tertiary education in 2021, compared to 47% on average in the OECD countries. Generally tertiary education brings numerous benefits in the labour market, including a high level of employability. In 2021 the highest levels of employment among those with tertiary education in Slovenia were for information and communication technology graduates, at 94%, while the lowest levels were for those who studied art, at 84%. Despite the advantages of tertiary education in the labour market, many tertiary education students do not graduate on time or at all. In the three years following the theoretical duration of their programmes in Slovenia, a total of 56% of first-cycle students graduated, while the OECD average is 68%.

Generally tertiary education brings numerous benefits in the labour market, including a high level of employability.

A total of 81,715 students were enrolled in tertiary education in the 2021/22 academic year, down 1.2% on the previous year. Doctoral students accounted for just over 3,500 or 4.3% of the total student body enrolled in tertiary education.

The Economy Needs Graduates in Technical Fields

In Slovenia the average age on the completion of secondary vocational education is 19, which is below the OECD average of 22. In Slovenia 73% of young people aged 18 to 24 are still in full or part-time education or training at the upper secondary or tertiary level (well

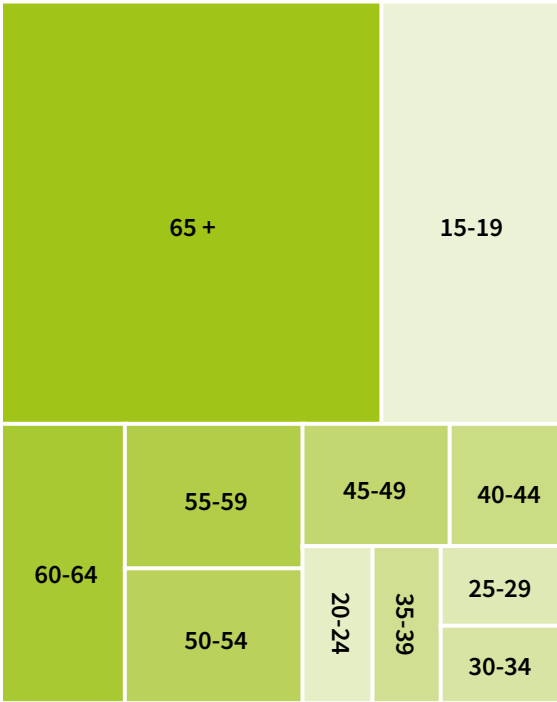
above the OECD average of 54%). Of these students 10% combine their education or training with some form of employment in Slovenia, while the OECD average is 17%. In light of unfavourable demographic trends, a great challenge continues to be the development of suitable expertise and skills among young people and adults to meet the current and especially future needs of society and the economy (due to population aging, the necessity of a green and digital transformation, etc.). Despite the ever greater need for digital skills and the good employment opportunities for information and communication technology (ICT) graduates, only a small share of those enrolled in tertiary education opt for this field. In Slovenia 94% of those aged 25-64 with tertiary education in ICT are employed, but ICT students represent only 6% of those newly enrolled in tertiary education. This is the same level as the OECD average. Although there have been certain shifts in recent years in the make-up of graduates towards satisfying demand, in terms of the desired transition to a digital low-carbon circular economy and the growing needs of a society of greater longevity, there is a particularly acute lack of personnel in healthcare and long-term care, as well as of experts in the information and communication technology field. ■



Photo: Krafart

Population aged 15 years or more

	Education - TOTAL	Basic or less - Total	Upper secondary - Total	Tertiary - Total
Age - TOTAL	1,791,246	398,391	945,704	447,151
as of total	100	22.2	52.8	25.0
15-19 years	93,947	76,334	17,613	0
20-24 years	103,658	11,304	77,840	14,514
25-29 years	113,005	9,548	60,043	43,414
30-34 years	133,642	9,279	69,591	54,772
35-39 years	150,074	10,744	78,312	61,018
40-44 years	161,814	13,595	87,600	60,619
45-49 years	152,766	18,258	85,251	49,257
50-54 years	149,801	24,220	86,467	39,114
55-59 years	152,352	26,070	92,258	34,024
60-64 years	144,472	35,008	81,867	27,597
65 + years	435,715	164,031	208,862	62,822



Data as of 2021
Source: Statistical Office of the Republic of Slovenia



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duction process we also offer CNC machining, machining treatment, and the pre-assembly of demanding conveyor systems, industrial machines and other mechanical assemblies to a wide range of customers operating in different fields."

MOS Servis is present on almost all European markets, including those outside the EU such as Switzerland, Norway and the UK, as well as further afield in the USA and Canada. In terms of the company's growing international experience, Volovšek notes "We have also worked on projects in Qatar, Indonesia, Panama, Vietnam, Guatemala, Saudi Arabia and South Africa."

Volovšek sees his company's competitive advantage primarily in the provision of a wide a range of high-quality, turn-key services and solutions that are delivered in a reliable and timely manner. He emphasises the advantages of in-house production for mechanical assembly and

electrical installations. "We try as much as possible to develop a professional and partnership-oriented relationship with our clients, based on open and honest communication with mutual respect, and the awareness that we are stronger and better when working together."





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YOUNG HOPES

Different Environments Build Character

Living abroad opens up many opportunities and new paths, from career advancement to getting to know new cultures. It also requires a certain degree of drive and flexibility. Three successful Slovenes tell us about their experiences of living abroad.

Jerneja Srebot

There is no shortage of Slovenes willing to go abroad in search of new opportunities – and this is particularly true of those with educational qualifications. The most recent figures from the Slovenian Statistical Office (SURS) show that 5,821 Slovenian citizens left the country in 2021. Just over a fifth went to Austria and just less than a fifth to Germany. Croatia and Switzerland were also popular destinations. Many Slovenes end up finding their compatriots abroad, whether through societies, embassies or other channels, and most often miss their country's small size and the fact that you're never very far away from the countryside. One such organisation that brings Slovenes together is the Association of Slovenes Educated Abroad (VTIS). We spoke to several of them to find out about their experiences.

Slovenes Go Abroad Out Of Curiosity

Monika Bosilj lives in Germany, where she works as the head of the “sustainable catalytic materials” research group at the Fraunhofer Institute for Solar Energy Systems in Freiburg. The group is involved in developing new catalytic materials with the help of renewable and easily available materials. She intends to remain active in this dynamic field and

to be part of the energy transition to renewable energy sources. She is currently in charge of international projects and collaboration with partners from a variety of countries, including Japan, South Africa, Israel and the Netherlands, but would like to see Slovenia become more active in this field. “My role includes advising industry on how to put together strategies to reduce carbon footprint by using renewable energy sources, hydrogen technologies and recycling, and also how to link up with international business partners,” says Bosilj.

“My role includes advising industry on how to put together strategies to reduce carbon footprint by using renewable energy sources, hydrogen technologies and recycling, and also how to link up with international business partners,” says Monika Bosilj.

She believes that “green hydrogen” and related hydrogen-based technologies are very attractive given the current political situation. “In the next few years, green hydrogen will become one of the key renewable energy sources within the green transition process for constraining the rise in global temperatures to 1.5°C.”

Bosilj began her journey to Germany as an Erasmus student at the University of Bochum, where she did her Master's degree. “I then went on to the Fraunhofer Institute for Solar Energy Systems in Freiburg,” she explains, “where I have been leading research projects, alongside obtaining my doctorate in chemistry at the University of Freiburg.” Desire and curiosity prompted her to opt for study abroad, something she is very proud of.



Monika Bosilj

Photo: Bernd Schumacher

She had some initial problems with the German language, and found it difficult to follow lectures and communicate with her colleagues in the laboratory. But she overcame these barriers with the help of friends, who helped her to integrate and learn the language. As there are not many Slovenes in Freiburg, she takes part in meetings organised by VTIS, which are usually held in Berlin or Munich.

Bosilj lists the main advantages of working in Germany as the large market, a very open and dynamic working environment, and the currently large demand for technical professions and for people with IT skills and knowledge of environmental protection. In her experience, however, living in larger cities is tough for young families, with housing and nursery places in short supply.

Slovenes are known for their modesty, determination and decisiveness.

Slovenia, by contrast, is a very small country that hides a great deal of potential, both natural and human.

“Slovenes are known for their modesty, determination and decisiveness. Young people in general have very positive characteristics: they are inquisitive, open, hungry for international experience and prepared for new challenges,” she says, adding that these are the main reasons why young Slovenes leave the country.

Exposure To Different Views Makes Us More Open and Flexible

Eva Turk is a researcher at the University of Oslo's (UiO) Faculty of Medicine, and Associate Professor at the University of South-Eastern Norway's Centre for Technology and Science. Her main area of focus is on the various aspects of digital healthcare implementation. She is currently in charge of the Gravitare-Health project at UiO, which aims to equip the population with digital information tools in order to empower them to become self-confident, active and involved in their treatment. Her experiences of

studying and working abroad have always been positive.

“More than anything, I have always believed that working in a multicultural, diverse environment, whether in an international company or at a university, where we are exposed to different views and ideas, is extremely creative and productive,” she says, adding that environments like that make you more open, flexible and hungry for knowledge.

Turk has devoted her career to researching healthcare systems and seeking out possibilities for improving patients' lives. After postgraduate MBA studies at Vienna University of Economics and Business, she moved to Barcelona, where she did an internship at the World Health Organization (WHO). This was followed by a doctorate at the University of Oulu in Finland. After five years in Slovenia, where she worked on several European projects, she embarked on a six-month exchange in Oslo. She fell in love with the country and decided to stay.

She points out that Norway is a fairly monocultural country, which often makes her feel that she will always be regarded as a foreigner. She is a member of the VTIS Society, which brings Slovenes together around the world, and takes part in gatherings organised by the Slovenian Triglav Society to mark Slovenia's national cultural holiday. “While dealing with a certain dilemma over a cup of tea is more satisfying in your own language than in a foreign language, the magic of being abroad is precisely that your friends are ‘citizens of the world’ and bring different cultures and customs to the table,” she says.

“Working in a multicultural, diverse environment, whether in an international company or at a university, where we are exposed to different views and ideas, is extremely creative and productive,” says Eva Turk.

She is almost just as proud of her outside activities as she is of her academic work, and has always been keen to use



Eva Turk

her knowledge for humanitarian as well as academic research purposes. This took her to Argentina in 2017, where she worked for three months as a volunteer at the Hospital de Clínicas José de San Martín in Buenos Aires. In 2018, after training in disaster readiness and response at the International Federation of the Red Cross, she took up the position of delegate for public health at the Norwegian Red Cross, and was sent on mission to an emergency hospital in the Al-Hol refugee camp in Syria prior to the pandemic. She has also worked at an organisation for the equal inclusion of women in leading positions. “During my presidency of the Norwegian branch of the Professional Women's Network, we introduced a global mentoring programme for network members, which is now being incorporated into the Women in Global Health, Norway organisation,” she explains.

She also has a lot of ideas for the future. At the beginning of 2023 she will establish a working group for inclusive digital community care at the St. Pölten University of Applied Sciences in Austria. She has noticed that multidisciplinary cooperation is still in its infancy in many countries. “I will retain my links with Norway and strengthen them through

future projects, as this area is already very well developed in Norway,” says Turk, adding: “For me, digital transformation also entails changing the way we think. So our group will work in an integrated and inclusive way, with an emphasis on person-centred care.” Through the SanAstra Foundation, which she set up in Oslo some years ago, she will continue her efforts to increase health and digital health literacy in Norway and around the world, thereby helping patients to better understand health treatment and the options for becoming more self-sufficient.

In many countries, multidisciplinary cooperation is still in its infancy.

Work Requires Good Preparation and Rapid Response

Martin Breskvar works at the Unesco legal office and began tracing his professional path when he was still at school. He graduated in Slovenia before taking up postgraduate studies in Norway, where he met his future wife. “After an internship at the Siemens legal office in Oslo and a Blue Book internship in Brussels, in 2016 I became a full-time employee at the Unesco legal office through the ‘Young Professionals’ programme. I started off working in the Section for General Legal Affairs before moving onto the Section for Conventions and Recommendations.” He has now taken a two-year sabbatical from Unesco, having been offered the opportunity to work in the coordination office of the Capacity Building Division of the European Border and Coast Guard Agency (Frontex) in Warsaw.

As the most interesting aspects of his work, Breskvar highlights the support that the legal office provides to the inter-governmental committee. “This includes working at the secretariat of one of the Unesco Executive Board committees, which deals in strictest confidence with complaints against countries in relation to suspected human rights violations in



Photo: Sébastien Gornon

Martin Breskvar

Unesco’s areas of work,” he explains, adding: “We also provide ad hoc responses to legal questions that states ask during meetings and that require an immediate response.”

In addition to the people, the thing Martin Breskvar most misses about Slovenia are the unspoiled countryside, the diversity and the short distances, which are the country’s greatest advantages, while as far as tourism goes, he believes the focus on boutique tourism is extremely important.

Work of this kind requires thorough preparation, a good knowledge of procedural rules, the ability to respond quickly, and ingenuity. In addition, Breskvar has also worked on analysing the rules of procedure of the assemblies of the Unesco cultural conventions, and drew up model rules of procedure that were later discussed at the Unesco General Conference.

Breskvar highlights the role played by societies, particularly the VTIS Society, and embassies in helping to connect Slovenes abroad. “During my studies in Oslo, I met most of the Slovenes I knew through the Triglav Society, in Brussels

and Warsaw I worked with several Slovenes, and in Paris I met most of them at events organised by the embassy,” he says. In addition to the people, the thing he most misses about Slovenia are the unspoiled countryside, the diversity and the short distances, which are the country’s greatest advantages, while as far as tourism goes, he believes the focus on boutique tourism is extremely important. The wide range of professional opportunities and multiculturalism are, for him, the biggest advantages of working abroad. In addition to learning the language, there are challenges relating to adapting to the specificities of a new city or country, and cultural differences and customs.

“It is difficult to generalise the advantages and challenges. For me, the biggest challenge in Norway, for example, was the lack of professional opportunities in my field, while in Paris I found it difficult to get used to the size of the city and its distance from the countryside,” he says. He is still changing his country of residence every few years. And although he has good memories of all of them, the Slavic countries are where he feels most at home.

He sees himself continuing to live in an international environment while doing work that benefits the community at large. “I think it’s very important for me to develop through work and to work in a stimulating environment that offers me a good work-life balance. Time will tell where this takes me,” he says. ■

The VTIS Association of Slovenes Educated Abroad is the leading organisation for the circulation of knowledge between the world and Slovenia. The Association brings together knowledge ambassadors in Slovenia and abroad, promotes cooperation between Slovenia and the rest of the world in the field of science and business, and draws attention to problems and legal obstacles in the circulation of knowledge.



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SMALL COUNTRY, BIG PEOPLE

Volunteer Firefighters Also Work Hard At Their Day Jobs

Slovenian companies' experiences with firefighters are positive. Many work with them on a regular basis, some have volunteer firefighters on their staff and quite a few have direct experience of accidents or fires.

Jerneja Srebot, photo: BSH

Voluntary firefighting units have a long tradition in Slovenia. The Firefighting Association of Slovenia brings together over 160,000 volunteers from more than 1,300 fire brigades – indeed, it is the country's largest voluntary organisation. Slovenian firefighters regularly achieve excellent results at international firefighting competitions and have proved their worth on many occasions, not only when tackling fires.

“If there is a major natural disaster, a large number of volunteer firefighters can be sent into the field at very short notice. Countries that do not have volunteer firefighters find this much more difficult to do,” say Preis Sevnica.

The most recent example of a major firefighting operation was this year's wildfire in the Karst region, which was the largest such incident in the country's history. Over 10,000 firefighters rushed to help – some were professional, but most were volunteers. Slovenes are generally very fond of their firefighters, particularly during major incidents, and many manufacturing companies, which face an increased risk of fire, are very grateful for their work.

Large Number of Firefighters Means High Readiness and Rapid Response

The number of volunteer firefighters in Slovenia is increasing every year, something that Slovenian companies view as a considerable advantage, since it increases the readiness to provide assistance in the event of a natural or other disaster. The **BSH Hišni aparati** company, which specialises in the development and

manufacture of small household appliances, places great value on the selfless help provided by firefighters in the event of accidents and disasters. Their considerable support and help in rectifying the consequences of various other accidents that require the intervention of firefighters is something that the company welcome, particularly as they have experience of this themselves. “This was the case at our company during the floods of 1990, 2009 and 2010. On those occasions we worked with all the fire brigades in the Upper Savinja valley,” say the company.

“The contributions firefighters make are not only evident in their firefighting work but also in the work process, where they demonstrate a high level of training and motivation,” say BSH Hišni aparati.



This is something that the **Preis Sevnica** company also agree with. They see an advantage in the dense coverage of the country with volunteer fire brigades, as it enables rapid response to a disaster or fire. “If there is a major natural disaster, a large number of volunteer firefighters can be sent into the field at very short notice. Countries that do not have volunteer

firefighters find this much more difficult to do,” they explain. They also highlight the fact that the extensive voluntary firefighting network relieves the strain on central government and municipal budgets by considerably reducing the need for large numbers of professional firefighters.

Volunteer Firefighters Contribute To Greater Company Success

Rapid response is not the only positive effect of having a volunteer firefighting system. Volunteer firefighters also have a positive effect on the people around them. This is something companies see among their own employees. “Having such a large number of volunteers also helps to strengthen values such as integrity and comradeship, encourage other people to take up volunteering, and leads to respect, cooperation and the sharing of experiences within the firefighters’ own places of work,” say BSH.

Volunteer firefighters are not paid for their firefighting work but perform that work in their free time – evidence of their



diligence and self-sacrifice at work and elsewhere. Fifty-four of BSH’s employees are operational firefighters who are also members of a special voluntary firefighting unit based at the company. This unit is also part of the BSH civil protection unit, which contains first-aid and technical

units. These units are put through their paces at practical exercises and training sessions conducted at the company. The employees involved come from different fields and work at various levels of the company. “All firefighters are paid for absence from work when undergoing



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training organised by the Firefighting Association of Slovenia. We also cover the cost of our firefighters' medical examinations," say the company. They stress that the contributions firefighters make is not only evident in their firefighting work but also in the work process, where they demonstrate a high level of training and motivation.

The fact that a large proportion of the company's workforce are also active firefighters is a considerable advantage when it comes to being familiar with firefighting techniques.

Rapid and Professional Response

In addition to having volunteer firefighters in their ranks, many companies also have direct experience of firefighters who have helped them during accidents and

other challenging events. Preis Sevnica mention the several occasions on which smaller fires have broken out at the company. "We have called on help from firefighters on several occasions in the past. Their response was very rapid and professional," they say. The Rosenbauer company, who supply protective firefighting equipment and firefighting vehicles, also have positive experiences. "In 2020 the roof of one of our production halls caught fire. Major material damage was prevented by the rapid response of firefighters. They were not only able to save the building, but also ensure that we were able to resume production very quickly," explains **Rosenbauer's Managing Director Marjan Cvikl**, who points out that around 60% of the company's workforce are also active firefighters, which is a considerable advantage when it comes to being familiar with firefighting techniques.

BSH have not had experience of a major fire, although a number of smaller fires have broken out and been dealt with quickly and efficiently by trained firefighters who managed to prevent them from spreading. As the company point out: "More than anything, things have to be under strict control and supervision in places where hot work is carried out on buildings during construction or renovation. There has to be a fire watch and great care taken, and there must also be an awareness of the materials from which a building is constructed."

Some companies work with them in organisational and operational areas.

Local Fire Brigades Helped By Donations

Fires and accidents are not the only time companies come into contact with firefighters. Some companies work with them in organisational (mainly by organising various events) and operational areas. With firefighters, BSH carry out joint firefighting exercises, fire watch operations during hot work at the company, and the protection and directing of traffic at events. They also work together within the Upper Savinja Valley Firefighting Association at exercises and meetings, where they share best practice and pass it on. "We also work with neighbouring brigades and other firefighting associations, such as Velenje voluntary fire brigade, which also keeps an eye on our company's firefighting equipment and hydrants," say the company, who add: "Cooperation also takes place with the leadership of the Firefighting Association of Slovenia itself. We meet annually to share experiences, which we then pass on to all firefighters in Slovenia."

Many companies provide volunteer firefighting units with financial donations, which helps them buy protective and rescue equipment. Rosenbauer also organise inspections of the production process for fire brigades. ■



The Firefighting Association of Slovenia brings together over 160,000 volunteers from more than 1,300 fire brigades.



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Nina Šprohar

Conditions Are Challenging But Koper Are Coping

“Conditions in logistics have never been as challenging as they are now,” say the **Port of Koper**. In their opinion, this applies as much to land as to maritime transport. The global logistics business is faced with a large number of challenges, including saturation at ports, a lack of lorry drivers and other workers, frequent rail transport blockages resulting from maintenance work and upgrades, and rising energy and transport costs. At the same time, delays in supply chains have been a constant feature of the last few years.

Koper will cover the new warehouse with photovoltaic panels, and are planning to construct photovoltaic power plants with a power-generating capacity of up to six megawatts by 2025. This will cover up to 20% of our own annual electricity needs.

Every port in Europe and the rest of the world is experiencing these global shocks, Koper included. Where is this most obvious? According to the port: “Mainly in the irregular ship services and the lack of available warehousing space because of delays to freight despatch. All this affects

the dynamics of the work we do. Changes require rapid adaptation.” They add that the situation is nevertheless manageable as they are still able, by engaging extra resources and coordinating intensively with business partners, to provide a truly high-quality service.

Achieving Excellent Business Results

In the first half of 2022, the Port of Koper achieved excellent business results in all segments and goods categories. They increased their net sales revenues and, according to the most recent estimates, will have generated EUR 300 million in net sales revenues by the end of the year. This compares with EUR 228 million last year. They are satisfied that they have bettered the results from the first half of last year and the planned performance indicators for the first half of 2022 in both strategic goods categories, i.e. containers and cars.

They believe that digital transformation offers major opportunities for further development. “In developing our information systems, we want to adapt to our customers’ needs and operations, with maximum digital transformation in business operations, the integration of systems by connecting various links within the logistics chain, and paperless transactions.”

Planning Investments In Infrastructure

The Port of Koper are also keen to become as energy-independent as possible by transitioning to cleaner and more renewable energy sources, and to be even more environment- and health-friendly. “We are currently planning a new warehouse for iron products that we will cover with photovoltaic panels, and are planning to construct photovoltaic power plants with a power-generating capacity of up to six megawatts by 2025. This will cover up to 20% of our own annual electricity needs. We will increase the power to ten megawatts by 2030, which will cover more than 30% of the port’s annual electricity consumption,” they explain.

Slovenia lies at the intersection of key European corridors, with the Port of Koper, the main port on the Adriatic, playing a key role.

The Port of Koper Group are planning even greater investments in the next few years. This year they completed one of their biggest investments of recent years, the expansion of the southern section of the first wharf (container terminal), but have not stopped there. They are making intensive preparations for the next phase, which is to expand the northern section of



Photo: Peter Kleva

In the first half of 2022, the Port of Koper achieved excellent business results in all segments and goods categories.

the wharf. “This project, worth EUR 248 million, includes the upgrading of the operational waterfront and warehouse areas, the procurement of additional waterfront cranes, the lengthening of the terminal’s railway lines, the expansion of storage capacities for containers on the land side of the terminal, and the purchase of additional machinery,” they say.

In the area of the second wharf, they are planning to build warehouses for general freight, while a new lorry terminal is already taking shape at the terminal entrance on the land side of the port. They have also begun work on the “kaseta 5A” land parcel, which is intended to provide warehouse capacities for cars. Warehouse areas will also be established in the next few years in the immediate vicinity on “kaseta 6A” and “kaseta 7A”.

Expanding To New Markets

They explain that Slovenia has major advantages, largely due to its geographical location. “It is precisely because of this that there is considerable demand for logistics services from other countries as well, with many companies in our region setting up distribution centres for

Central, Eastern and South-Eastern Europe. Slovenia lies at the intersection of key European corridors, and the Port of Koper, the main port on the Adriatic, plays a key role,” they add.

Koper’s most important inland markets are the countries of Central and South-Eastern Europe that lack access to the sea and their own ports. These include Austria, Hungary, Slovakia, the Czech Republic and Poland. Koper also provide services to overseas markets, mainly in Mediterranean countries, the Middle East and the Far East.

With the worldwide rise in online commerce, Pošta Slovenije’s more important innovative capacities are focused on last-mile delivery, reverse logistics and storage.

They are also expanding to new markets in which they currently have less of a presence. “An example of this would be Southern Germany, and we also spy additional potential in Southern Poland, where we have made quite considerable progress in the last few years. Western Romania and Serbia are also potentially

interesting markets for the port, and the numerous markets of Asia present good opportunities for expansion.”

Postal Logistics Companies Investing In Warehouse Facilities

The **Pošta Slovenije Group** are also noticing continuing disruption to global supply chains, but expect to further expand their logistics capacities. “With the worldwide rise in online commerce, the more important innovative capacities are focused on last-mile delivery, reverse logistics and storage, where the search for providers of third-party logistics (3PL) for commercial needs will be very important. Postal logistics companies are therefore investing millions in storage capacities and fulfilment centres around the world,” they explain. Pošta Slovenije say that the pandemic has further accelerated these trends, which will continue to drive change in the logistics industry in relation to digital transformation, automation and robotisation. “At the same time, the sector will have to move towards complete transformation and decarbonisation. This will require extensive

investments in e-mobility, charging infrastructure and solar power units.”

Many postal operators in Europe saw a fall in the quantities of and revenue from packages in the first half of 2022, but also considerably better results in their logistics divisions, which are growing. Pošta Slovenije note that the mass recruitment of seasonal workers has already started in anticipation of the Christmas season, but are nevertheless expecting slightly lower shipment volumes than last year because of the unfavourable macroeconomic conditions.

In addition to Slovenia, Pošta Slovenije and its subsidiaries in the Pošta Slovenije Group are present on all markets of the Western Balkans. They aim to become the leading provider of comprehensive logistics services in SE Europe.

Pošta Slovenije's New Logistics Hall and Logistics Centre

Pošta Slovenije have also expanded their own capacities. This year they completed the construction of a 5,100 m² logistics hall at Ljubljana postal logistics centre, and will have completed a 7,000 m² logistics centre in Rijeka, Croatia by the end of the year. They are also expanding delivery and logistics post offices around Slovenia. In response to the growth in parcel



Photo: Pošta Slovenije

This year Pošta Slovenije completed the construction of a 5,100 m² logistics hall at Ljubljana postal logistics centre, and will have completed a 7,000 m² logistics centre in Rijeka, Croatia by the end of the year.

shipments and logistics packages, they are expanding their transport capacities. Their fleet of two-track vehicles (including e-vehicles) currently numbers over 1,500, and they also use contract transport.

This year Pošta Slovenije have completed their overhaul of package operations with the introduction of the new MojPaket range of package products. In the area of package delivery, they have expanded their network of POS terminals. Package

delivery workers and postal branches (with the exception of contractual post offices) are now equipped with more than 1,600 POS terminals for payment upon receipt. Expansion of the PS automated parcel lockers system is expected to continue next year.

“Our key projects will, in the next few years, be focused on expanding the spatial and transport capacities for package logistics activities (increasing the size of

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logistics centres, of transshipment and some delivery post offices, of the vehicle fleet and of rented capacities), the computerisation of business (assistance to support and logistics processes), automation (installation of equipment for sorting loose items, upgrading of letter and package sorters) and digital transformation (development of a virtual post office counter),” explain the company.

More Environment-Friendly Logistics

“Slovenia has a favourable geostrategic location within Europe and is actively involved in global trade flows. Greater investment would give it more opportunities for the rapid development of port, rail, road and air transport,” they say. Logistics, including Slovenian logistics, is feeling the pinch from the energy crisis, long vehicle supply times, a lack of drivers and growing labour costs, all of which are increasing operating costs.

Like their counterparts abroad, Slovenian logistics companies are digitally transforming their operations and introducing modern technologies, such as robotics, artificial intelligence, self-driving vehicles, blockchain, big data/predictive analytics, the Internet of Things (IoT) and sensors. “We are therefore seeing an ever greater shift towards Logistics 4.0 – to a new era of logistics based on the digital transformation and automation of business and logistics processes, and on the coordinated operation of companies and equipment, with the aim of simplifying processes, increasing efficiency and stabilising global supply chains,” they explain.

Eurocontrol foresees a full recovery of passenger air traffic to the pre-pandemic levels in 2025.

Pošta Slovenije stress that sustainability is also becoming an essential part of operations in the logistics sector, as governments, cities and providers are making ever greater commitments to reduce CO₂ and waste – and Slovenia is no exception. Sustainable logistics, i.e. the optimisation of processes, materials, new



Photo: Fraport Slovenija

Ljubljana Airport has been experiencing dynamic passenger growth in 2022.

drive technologies and smart devices (for example, smart containerisation in transport will also be relevant in developing environment-friendly formats of delivery in overstretched urban areas), provides the logistics sector with a major incentive to become more environment-friendly.

The demand for air cargo picked up fast

The air transport sector has been shaken by the COVID-19 health crisis like never before, with travel and tourism being amongst the most hard-hit industries, say **Fraport Slovenija**. After very low passenger numbers in 2020 and weak performance due to travel restrictions in 2021, Europe saw such strong demand in the summer season of 2022 that the capacities of airlines and airports were not able to handle it. Staff shortages, geopolitical tensions and global economic challenges have all made the road to recovery rocky. In 2023 the aviation eco-system will still be affected by these factors. Eurocontrol predicts that there will only be a full recovery of passenger air traffic to pre-pandemic levels in 2025. While air cargo suffered the weakest performance ever seen by international freight volume with the outbreak of COVID-19, demand

picked up much more rapidly compared to passenger traffic, recording strong growth compared to pre-pandemic levels already in 2021, driven by the stronger economy. Global air cargo has been showing slower growth in 2022, due to the effects of supply chain disruptions and capacity constraints, rising energy costs, inflationary pressure, a deterioration in economic conditions as well as the Russia-Ukraine conflict, but it still continues to be resilient.

They want to attract new partners and destinations

Fraport Slovenija operates and manages the main international airport in Slovenia, accounting for more than 97% of all air traffic. In the recovery period after the COVID-19 pandemic, Fraport Slovenija has made intense and continuous efforts to encourage carriers to strengthen the connections they offer to and from Ljubljana Airport with additional flights, and to attract new partners and destinations, where we see long-term benefits emerging for our flight network. In 2022 flights to 19 destinations with 15 regular carriers are being offered, with good connecting options through the biggest European hubs, as well as Istanbul and Dubai, to all

over the world. The best performing markets in 2022 have been London, Istanbul, Frankfurt, Paris and Zurich. A vast offer of charter flights has supplemented the flight network in 2022, serving 26 destinations in 16 countries, from Portugal all the way to Jordan, with the most popular destinations being the Greek islands, Turkey, Spain and Egypt.

Fraport will more than double last year's passenger traffic

Ljubljana Airport has been experiencing dynamic passenger growth in 2022, driven by the lifting of travel restrictions and increased demand for regular and charter flights. "In the first ten months of 2022 we have handled more than 842,000 passengers in total, which is 155% more than in the same period last year," a spokesperson for the airport said. "The number of airlines connecting Slovenia to the world has reach pre-pandemic levels again. As passenger traffic continues to recover, we will more than double last year's traffic, and are hoping to approach one million handled passengers in 2022. We forecast our passenger traffic will fully recover to the levels seen before the COVID-19 pandemic in 2026, although with regard to charter traffic, which in some summer months is up to 25% of our total, this full recovery is set to happen sooner, in 2024." Fraport Slovenija will continue

with its efforts to strengthen the connectivity of Ljubljana Airport. In terms of new markets the most interesting are Scandinavian destinations, and those on the Iberian Peninsula, whereas in charter traffic the airport hopes to once again be welcoming Korean and Japanese tourists when the restrictions due to COVID-19 in Asia are eventually relaxed.

The number of airlines connecting Slovenia to the world has reach the pre-pandemic times again.

Fraport Slovenija also operates and manages the Air Cargo Center Ljubljana, where handling of air and truck cargo is provided. Cargo traffic has been growing in 2022, with some months even seeing record volumes of freight handled. In the period from January to October a total of 23,242 tons of cargo were handled, a 6.1 % increase compared to the same period in 2021. As the airport notes, "A strategic location, highly professional and quality services, and flexibility are the key advantages recognised by our business partners in the cargo segment."

Potential for cargo and real estate developments

Since Fraport AG started operating Ljubljana Airport through its subsidiary Fraport Slovenija in 2014, through until

the end of 2022, the company will have invested more than €70 million in the development and modernisation of the airport's infrastructure, equipment, and IT. At present, more potential is seen for cargo and real estate developments in the direct vicinity of the airport. Fraport Slovenija owns – among others – a ready-to-build plot of 8 hectares, which would be ideal for warehousing or light production. A spokesperson says, "A twenty-three million investment in the new passenger terminal was a milestone. With the new construction we gained modern infrastructure, spreading over an area of 10,000 m², which offers its users higher quality, a greater variety of services and a better working environment." The company's next investment cycle will concentrate on manoeuvring areas and cargo infrastructure, where they will modernise ULD handling and increase capacity to further raise the quality of the services offered. "we will continue to focus on sustainable development to define our future," the airport notes, "and will take even more systematic steps to reduce CO₂ emissions and make our business greener through sustainable practices, including installing a second photovoltaic system (1088 kWp) on our premises that will enable us to cover more than 20% of the airport's total electricity consumption." ■

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TRANSPORT

Slovenia Starts Exploiting its Major Geographical Potential

Trends in the area of logistics and transport are the same in Slovenia as around the world – the development of digital, technological and organisational support for business processes.

Nina Šprohar

Major Advantages of Cooperation with Different Sectors

The company **cargo-partner** is a traditional forwarding agency in continuous growth. Last year they exceeded EUR 96 million in turnover, and this year according to the predictions of Managing Director **Viktor Kastelic** they might even break the EUR 100 million barrier. As he explains, the economic climate was very favourable in the first three quarters of 2022, but then a slightly downward trend took hold in October. The warehouses are full, the number of orders is falling and the situation in the market is cooling somewhat. It is precisely in such periods where you see the advantages of working with different sectors, says Kastelic, since while the trend is downward in some, other sectors such as pharmaceuticals are still recording growth.

Moreover in his words Slovenia has another advantage that forwarding operations prize – an almost ideal geographical position. “The Port of Koper is absolutely a window into Central Europe. We see enormous potential, which we are now in Slovenia gradually starting to exploit,” he adds. He also sees potential in development and investment in modern warehouse logistics capacities, in infrastructure in which some Central

European countries (e.g. Hungary, Poland and Slovakia) have for decades or even longer been investing heavily. “If the momentum we have observed in recent years in Slovenia continues, the future will be bright. But we will need to step on the gas and speed up investments and other processes to attain this as soon as possible,” thinks Kastelic.

Constantly Investing in Digitalisation of Operations

After opening a 25,000 m² logistics centre at Brnik in 2019 and a 4,000 m² commercial building, at the beginning of 2022 they started building an annex that will increase their storage capacities by 14,100 m². They have been constantly focused on growth and development. Kastelic points to one product that is now rapidly gaining prominence – this is their ‘emergency product’, which involves the immediate processing of an order, a precisely defined transit time, charter services and onboard courier services for all kinds of goods, ranging from important documents to medicines, product samples, car parts and spare parts for urgent cases of aircraft servicing. They arrange door to door shipment, including customs procedures, pickup, delivery and all the necessary services with value added, while a

responsible contact person is constantly available to the customer. Moreover the customer can track the shipment in real time throughout the process.

“We are also investing a lot in the digitalisation of operations. We have introduced a new customer relationship programme, we are introducing a new HR platform, and in the first half of next year we plan the implementation of the new transport management system Cargowise, which is the most advanced platform in our sector,” Kastelic points out. They realise the importance of rapid communication and control over operations, so



Photo: Ziga Inthar

“If the momentum we have observed in recent years in Slovenia continues, the future will be bright,” is the view of Viktor Kastelic, Managing Director of cargo-partner.

they are becoming increasingly agile and adaptable to the needs of individual customers.

Needs in the Logistical Services Market Are Changing

The Intereuropa Group take the view that the business environment is currently subject to a lot of changes, for they are facing rising costs and inflation, and in line with this the needs are changing in the logistical services market. Intereuropa are therefore seeking to match their services as closely as possible to the needs of existing customers, as well as to the potential needs of customers who may have a demand for logistics services. "We are constantly adapting our processes and services to current needs in the market, and we are dealing with all the possible impacts from the business environment in communication with customers," they point out. For this reason too they are ranked among the leading providers of comprehensive logistics solutions in South-Eastern Europe. Through their own network of 12 subsidiaries in nine countries, they provide comprehensive logistics support for

processes in manufacturing, trade and other sectors in Slovenia, Croatia, Bosnia and Herzegovina, Serbia, North Macedonia, Montenegro, Albania, Ukraine and Kosovo. "With the help of a network of reliable business partners throughout the world we are successfully meeting the needs and expectations of buyers for logistical services all over the world," they add. They offer services in the areas of land and maritime transport and various logistical services, from storage to distribution. They offer project logistics services (project cargo) and together with customers, they analyse each of their business cases and formulate long-term and optimal logistics solutions.

Intereuropa are the logistics operator for many international companies that channel their goods flows through South-Eastern Europe.

Intereuropa Also Investing in New Capacities

In order to achieve the set objectives, the Intereuropa Group continuously makes

investments that are required to support operations and the development of their key customers. As they explain, they invest in the maintenance and modernisation of the existing warehouse and logistics infrastructure, and in new capacities in accordance with the needs of customers and business opportunities. Intereuropa's subsidiary **Intereuropa d.o.o., Zagreb** for instance is completing the construction of a new logistics centre at the Kukuljanovo location in Rijeka: "The facility comprises 7,100 m² of warehouse space, including 6,450 pallet spaces in a high-bay warehouse and more than 3,500 m² of floor and free-flow storage space."

The subsidiary **AD Intereuropa Belgrade** has also secured additional warehouse capacities through the long-term lease of a warehouse in Novi Banovci near Belgrade. Logistics capacities comprise 13,908 m² of warehouse space, including 17,210 pallet spaces in a high-bay warehouse, and more than 1,900 m² of warehouse floor space. Together with the new logistics centres, the Intereuropa Group has more than 257,000 m² in total warehouse capacities.

Increasing Needs for Additional Logistics Capacities

"Slovenia is facing a lack of storage and other logistics space. The increased risks in the primary markets for raw materials are forcing companies to create greater reserves. Equally, it is a major challenge to adjust the prices of logistics services as a consequence of the rising prices of raw materials and energy," say the Intereuropa Group regarding what awaits in the future. They have observed that the needs for additional logistics capacities are increasing, and there are not enough available logistics capacities in the market. Trends in the area of logistics are in the digital, technological and organisational support for business processes, they add.

Based on investments already carried out, including in HR, IT and infrastructure, they see possibilities for progress in all segments of operation. They will



Photo: Intereuropa

In order to achieve the set objectives, the Intereuropa Group continuously makes investments that are required to support operations and the development of their key customers.

continue to provide services for numerous customers and in this way enable the uninterrupted operation of supply chains. Indeed their aim is to cater to manufacturing, trading and other companies that require complex logistics operations. To this end they are investing in warehouse capacities and IT – both software and hardware – to tailor processes to suit the customer. “Besides this we will certainly have at the forefront e-commerce and the strengthening of our own and partner networks, which will enable us to pursue further development of groupage lines and intercontinental transport,” they note.

In the first half of 2022 they achieved growth in key operational indicators, generating EUR 98.3 million in sales revenue, an increase of 16% relative to the same period last year and 13% above planned revenues. The Intereuropa Group generated EBITDA of EUR 7.4 million, which was 13% higher than planned and an increase of 6% relative to the first half of last year. Profit from ordinary operations

(EBIT) in the amount of EUR 4.2 million was 29% higher than planned and up by 13% relative to the same period last year. In this way they ended the first half of 2022 with a net profit of EUR 3.2 million, which was 29% higher than planned and up by 15% relative to the same period last year.

Despite the changed economic conditions, this sector is one of the more stable with regard to the FMCG (fast-moving consumer goods) segment, since fluctuations do not impact it so seriously.

Buyers Are Now More Rational

Over the past two years the market has faced major changes, with the period being marked principally by the pandemic and the war in Ukraine, says **Robi Košir, Managing Director of the Logistični center BTC** business unit. He notes that logistics operations have been seriously

impacted by the rising costs of energy and raw materials, labour shortages and supply chain problems, “and this has resulted in major fluctuations in stocks.” BTC Logistics is a specialist in the area of warehousing, commission business and other handling and transport of fast-moving consumer goods (FMCG). “Despite the changed economic conditions, this sector is one of the more stable with regard to the FMCG segment, since fluctuations do not impact it so seriously. The effect of the changes is visible mainly in the fact that buyers are more rational, they are buying with more deliberation and care, the frequency of buying is lower and there are changes in the methods of buying, with the e-commerce segment gaining ground,” explains Košir. He believes that the coming year will be very challenging in terms of the impact of the energy crisis, the growth in the prices of raw materials and services and consequently the high inflation rate, “and this will also contribute to lower consumption.”

freight forwarders and customers brokers



Customs brokerage:

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- Stock reporting, feedback, advising
- Containers port handling
- Stripping/stuffing assistance
- Special cargo handling
- Project cargo handling
- Ship supply handling

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Košir also agrees that Slovenia has an excellent geostrategic location, while a major challenge for them is the rail infrastructure, which is meanwhile in a redevelopment phase, and the lack of modern, high-quality storage capacities. Furthermore, “viewed globally we are still facing a crisis of supply logistics routes, since companies are looking for alternative, stable logistics flows, while due to the drop in global manufacturing we are witnessing a return of production to the vicinity of primary markets.”

The BTC Logistics Centre provides services for a number of established retail companies in Slovenia, both food and non-food goods under various climate-controlled regimes.

New Logistics Centre to Open Doors in 2024

They are also boosting their activities by opening a new logistics centre in Ljubljana, over which they will take full control from the external investor. In this way, says Košir, they are increasing their market position as one of the biggest logistics providers in the region. He continues to say that the facility, with a surface area of 40,000 m², will be located right by the Ljubljana motorway ring road and will be intended for storage and handling of everyday use products. “With the new logistics centre, which is expected to open its doors at the beginning of 2024, we will significantly increase the existing logistics capacities, which now comprise 100,000 m²,” he explains. The new logistics centre will have sustainability built in, with its own solar power generation covering 34,000 m², a green roof, floor heating using heat pumps (water-water) and smart LED lighting. To cap it all the facility will be controlled by means of innovative, superlative and reliable technology that includes a state-of-the-art information system and advanced systems for optimising logistics processes. Receiving and storage will be possible under various climate-controlled regimes,

at a full 40 combined inwards-outwards ramps.

BTC are also in the process of major investment in the expansion of the storage part of the refrigeration unit, which is currently awaiting documentation. Construction is planned for the second half of 2024.

Special Department for Improving All Processes and Development of Smart Logistics

“At the BTC Logistics Centre we are building on our story of growth through strategic partnerships, advanced technology and a sustainable concept of logistics. We provide logistics services in storage capacities of 100,000 m², and every day we move 11,000 pallets of goods and load 300 goods vehicles to 1,200 final customers. We provide logistics services for a number of established retail companies in Slovenia, both food and non-food goods under various climate-controlled regimes,” lists Košir. They provide the major portion of their services for internationally established companies, with goods delivery across Slovenia, while also providing goods distribution to the neighbouring markets of Austria, Italy, Croatia, Bosnia-Herzegovina and elsewhere.

A few years ago they also established a logistics competence centre. As Košir

explains, this is a department that works in tandem with the IT department, and it seeks to amass as much knowledge as possible to improve processes and develop smart logistics. Their knowledge centre creates additional value added both for BTC and business partners. At this department they optimise internal processes, implement pilot solutions in cooperation with various start-ups and develop additional services. “Intensive work is also underway on overhauling the information system for managing warehouses and digitalisation of processes, which will serve to additionally strengthen BTC’s position as a leading logistics provider in the area of fast-moving consumer goods (FMCG),” adds Košir.

As he notes, in logistics “we ask ourselves every day whether there are any further possibilities for positive changes, since complex logistics supply chains, new technology and sustainability regularly offer new scope for progress.” In his words it is extremely important to be constantly in step with the times, to upgrade expertise and implement new ideas. “We are striving at every moment to understand the needs, to respond to them appropriately and to adapt to the circumstances, which is an exceptional challenge for all logistics operators,” he notes. ■



After opening a 25,000 m² logistics centre at Brnik in 2019 and a 4,000 m² commercial building, at the beginning of 2022 cargo-partner started building an annex that will increase their storage capacities by 14,100 m².



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LOGISTICS

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SŽ - TOVORNI PROMET, D.O.O.

On the right track to the future

SŽ-Tovorni promet is the leading cargo railway carrier in Slovenia and one of the biggest Slovenian logistics companies. The company has established itself as one of the leading regional carriers with a strong presence on key international markets, in spite of the challenging economic situation in the recent years. By providing comprehensive transport and logistics services, tailored to the needs of their users, they are well on the way of achieving the goals, set for this year.

SŽ-Tovorni promet can provide customers with high-quality and competitively-priced services both in Slovenia and Europe-wide. They perform transports on their own in Slovenia, Austria and Croatia, and in other markets they cooperate with their long-standing partner carriers. The customers of SŽ-Tovorni promet can choose from a broad set of comprehensive transport and logistics products ranging from standard rail services for various cargo groups to combined transport which brings together rail and road, including last-mile delivery.

Knowing how important reliability and quality are in transport, highly experienced employees of SŽ-Tovorni promet are working 24/7 to adapt their services to the needs of the customers and to the ever-changing operational situation. Given their customer-oriented approach, they are always able to adjust their transport solutions to meet the specific needs of the customers. Be it whole trains for high-volume orders, wagon-loads for single consignments or door-to-door delivery – they find the best way to get the goods to their final destination on time and cost-efficiently.



Slovenia's excellent position at the crossroad of three European transport corridors and the close connection with the Port of Koper enable SŽ-Tovorni promet to offer fast and reliable connections in the wider area of Central Europe. Ljubljana is an important transport hub and an excellent logistics platform for Eastern Europe. At the Ljubljana Zalog marshalling yard and at the intermodal terminal, they offer all the services necessary for modern railway transport.

SŽ-Tovorni promet is the only rail carrier in Slovenia that also supports the operations of Slovenian companies with its transports. This year, they developed a product for the transport of individual wagon shipments with the aim of shifting cargo from congested roads to railways. Recently, they also set up the Single Wood project, which offers high-quality transport of individual wagon shipments of wood between Slovenia and abroad.

At the same time, they are also developing products on foreign markets

– the Sava Express connecting Slovenia and Serbia and their hinterlands, and the Ljubljana Line product between Germany and Slovenia with own traction in Austria. They have also developed solutions for transporting long trains and heavy trains, despite of infrastructure limitations.

Together with their strategic partner, EP Logistics International, SŽ-Tovorni promet aims to become the leading logistics company in the area of South-Eastern Europe. In addition to further developing services with own traction in Austria in Croatia, they plan to expand their production activities to other key markets in the region. They are also working on a thorough modernisation of their rolling stock fleet. This will enable them to offer even better, more comprehensive services across the wider region, growing together with their partners.

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**MAKING SUPPLY CHAINS
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DIGITAL TRANSFORMATION IN LOGISTICS

Current Conditions Require Optimisation Of Logistics Operations

In the current situation, digital transformation projects are even more important. They reduce costs and improve management processes.

Barbara Perko

Demands All Along The Entire Chain

The **Gebrüder Weiss** company note that logistics companies are increasingly faced with demands for business to be conducted online. This makes it vital for companies to adapt well to the rapid expansion of this way of operating. Demands for speed, efficiency and transparency, as well as for the optimisation of logistics processes, have increased sharply along the whole of the supply chain. "The development of digital platforms and 'e-commerce' has become inescapable, for the operational as well as the administrative sides of business," they explain. In addition to providing customers with the latest technology and simplifying communications, the company are also continuously striving to improve processes by introducing automation and paperless transactions.

The Gebrüder Weiss company reached an important milestone in the digital transformation process with the international launch and further development of the myGW customer website.

They reached an important milestone in the digital transformation process with the international launch and further development of the myGW



Photo: Gebrüder Weiss

The development of digital platforms and 'e-business' has become inevitable, say the company Gebrüder Weiss, led by Aleš Teran.

customer website. "The digital platform provides our customers with real-time information on the whereabouts of their goods. It is already being used by more than 16,700 customers in 25 countries. The website covers all areas of the company's operations (road, maritime and aviation transport, logistics) and provides customers with a quick and simple overview of all services, 24 hours a day, every day of the week. New functions have been added to myGW this year, including price enquiries and the placing of orders. Via

the website, logistics customers can now order despatch from the warehouse, and inspect stocks, despatch and delivery notes. Statistics and analyses will soon be added."

They have carried out supply chain management projects for several well-known companies. "In this segment we are keen to carry on growing and expanding our range of digital services. Our 'Best of Both Worlds' strategy, i.e. modern digital tools on the one hand, and logistics capacities, freight capacities and well-trained staff on the other, has proved to be successful and something we will continue with in the future," say the company.

Entire Process Digitally Interwoven and Optimised

"Logistics and transport are becoming a very important, cost-critical and indispensable part of business operations, value chains and people's lives. The entire process and value chain for goods is increasingly being digitally interwoven and optimised. Precision, flexibility, reliability, low costs, security and environmental impact are all important," say **ZZI**. "The reality is therefore the digital integration of all stakeholders and the digital transformation of all logistics elements, from the registration data of articles to consignments,

the optimisation of delivery routes, the tracking of consignments, smart management (warehouses, resources, routes, locations, employees, etc.), real-time response and integration.

Logistics, from suppliers through production to customers, must be connected and digitally transformed in a smart way so as to optimise operations.

Where ICT companies used to offer specialised services for individual parts of the logistics and transport chains, they are now in the business of connecting with users, and standardising connections, processes and data for different users. “Interconnected single cloud platforms are being created that enable cheap and fast implementation and optimisation of the entire chain with a standardised but safe view of data and consignment situations in line with their role in the chain,” say ZZI. Logistics, from suppliers through production



Photo: Pošta Slovenije

Digital transformation projects reduce costs and improve management processes.

to customers, must be connected and digitally transformed in a smart way so as to optimise operations.

ZZI highlight the fact that “chains break very quickly if they are not digitally and procedurally regulated and



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- catering and trade
- building construction

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The Sigfox technology offered by Heliot Slovenija is suitable for industry as well as service activities and the public sector.

supported. On the other hand, they can cause extremely significant environmental impacts. As legislation in this area is becoming ever stricter, the need for agile logistics is growing.” The company stress that “serious consideration needs to be given to how best to exploit digital transformation and common resources from different logistics providers so as to be able to satisfy all e-commerce and global value chain needs.”

The Sigfox technology offered by Heliot Slovenija is suitable for industry as well as service activities and the public sector.

Support For Intermodality of Logistics Centres

Blaž Golob, Managing Director of Heliot Slovenija, highlights three prevailing trends in the digital transformation of logistics: “Support for the intermodality of logistics centres and the efficient monitoring of resources, such as transport carts, wagons, packages, containers, etc. Alongside this, if possible, because of the continuous energy price rises, the careful monitoring of energy consumption. Efficient management of natural

resources, with an emphasis on water. In this area, there are large reserves in optimisation with the help of the digital transformation (smart metering) of water consumption and quality. The implementation of the circular economy with an emphasis on realisation of the objectives of the European Commission’s Action Plan for the Circular Economy. This involves the monitoring of the lifecycle of materials, waste as fuel

or concrete solutions that contribute to the realisation of the objectives of the circular economy.”

The Sigfox technology offered by Heliot Slovenija is suitable for industry as well as service activities and the public sector. The comprehensive “End2End” solutions have proved to be successful in numerous sectors such as industrial logistics and the supply chain, the tracking of the vehicle fleet and resources, agriculture and the environment, manufacturing and industry, sustainable cities and buildings, and trade and services. “In industry, it is all about digital transformation and ensuring the connectivity of different machines and devices. Our key competencies are wireless network connectivity (Sigfox and other technologies) and cloud services for the safe storage and analysis of data,” explains Golob. “Sigfox is distinguished by low energy consumption, the longevity of the batteries with which our IoT devices are equipped and that ensure uninterrupted data transfer, as they can last up to seven years, data transfer 140 times a day, high security and robustness, and data storage.” Their network operates independently as a closed system, which enables a high degree of cyber security and reliability in the transmission of data for final customers. ■



Photo: Depositphotos



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ANALYTICS

Rail Freight Transport

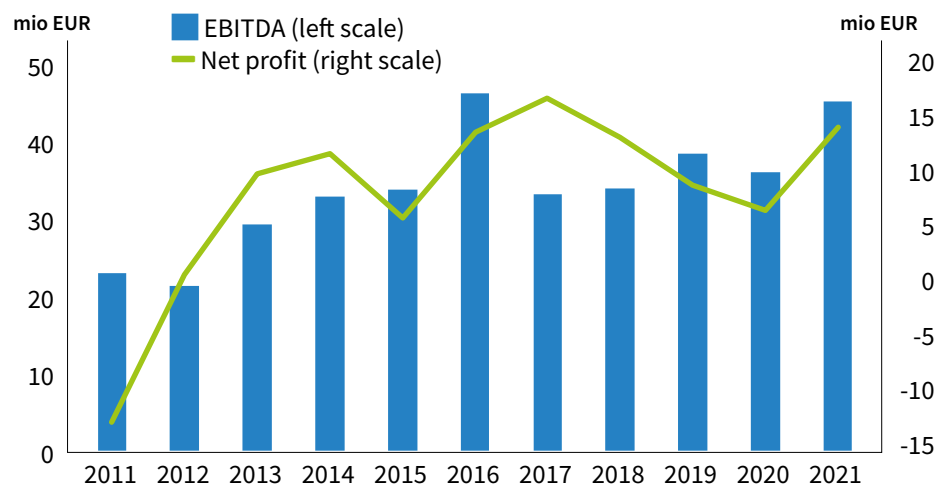
The two largest firms recorded increases of 17% and 30% in EBITDA.

Darja Močnik, Bojan Ivanc, Analytical Department, Chamber of Commerce and Industry of Slovenia

20 Million Tonnes of Freight Carried in 2021

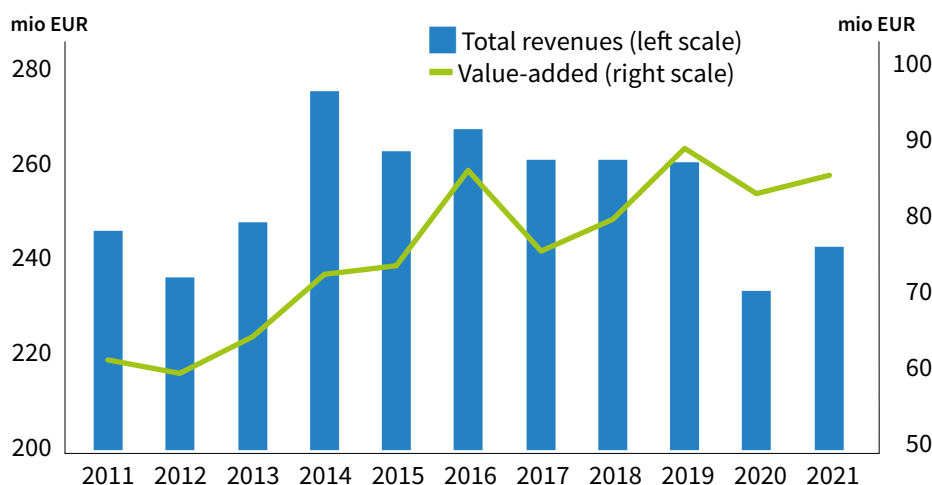
Growth in domestic and regional demand drove a rise in the tonnage of freight carried by rail. Trains carried 20.3 million tonnes of freight in 2021, recording almost 5 billion tkm. The tonnage and tkm figures were up 5% on the previous year. International transport (including transit) accounted for the majority (86%) of the freight. Total rail freight revenues were up EUR 9 million or 3.9%, but remained down 6.8% on 2019. Net revenues amounted to EUR 215.3 million, up EUR 6.5 million or 3%, driven primarily by an increase in revenues on the foreign market (of EUR 6.5 million or 3.4%). The

EBITDA lower than in 2016



Sources: Kapos, AJ PES data

Revenues still down 7% on 2019



Sources: Kapos, AJ PES data

rise in total revenues was also attributable to an increase in other operating revenues, which were up EUR 3.9 million or 553%, although they remained down 22% on 2019. Developments in the sector are driven by SŽ-Tovorni promet, which accounts for 71.2% of the group's total revenues. The aforementioned firm saw its total revenues increase by 1.3%. The group performance figures exclude SŽ-Infrastruktura, which is engaged in the management and maintenance of railway infrastructure.

Value-Added Rises Again

Value-added was up EUR 2.9 million or 2.4%, less than the increase in revenues, primarily as a result of higher growth in costs of materials, merchandise and

services (up EUR 7 million or 4.8%). The increase in the latter was driven by costs of transport services (up EUR 3.7 million), and by other service costs and other material costs, which increased by around EUR 1 million. The greatest impact on the group's performance came from SŽ-Tovorni promet, which accounts for 78.4% of total value-added in the sector: it saw a decline of 1.6% in value-added. After rising in 2020, gross margin declined by 0.3 percentage points in 2021 to 35.6%. Value-added per employee increased by 11.1% to EUR 75 thousand, as the

number of employees fell by 93 or 7.4%, the largest firm recording the largest fall in headcount.

EBITDA Margin Rises for Fourth Consecutive Year

EBITDA increased by EUR 8.3 million or 6.3% in 2021, which was attributable more to a decline in labour costs (down EUR 5.9 million or 11.8%) driven by the fall in employment (down 93 or 7.4%) than to growth in value-added. The two largest firms recorded increases of 17% and 30% in EBITDA. The group's EBITDA margin thus increased

by 3 percentage points to 17.2%. Amortisation and depreciation (EUR 26 million), which mostly (98%) consisted of write-downs, increased by EUR 797 thousand or 3.2%, while revaluation increased by EUR 425 thousand. Amid an improvement in operating profit (up EUR 7.1 million or 92.3%), net finance income (up EUR 186 thousand) and extraordinary profit (up EUR 664 thousand), corporate income tax increased by EUR 1 million, which brought an increase of EUR 7 million or 141.7% in net profit. Net profit at the two largest firms was up 104% and 43%. ■

Rail freight transport

Indicator	2021	Change since 2020, %	2020	Average change over 5 years, %	Average change over 10 years, %	Average over last decade
Number of firms	10	-9.1	11	-1.9	3.6	9
Headcount (hours worked)	1,153	-7.4	1,246	-2.8	-2.9	1,337
Total revenues, EUR million	242.5	3.9	233.5	-1.9	-0.1	254.6
Net sales revenue, EUR million	222.1	3	215.6	-2.0	-0.4	238.9
Net sales revenue per employee, EUR	192,565	11.3	173,062	0.8	2.6	179,123
Shares of sales on foreign markets, %	89.4	0.4	89.0	0.6	0.5	86.2
Value-added, EUR million	86.0	2.9	83.6	-0.1	3.4	77.4
Gross margin, %	35.6	-0.8	35.9	1.8	3.1	30.8
Value-added per employee, EUR	74,580	11.1	67,109	2.8	6.4	58,362
Ratio of labour costs to value-added, %	51.9	-14.2	60.5	0.3	-2.4	58.8
EBITDA, EUR million	41.4	25.2	33.1	-0.4	7.0	32.1
EBITDA margin, %	17.2	21.1	14.2	1.5	6.8	12.8
Net profit, EUR million	12.0	141.7	5.0	0.8	N.A.	8.3
Net margin, %	5.0	138.1	2.1	2.6	N.A.	3.3
ROE, %	10.8	127.1	4.8	-7.8	N.A.	10.5
Net financial debt to EBITDA ratio	1.8	-51.4	3.7	-10.3	-17.6	5.3
Current ratio	2.1	-8.7	2.3	0.0	-2.5	1.5
Ratio of capital expenditure to net sales revenue, %	10.1	87	5.4	12.1	-18.5	7.4

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CUSTOMS CLEARANCE, TERMINAL SERVICES AND WAREHOUSING



Andrej Orožen
co-founder and CEO of Dewesoft

INTERVIEW

“Attitudes Towards Entrepreneurship in Slovenia Have Improved Considerably”

“It is now time to open up to the world a bit more and make our solutions available to everyone, not just to the users of our measuring instruments,” says Andrej Orožen.

Nina Šprohar, Photo: Dewesoft

More than 250 years ago, the Zasavje region experienced an economic boom driven by coal, which had a positive impact on the development of towns until the end of the last century. This was followed by a steep decline and the challenge of how to revive the region. Today, it is no longer the mines that are bringing the region back to its former glory, but high-tech companies such as Dewesoft. The latter is breaking new ground by setting a bright example of what is possible if only there is enough will, ideas and knowledge.

“The fact is, we’re really not doing too badly here,” says Andrej Orožen, co-founder and CEO of Dewesoft, which develops and manufactures instruments for data capture, testing and measurement. These are used in some of the world’s most advanced laboratories to develop rockets and satellites, new safer vehicles, and products that improve everyday life.

“Foreigners in Slovenia are surprised by things that we take for granted, but at the same time they are important for entrepreneurs, along with a supportive business environment,” he adds.

How did a small, development-oriented company from Trbovlje turn into a global

powerhouse that works with NASA, among others?

Our origins date back to 2000, when measurement technology started to be developed in Slovenia. I was selling measuring instruments for a foreign company, and Dewesoft co-founder Jure Knez was a software developer for a Slovenian company. Since we knew that there was a lack of quality software worldwide, we presented our ideas to Dewetron in Austria. We started developing measurement software with one of our major clients. We wanted the software to be powerful but simple. Years of cooperation with Dewetron and other European companies resulted in software that was further enhanced by the addition of telemetry. This was our first step into the US market.

What kind of breakthrough was this for you?

In financial terms, working with NASA was not a big deal, but it put the company in a completely different position.

How many employees did you have at the time?

The development team had five programmers and five people worked in organisation and administration. For the

first ten years, we tried to accomplish as much as possible, and as quickly as possible, with this team, and we always had the feeling that we were chasing something, trying to catch something that wasn’t yet available at the time. But while our software was really good, its impact could have been even better if the measuring instruments had been better suited to it. We tried to make this point to the companies we worked with.

How did they react to this?

They were not receptive, so we made a different move – we started to produce our own measuring instruments. We withdrew the software from sale and anyone who wanted to use it had to also use our measuring instruments. This is how we became a manufacturing company. We started hiring more and more people, adding different ranges of measuring instruments tailored to specific needs.

Where can one find your products?

We focused first on the major global markets – starting with Austria, Germany, China and the US, followed by a host of other markets. Today we are present practically everywhere, and we recently completed our merger with

Dewesoft Czech Republic. We also have new partnerships in Japan and South Korea. We have also always been active in South-Eastern Europe, with a strong presence in Croatia, but we do not have our own companies there, but rather handle sales from Slovenia. A third of our sales are made in the Americas, a third in Asia and a third in Europe.

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What are you developing at the moment?

If you're working with Jure Knez, there's never a dull moment! Although he has conquered the market with his ideas on how to improve measuring instruments, it is now time to open up to the world a bit more and make our solutions available to everyone, not just to the users of our measuring instruments. Thus we are currently in talks with a German company to collaborate on an open platform in order to allow any measurement instrument to be programmed with any software. Our approach is therefore changing, and we are opening the door to other manufacturers of measuring instruments. We know that this benefits our competitors, but we are also confident that Dewesoft has a lot to gain from this.

What is the workforce situation, are there enough workers or do you have problems finding them? Do you also recruit foreign candidates?

If I said that we have ten people knocking on our door every day, I would be lying. There is a palpable shortage of workers. Our Development Department is staffed mostly by Slovenians, but we also have international employees joining the team. For example, there are two employees who moved to Slovenia from Argentina. We strive to recruit good engineers from other countries. However, sharing knowledge in person is an important part of our work process, so working from home is not an option. This can be a barrier for those living in other parts of Slovenia.

Are you trying to attract young engineers? How do you cooperate with universities?

At some faculties, we are present as lecturers, but we also reach out to young people through portals and social networks and we sponsor high-profile events. We want to be at least as recognisable at home as we are around the world.

How come you decided to stay in Trbovlje despite the company's great success and expansion?

I don't think it would make much difference if we were based in Ljubljana. In terms of location, we are situated between two faculties, the one in Maribor and the one in Ljubljana, so we draw students from both. We show them what we are doing and encourage them to get involved. We also have branch offices in Ljubljana and Maribor, where our experienced programmers can work with them locally. The closer they come to the end of their studies, the more we try to integrate them into existing teams. However, their decisions vary – some choose to move to Zasavje, others commute to work. We try to establish the right work dynamics so that they can continue to expand their knowledge.

There is a palpable shortage of workers. Our Development Department is staffed mostly by Slovenians, but we also have international employees joining the team.

You are also known for adopting the model of worker co-ownership. Why did you decide to go this route?

Jure Knez and I decided on this move in 2015, because we realised that we do not have the right attitude towards capital in Slovenia. No one knew exactly how businesses were run, and many thought that owners simply pocketed all the profits at the end of the year. So we thought, let's give it a try and offer our colleagues a part of the company. They now see that the company is successful and that they can earn money not only from work and wages, but also from dividends and the like.

Can any employee buy a share? What if they decide to sell it after a while?

Every six months we have a purchase window, when employees decide if and how much they would like to invest in the company. We prepare company shares for sale, employees buy the shares they want, we call a notary, convene a general meeting, and they become co-owners. Currently, there are about 80 workers who co-own about 10% of the company. We, the founders, therefore sell our shares, which can only be bought by those who have been employed on a permanent basis for at least one year. The shares can only be bought from the company and sold back to the company.

We are situated between two faculties, the one in Maribor and the one in Ljubljana, so we draw students from both.

How has this experience been so far, are workers more motivated when they are co-owners?

The experience has been very good, there is a greater sense of belonging to the company, the co-owners feel that Dewesoft is theirs, and the annual capital gains provide them with additional income. Their reasons for buying shares are not always the same. Some only want to be co-owners, others want to make decisions, while still others buy a share because they believe that the company will continue to perform well in the future and their share will be worth even more than it is today. As far as we are concerned, the reasons why they choose to take this step are not so important. At the end of the day, we all want the same things – to succeed, to do good work and to increase the value of the company.

Together with Jure Knez, you also developed Katapult, an accelerator for young companies. How do you help them get started?

We often talked about what more needs to be done to help young people start their own businesses and become more interested in technical careers. So in 2017, we

set up an office in the former premises of Iskra, where we can offer young people not only our knowledge and experience, but also our hardware, measuring equipment, testing devices... They can use all the things we have acquired over the past 20 years but now only need once a month when we are building an instrument. In this way, they can avoid unnecessary costs. Katapult is now run by a strong team, which has mastered all the steps that entrepreneurs need to know, and they also bring in foreign lecturers, organise seminars and so on. We try to lead them through to a prototype that could be the foundation for launching new production and employing more people. If they work in a similar industry as Dewesoft, we can offer them cooperation, but otherwise we try to connect them with other companies.

At the moment, the geopolitical situation is very challenging, materials are becoming more expensive and inflation is running high. How does all this impact your operations?

As we are a successful company, we are not afraid. We have never been in debt, and we invest carefully and thoughtfully. We are affected most of all by the shortage of components that we have been forced to buy at any price for the last two years. We comb the entire world market with our subsidiaries to see where we

can still source them, and if they turn up, we buy them immediately. With orders currently at a record high and a growth of 25% to 30% projected for 2022, we are not feeling any cooling of the markets or a drop in demand. The forecast for the components is worse – I think the situation will remain difficult for at least another year. From the perspective of geopolitics, it is a bad for business to lose a market like Russia, even though we agree with the embargo and understand why it makes sense. Before the war, we did not have much business contacts with Ukraine, and Russia accounted for a small share of total sales. However, it had a perspective of its own, so we opened a company there

With orders currently at a record high and a growth of 25% to 30% projected for 2022, we are not feeling any cooling of the markets or a drop in demand.

What is happening to it at the moment?

We try to export products that are not linked to the aerospace or military industries and thus maintain a regular revenue. The people working there are also Dewesoft people, so we want to help them. But I fear that the situation there will not change substantially for a long time, at least 10 years.

Most of your sales are then generated in the automotive and aerospace industries. What else is in your portfolio?

Construction, transport, energy, civil engineering... In all these industry sectors, measurements are made, which gives us the opportunity to enter thousands of laboratories. We are also involved in agricultural machinery, for instance with customers such as John Deere.

Construction, transport, energy, civil engineering... In all these industry sectors, measurements are made, which gives us the opportunity to enter thousands of laboratories.

Compared to other countries, what can Slovenia offer entrepreneurs?

The fact is, we're really not doing too badly here. The country is safe and modern and attitudes towards entrepreneurship have improved considerably. We are all willing to listen to new ideas and help, and there is a wealth of knowledge. Foreigners in Slovenia are surprised by things that we take for granted, but at the same time they are important for entrepreneurs, along with a supportive business environment. A beautiful and safe environment can create a fairy tale in which everyone will find themselves. ■



Intelligent plastic products for all the World

ROTO is European leading manufacturer of rotational moulding plastic products, a great example of a family business from Slovenia that has thrived in the global economy.

ROTO manufactures more than 4,000 different products. The company's main production segments are products for agriculture, ecology and gardening like water tanks, sewage-treatment equipment, oil and grease separators, wine barrels, wheelbarrows, silos etc. Using plastics composites and the latest production technologies, ROTO also manufactures moto boats, kayaks, canoes and high-performance sailing boats.



Europe's Leading Machine Manufacturers Use Their Industrial Knives

The Prevalje-based company have been around for almost a century, producing industrial knives and woodworking tools, and establishing themselves as a global supplier of industrial knives.

TRO – rezalna orodja, d.o.o., based in Prevalje, are a modern company with 150 employees and a wide range of products. They are one of the largest producers of industrial knives and woodworking tools in Europe. Their origins go back to 1926, when a file-making shop was opened in Prevalje. Once known as a producer of very high-quality woodworking tools, today they are a strategic supplier of industrial knives to the most exacting European machinery manufacturers in different industries (as recycling, plastic, metal), who demand the highest quality from their suppliers, on time and at a competitive price.

Continuous minimal 10% Growth

"We are growing by about 10% a year, and ended last year with revenues of EUR 15.4 million. This year has also been very successful, with high revenue growth, and we are planning to maintain at least 10% growth in future years as well," says Mojca Kozjak Kos, head of the commercial division.

The company sell their products in 55 countries around the world, and are present throughout Europe, particularly in

Austria, Germany, France, Italy, Spain and Scandinavia. The US is an important market for the company, they are gradually entering the African market, and they are also active in South America and Australia.

Actively Involved in Developing Customers' Products

Kozjak Kos points out that 60% of revenues are created by work with OEM customers, which means that their knives are built into others' machines. "Through our research and technology department, we work actively with the customer in the development of their own products, and are fully capable of producing the complex products that they have envisioned. We enjoy using our experience and knowledge to help customers manufacture optimal, high-quality products that are also cost-effective. We are strongest in the recycling and plastics industries, and are becoming better and stronger in the metals industry as well."

The company also work with customers who use machines; depending on the problem they are trying to address, they propose and find the right solution that enables the knife to work to its optimal capacity, or establish what it is the customer wishes to achieve with the knife in the final product or in the processes performed by the machine into which the knife has been built.

Investments in Technological Equipment and Customer Relations

TRO's entire manufacturing process is carried out in accordance with the ISO 9001 standard. The company are also continuously upgrading their machinery fleet and automating production processes. They use their many years of experience and knowledge to actively monitor customers' needs and wishes, and are able to respond quickly to them.



They invest a great deal in good relations with customers. "Some of them have been with us for more than 20 years. This close cooperation with customers is testament to our reliability and product quality. At the same time, we build a high degree of trust and strong mutual connections. All the materials we use are certified and identical to the prescribed quality, which ensures that the quality of our products is high," says Kozjak Kos.

No Fears For the Future

Newly acquired customers and good customer forecasts mean that TRO are planning further growth in business. The company's number one aim in the next few years is to expand their capacity and increase competitiveness on the global market. As Kozjak Kos says: "We will do this by constructing additional manufacturing capacities and by recruiting competent and motivated staff. We will search for them close to home but also elsewhere, including outside Slovenia. We will continue to invest in the latest equipment and, where it makes sense to do so, equip our manufacturing process with automation and robotisation capabilities."



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AUTOMOTIVE INDUSTRY

Germany Account for Bulk of Exports

For the automotive industry, which accounts for more than 20% of Slovenia's exports, sustainable development and the green transition are two key objectives.

Darja Kocbek

Hidria Sell Their Products to 55 Countries Around the World

Hidria are expecting business and manufacturing volumes to continue to grow in 2023. This expectation is born from the very large amount of recent new business, as well as from strategic partnerships and investments, including a new robotised, automated and digitalised manufacturing centre for stators and rotors for the powertrains of electric vehicles of the future, which cost EUR 40 million and will begin operating in the second half of 2023. The company explain that they are anticipating growth mainly in the segments of

innovative solutions for hybrid and electric vehicles and industrial technology, where they have recently sold significant numbers of highly efficient ventilators for premium heating, ventilation, and air conditioning (HVAC) systems.

Hidria sell their products to 55 countries around the world, operate on all the most important global markets (Europe, North and South America, Asia), and even have their own manufacturing site in China. Their largest European market is Germany, where they also have their own manufacturing site (in Vaihingen), with other important markets including Hungary

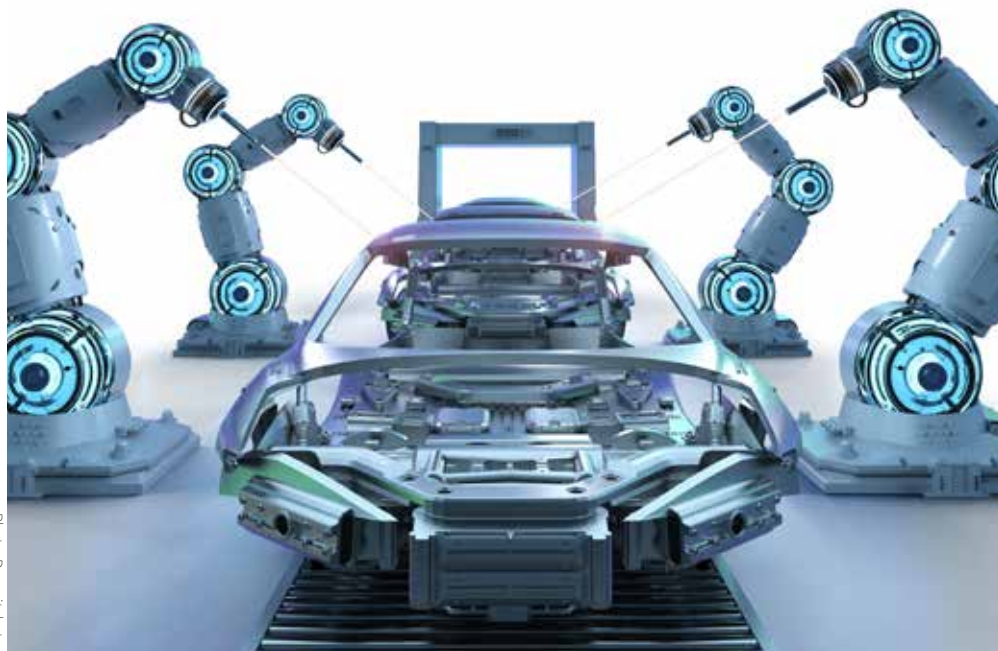
(own manufacturing site in Gyöngyös), Poland, France, the UK and Italy.

Projects, Products and Solutions for a Green Economy

“Our customers place great value on the quality, innovation and numerous competitive advantages conferred by the products, solutions, work processes and technologies that make Hidria one of the most sought-after manufacturers of automotive and industrial technologies in selected segments. We know that the company's successes are down to the people within it”, say Hidria. This is also valued by customers and by the partners with whom they are helping to create the mobility of the future and the very latest advanced applications for HVAC systems.

The automotive industry is an important economic sector in Slovenia, generating around 10% of GDP and accounting for more than 20% of the country's exports. Germany is the biggest export partner for these companies, accounting for 40% of exports, followed by France, Italy, Austria, the UK and the US.

Regarding the green transition, Hidria explain that they are more than aware that care for nature and the environment is one of the most important sustainable development values. Many of



their projects, products and solutions are making an important contribution to the green economy. As they point out: “We are developing and manufacturing highly efficient key components of electrical motor units for the latest e-vehicles, including those that won’t appear on the streets for some time.” Hidria’s key aluminium steering system components reduce vehicle weight considerably, thereby helping to reduce fuel consumption and toxic gas emissions. These are also reduced by advanced systems for the cold starting of diesel engines using pressure sensors. Hidria’s innovative ventilators for advanced HVAC systems are distinguished by their highly efficient performance and low energy consumption, which has led to demand from an increasing number of global customers.

LTH Castings are a Well-Established Development Supplier

The **LTH Castings** company are tied primarily to the European automotive industry. Their most important market is Germany, which is where their biggest customers, which include Mercedes-Benz and BMW, are based. LTH Castings also supply renowned automotive component manufacturers such as Bosch, Continental, JTEKT, Vitesco Technologies and ZF.

“The most important thing for us is that our customers regard us as a well-established development supplier. The fastest development in the sector is occurring in the electrification of the drivetrain, and advances are also being made in assistance systems and autonomous driving,” say the company. At the same time, individual components are being amalgamated and new lightweight materials are being introduced; this requires rapid changes and the production of larger and more complex components. The company point out that they are “involved in the early development of components in virtually all new projects.”

Sustainability In All Processes

The company also place great emphasis on the sustainable aspects of their operations. They bring sustainable solutions

to the many international partnerships of which they are part, such as the LIFE HIDAQUA project, which takes an integrated approach to the issue of water management in industrialised areas. In recent years they have accomplished a great deal in terms of reducing water and energy consumption and optimising the use of chemicals in industrial processes; this has led to a fall in the quantity of waste and emissions produced. “Our commitments to our customers are an additional incentive for us in this area. We therefore insert sustainability into all our processes, with the supply process currently being the most important one. All raw and other materials, including packaging, must have and be furnished with conformity certificates, and with details of the proportion of recycled material within them and of the CO₂ footprint,” say the company.

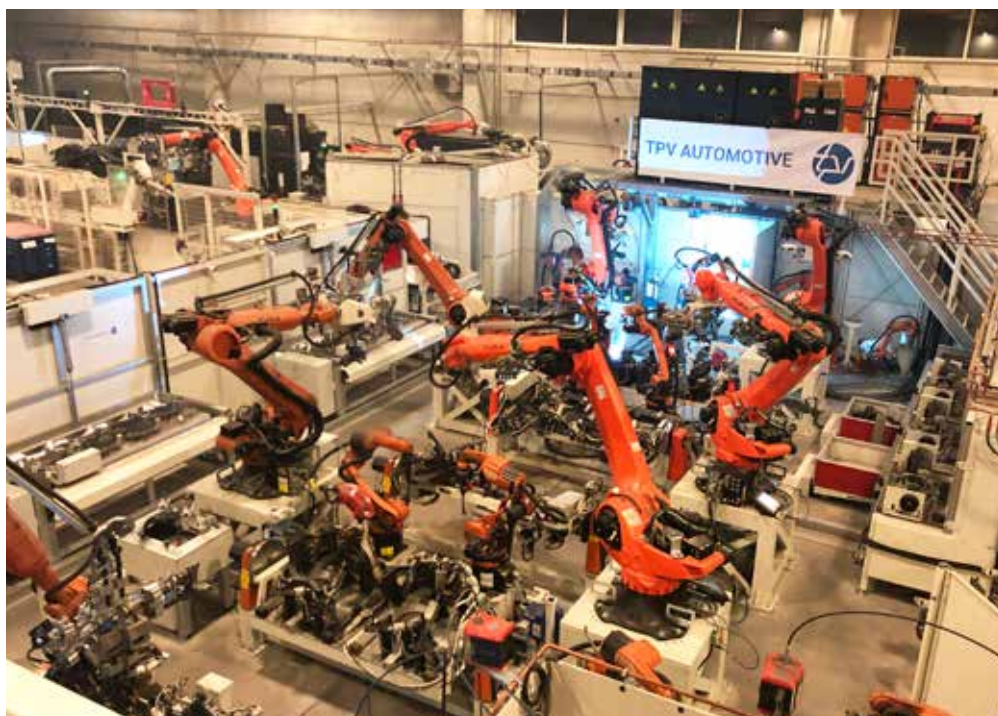
The company also spend time informing staff and raising their awareness of the importance of care for the environment and of using various materials sustainably. Among other things, they have introduced glass drinking bottles at work in order to reduce the use of plastic packaging. They also use digitalised, robotised and

automated production processes to systematically monitor, control and regulate the consumption of materials important for automotive and industrial applications, such as copper, steel and aluminium. In 2022 the company began installing solar power units on the roofs of five of their manufacturing facilities in Slovenia, Croatia and North Macedonia.

“We are always looking to reduce emissions and carry out regular measurements of all atmospheric emissions,” say the company. “Indeed, we have already managed to completely remove significant direct CO₂ and other emissions. We also place great importance on active waste reduction, and have managed to reduce waste at all Slovenian plants by 13.5% per product unit in the last two years. Our internal treatment equipment at all sites ensures that all waste water from casting processes is cleaned before being released into the public sewage system.”

“Green aluminium” Largely Used

The company add that they cannot ignore the materials they use if they wish to meet their green transition commitments. As a process specialist, they most



TPV Automotive are a globally oriented company and one of the key development suppliers to Europe’s premium vehicle manufacturers. eius dolorer oratiat exero blabo.

often use materials dictated by the customer, although they are finding that the customer is paying increasing attention to the company's suggestions during the joint development phase. "The most important material for our manufacturing is aluminium, so LTH Castings use 'green aluminium' almost exclusively. The second most important material, steel for pressure equipment, is completely recyclable," say the company, adding that all LTH Castings products can be 100% recycled at the end of their life cycle.

In response to the large volume of new business acquired in the last two years, they are continuously opening state-of-the-art production lines for electric and hybrid vehicle components. To this end, they have renovated industrial cultural heritage buildings in the area of the former Litostroj foundry in Ljubljana, thereby also helping to revitalise a neglected brownfield site.

TPV Automotive Eye Opportunities in Agricultural Construction Machinery

TPV Automotive's plans for 2023 line up with the company's strategy, which includes the upgrading of four key business programmes: development engineering services, e-mobility aluminium components, ultra lightweight

steel components, and a line of surface protection products. "We will be placing even greater emphasis on marketing development engineering services that interconnect all these key programmes. In response to perceived market needs, we will also speed up our operations in the area of agricultural construction machinery, where our skills and many years of experience in the automotive industry will help make us very competitive," explains **Dr Ivan Erenda, TPV Automotive's Managing Director**.

In his words, the green transition confers an important advantage on the company, as they have, for a number of years and by applying their development knowledge in the use of high-strength steel and aluminium, been developing lighter and more flexible high-tech solutions for the mobility of the future – solutions that, in themselves, support the green transition. As specialists in 'lightweight' products, the company help make cars lighter and therefore more ecological, as they use less energy to run. "Our strategic solutions provide significant support to electromobility and are sustainably oriented towards the use of lightweight materials, cleaner processes and responsible conduct towards all stakeholders. We have been chosen by

SPIRIT Slovenija to act as Slovenian business ambassadors in the national "I Feel Slovenia. Green. Creative. Smart" campaign, whose key components include the green transition and the integration of companies in Slovenia," adds Erenda.

TPV Automotive are a globally oriented company and one of the key development suppliers to Europe's premium vehicle manufacturers, whose needs they also supply outside the EU. "Our primary focus remains the EU market, which we are most familiar with as a development company and which is ideologically and culturally comparable with our own domestic market," he says.

TBP Aim to Increase Market Share in Non-European Markets

Talking about the TBP company's plans for 2023, Managing Director **Dr Danilo Rojko** says that they are aiming to stabilise operating costs, expand their sales range and gradually increase their business volumes. While the company's main market is Europe, they also export to China, the US, Mexico and South America. "Our partners value us because of our flexibility in securing supplies and developing new technological solutions, and because of the high quality we offer," says Rojko. TBP are aiming to increase market share in non-European markets and to join the supply chains of emerging vehicle manufacturers and of manufacturers of construction, agricultural and nautical machinery.

Their green transition measures include the installation of solar power units in 2021 in order to reduce dependence on external electricity sources. "We are currently installing additional capacities for producing electricity from renewables. There is also an ongoing process to replace the existing relatively technologically outdated lighting system with a more modern, energy-saving system," he says. They use waste heat from technological processes within the company to heat business and production premises, and there is also a system in place for using recycled materials within the production process.



Photo: TBP

While the TBP company's main market is Europe, they also export to China, the US, Mexico and South America.

For Adria Mobil, Business Success is a Marathon Not a Sprint

Adria Mobil also have ambitious plans for 2023, the aim being to consolidate their position on the market and increase the market share of the Adria and Sun Living brands on the European holiday vehicles market. "The environment requires us to make changes to the way we operate. We are carrying out these changes at Adria Mobil and will do everything we can to realise the targets we have set, even in the current demanding conditions," say the company. Adria Mobil have a presence on markets in Europe, Australia and Asia through an extensive sales network that includes more than 500 outlets. Europe has been and remains their main market. It is there that the Adria brand is best positioned, and indeed regarded as one of the most recognisable and desirable brand names in the caravanning sector. The company's most important markets are Germany, Scandinavia,

For Veriga, the Chinese Market Has the Biggest Potential

The **Veriga** company is constantly engaged in developing new products, seeking out new input materials, providing continuous education and training, and looking for new market niches. The company exports to more than 60 countries worldwide, with exports taking just over 90% of their production. "Our plan for the future is to maintain our global market share at at least the current level, and to increase sales on markets where the American dollar has a stronger or currently stronger currency, which is a potential opportunity for manufacturers from the eurozone. Of course, all of this depends on whether energy products as well as materials, in our case iron, remain competitive on these markets," they explain. For Veriga, the Chinese market has the biggest potential. They are already present there, albeit to a lesser extent than they would like. "Our products are

renowned for the quality of their materials and their flexibility, as well as for the high quality of manufacture and processing, which ensures that our products last. Our partners also appreciate this," say the company.

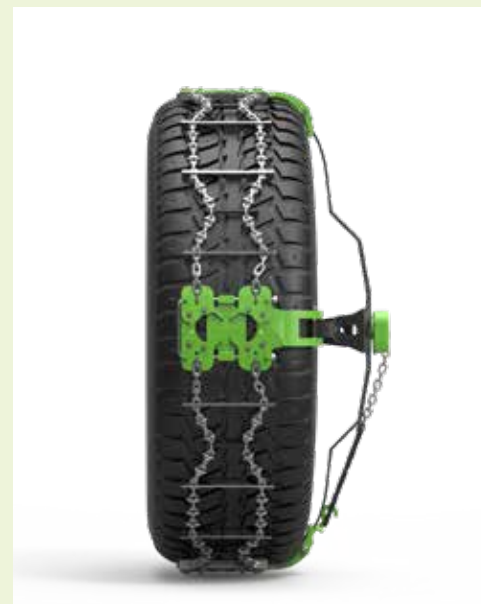


Photo: Veriga



OUR DEVELOPMENT STRENGTH

Our development strength comes from a set of clear strategies, a drive for development and a commitment to our common values: flexibility, partnership, trust, creativity and efficiency.

CNC P&K
PUŠNIK
PRAZISE METALLBEARBEITUNG
SINCE 1976
CNC P&K PUŠNIK d.o.o.

CNC P&K d.o.o.
Mariborska 56, 2360 Radlje ob Dravi, Slovenija
Tel.: +386 (0)2 88 79 670,
E-pošta: info@cncpusnik.si
www.cncpusnik.si



LEGACY OF MANY YEARS EXPERIENCE

CNC P&K – PUŠNIK d.o.o. is a metal processing company that has been developing and growing for 40 years. In that time, our company has become a modern, medium-sized enterprise with more than 260 employees from the local area and further afield. We have a visible presence in the Slovenian economy, and are planning to expand and take on additional staff in the future.

CNC P&K – PUŠNIK d.o.o. adhere to sustainable development guidelines. The principle underpinning our work is the achievement of quality at every step, as attested by the international quality certificates awarded to the company, which include ISO 9001 and ISO 14001. This also confirms that we pay a considerable amount of attention to the environment, cultivate a strong position within the social life of our home environment, strive to raise the culture of living, and carry out our business with care and in a way that causes the least disruption.

We realise the importance of research excellence and of integrating it with practice. The CNC P&K – PUŠNIK d.o.o. workforce are distinguished by their high level of professionalism and dedication to development. Having a team with knowledge and years of experience and good references, as well as the very latest technological equipment, means that we are able to keep pace with market trends and manufacture products of high, internationally comparable quality.

We can look back with pride and satisfaction at the path we have already travelled. The results we are achieving today are an important guide to our future business plans. At the same time, we are aware that many more challenges await.

France, the UK, Spain, Italy, the Netherlands, Denmark and Switzerland. "We believe that Adria enjoys a high reputation among the partners we work with, that business success is a marathon not a sprint, and that reputation is built upon the values of reliability, punctuality, correctness and professional competence," say the company.

They are meeting their sustainable development targets in a number of different areas, including by using sustainable materials in product development. As part of the Ceplafib project, they have partnered with others to develop a recycled material that they have managed to incorporate into their products. When working with suppliers, they seek out and support sustainable solutions, and are careful to ensure that their own manufacturing process is efficient. "Every step and advance in the green transition project is necessary and desirable," they say, "which is why sustainability has been and remains an important part of our strategy." ■

Magneti invests in projects to increase energy efficiency

Magneti is a development and market oriented, innovative, financially stable and business-successful company. It is involved in several international development projects in the field of the circular economy specifically for our industry, consumption and reuse of environmentally and strategically sensitive raw materials. The company invests in projects to increase energy efficiency and digital transformation opening new jobs for highly professional staff. Magneti's vision is to remain a successful and recognizable company in the field of production of permanent magnets in Europe. The company's business goals are based on company development, quality, product competitiveness and increased added value. The basic strategic goal of the company and the aspect of sustainable development of the company remains the same; to satisfy customer requirements in terms of quality, quantity and delivery.



Photo: Magneti

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ADVANCED SURFACE TREATMENT TECHNOLOGY

ferroecoblast.com

A rider in full protective gear is shown in profile, leaning forward on a black electric motocross bike. The bike is positioned on a steep, uneven trail covered in a thick layer of brown autumn leaves. The background is a dense forest of tall, thin trees with bare branches, suggesting a cool, wooded environment. The lighting is soft, filtering through the canopy.

Beyond state of the art

COMPANY BACKGROUND

RTC is Research and Technological Centre developing vehicles, vehicles' components, and complex devices, where Knowledge and Experiences are a fundament for developing beyond state-of-the-art products.

Coming from Civil Sector, being involved in Automotive, Forestry and Construction Machinery Industry, this year RTC entered Defence Industry market by successfully presenting products and powertrain components at Eurosatory 2022 in Paris, France.

RTC's core business are R&D services that are offered to the market since 2000, however in last years RTC is targeting the market as OEM for electric vehicles and related electric powertrain components.

HEAVY DUTY ELECTRIC MOTOCROSS BIKE

Electric motocross bike is beyond-state-of-the-art product, developed and produced in-house. It is pure blood engineering approach resulting as real ENDURO performance and unique features:

- **No noise** due to fluent electric drive
- **No thermal footprint** due to electric drive and special thermal management of the battery pack
- **Range** grater then 100 km, 140 min off-road driving
- **Battery charging time** 1 hour
- **Replaceable battery** 2 min
- **Intelligent** electric drive

To enable excellent field performance RTC developed own electric powertrain

consisting of electric motor, inverter, and battery pack.

All electric powertrain components are tested in the laboratory and in the field as a part of RTC electric motorcycle under extreme operating conditions. All components are available on the market.

VISION FOR 2022

RTC has a vision to shape the future by developing and producing off-road electric vehicles. First stage was achieved with electric motocross bike and assortment of electric drivetrain components that were developed to reach the excellence level. RTC has launched these products to the market and already working towards new beyond state-of-the-art solutions.

WOOD AND FORESTS

Wood Industry Strengthens Again After Years of Decline

The once-successful Slovenian wood industry was in continuous decline until the ice storm of 2014, but received a much-needed boost from the forest recovery work that then had to be carried out. However, there is still a great deal of unused potential in privately owned forests.

Jerneja Srebot

Consumption Lower Despite Production Increases

The production of roundwood in Slovenia rose considerably after the ice storm of 2014, increasing by an average of 56% in comparison with the previous five years. However, production again fell in 2020 and 2021 as a result of a reduction in sanitation cutting. "In 2021, 3.8 million

cubic metres (m³) of forest wood assortments were produced, which was a fall of 5% on the year before: in fact, that was the lowest figure for eight years," say the **Ministry of Agriculture, Forestry and Food (MKGP)**. The production of deciduous assortments rose by 2% last year in comparison with the year before, but

there was a further fall in the production of coniferous assortments.

Roundwood consumption also fluctuates from year to year: since 2018 the figure has stood at over 3 million m³ a year, but was lower, at an average of 2.93 million m³, in the period of extensive sanitation cutting of damaged trees. This was despite the large quantities of felled wood. Most roundwood is produced by companies in the sawn wood and veneer industries, with coniferous trees accounting for 80% of production.

Most roundwood is produced by companies in the sawn wood and veneer industries, with coniferous trees accounting for 80% of production.

Sawn Wood Slovenia's Most Prominent Product

In contrast to the downward trend in roundwood production in the last three years, there has been an upward trend in the production of sawn wood, which is the most prominent product of the Slovenian wood-processing industry in quantitative terms. "An extensive study by the Slovenian Forestry Institute that examined the



Photo: Tomo Jesenčič/STO

Slovenia's forest area currently stands at 1,176,542 ha, with forests covering 58% of the country.

saw-milling industry in Slovenia found that there were 328 companies involved in log-cutting and that they cut 1.71 million m³ of logs in 2019,” say the ministry.

Despite the Covid-19 pandemic and the difficult conditions on the roundwood market (lack of raw materials, high wood prices), the saw-milling industry is doing good business. Over 1 million m³ of sawn wood was produced last year, which was a 5% increase on 2020 and a 32% increase on the average for the 2015–2019 period. The prices of sawn coniferous products rose considerably in the second half of 2021 and the first half of 2022.

Despite the Covid-19 pandemic and the difficult conditions on the roundwood market, the saw-milling industry is doing good business.

This year, because of the estimated increase in consumption of coniferous logs, the ministry is expecting an increase in

sawn coniferous wood production of 11% compared to 2021. Imports should be reduced and exports increased.

Amount of Processed Wood Increasing

In the years leading up to the natural disaster in the winter of 2014, the Slovenian wood-processing industry more or less collapsed, and with it the processing of wood within the country. “After the ice storm of 2014 and the subsequent bark beetle infestation, wood cutting increased by 50%. There was also a steep increase in log exports,” explains **Igor Milavec, Director of the Wood-Processing and Furniture Industry Association at the Chamber of Commerce and Industry of Slovenia (CCIS).**

The sector reached its lowest point in 2013, since when the quantity of processed wood in Slovenia has increased. Around 1.5 million m³ of roundwood was processed in 2014, a figure that had risen to more than 2.2 million m³ by 2019. Processing levels fell in 2020 as a result

Slovenia's Forest Area Has Grown in Size

The Ministry of Agriculture, Forestry and Food report that Slovenia's forest area increased by 473 hectares in 2021 in comparison with the figure set out in the 2020 forest management plan. It currently stands at 1,176,542 ha, with forests covering 58% of the country. “Forest wood stocks in Slovenia are estimated at 303 m³ per hectare. The annual increment has fallen by 0.6% and is estimated at 7.43 m³ per hectare. In commercial forests, wood stocks stand at 310 m³ per hectare and the annual increment at 7.69 m³ per hectare,” say the ministry.

of the pandemic, but bounced back in 2021, with imports of coniferous logs exceeding exports for the first time in more than 20 years. This meant that there was



MEBOR

COMPLETE SOLUTIONS FOR THE SAWMILLING INDUSTRY

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MEBOR has been designing, developing and producing sawmilling machinery since 1982. The company supplies **complete solutions for sawmills**, therefore all machines needed for the primary sawing of wood, joined into **complete sawing lines**. Moreover, these are completely adjusted to the needs of each customer. Mebor is one of the fastest growing companies in Slovenia. It has been among companies worldwide with the most **intense innovation** and presents **new products** in the sawmilling field.



a shortage of roundwood for the domestic wood-processing industry last year, mainly on account of a reduction in the amount of sanitation cutting in privately owned forests. This shortage has continued in 2022.

Large Reserves Remain

Slovenian forests are nevertheless still home to large wood reserves. Since its inception, the Slovenian Forest Service (ZGS) has increased the national allowable cut, from just over 3 million m³ in 1994 to just over 7 million m³ in 2021. Last year saw the felling of just over 4 million m³ of wood, which was 57% of the planned allowable cut and around 150 m³ less than the year before.

Processing levels fell in 2020 as a result of the pandemic, but bounced back in 2021, with imports of coniferous logs exceeding exports for the first time in more than 20 years.

“This means that the potential for increasing production remains considerable, as we are at the moment cutting only four million m³ a year, although it

would be beneficial to forests if that figure could rise to 7.5 million m³ a year. The potential is there for almost doubling production,” says Milavec. There are also still considerable opportunities for increasing the production rate, thereby fulfilling the sector’s vision of processing as much wood as possible at the highest possible rate in Slovenia. In state-owned forests, all the wood that can be cut by the Forest Service is already being cut; one of the forest wood sector’s main priorities is therefore to establish levers for increasing the production of wood from privately owned forests.

Responsible Use of Forests and Wood Will Be Crucial in Future

According to almost all the relevant indicators, trends in the wood-processing sector have been positive for the last eight years; expectations are also positive as a result of the rapidly increasing consumption of wood and the predicted threefold increase in wood construction in the next few years. As a material, wood is also a suitable construction solution for the green transition: one cubic meter of wood binds approximately one tonne of carbon dioxide. “Moreover, since it is

Wood Still the Most Common Household Heating Source

According to the Ministry of Agriculture, Forestry and Food, households remain a major consumer of roundwood, with more than a million cubic meters being used for heating every year. This is despite the downward trend in such use in recent years. Wood accounts for the highest single share of household heating fuel (in excess of 35%). Logs are the most common form used, followed by pellets, wood chips and briquettes. While the number of households using wood as fuel has fallen in recent years on account of the transition to electrical heating sources and natural gas, there has been an increase in wood use this year as a result of the increase in the prices of all fuels.

already clear that the insufficiently robust measures taken so far will not stop temperatures from rising more than 1.5 degree Celsius above their current level, forests and woods will be crucial for the healing of the planet and for bringing the temperature increase back down to the 1.5 degree figure,” says Milavec.

This will increase the importance of rational wood consumption and of a rise in the use of wood in construction in particular – a sector in which it can be used in the greatest quantities for the longest time. There will be a corresponding increase in the importance of the forest wood sector. Milavec points out that the use of Slovenian wood has been strongly promoted by the Wood Industry Directorate and the SPIRIT Slovenija agency in the last few years. “We are also doing a lot of work to increase the use of Slovenian wood at the ‘Smart Buildings, Homes and Wood Chain’ Strategic Research and Innovation Partnership (SRIP), where we are stepping up the use of wood in the construction of high buildings, such as apartment blocks, and public buildings.” Active, high-quality promotion is also being carried out by wood-processing



Photo: IZOK MEDJA/STO

Forests and woods will be crucial for the healing of the planet and for bringing the temperature increase back down to the 1.5 degree figure.

companies, particularly those involved in the manufacture of prefabricated wooden houses. "This is the right direction to take and one that must continue to be strengthened," says Milavec, who adds that the main obstacle to increasing the production of wood from Slovenian forests in the last two years is the insufficient amount of felling in privately owned forests, which needs to be increased by 50%.

Potential of Deciduous Trees Remains Underused

The ownership structure of forests is also recognised as a problem by the Ministry of Agriculture, Forestry and Food, with the fragmentary nature of private forest estates posing a particular challenge. As a result of denationalisation procedures, there have been considerable changes in forest ownership in recent years. Since 1996, the surface area of state-owned forests has fallen by around 130,000 hectares and that of privately owned forests has risen by almost 190,000 hectares. The

ratio has therefore changed from 33.9: 66.1 to 20.3: 79.7.

"Knowing the potential and actual quantities of raw wood in the country's forests is a crucial piece of information for the development of the wood-processing industry, as it will enable us to locate the right areas for new processing facilities or the optimisation of existing ones, and help us determine the dimensions of our capacities, ensure security of supply and select the right technologies," say the ministry.

In state-owned forests, all the wood that can be cut by the Forest Service is already being cut; one of the forest wood sector's main priorities is therefore to establish levers for increasing the production of wood from privately owned forests.

They point out that if sufficient quantities of roundwood are to be secured on

the market, consideration should be given to measures that encourage smaller forest owners to enter the market or carry out forest works together. As a result of the increasing share taken by deciduous trees in forests, consideration must be given to new technologies.

"The potential for forest wood assortments, particularly of deciduous wood, remains under-exploited in Slovenia. This can be attributed to the lack of information on the quality structure of assortments, lower levels of commercial use within Slovenia, and the use of processing methods and technologies with lower value added," they explain. Deciduous wood is traditionally used to a greater extent (more than 60%) for energy purposes, which suggests that Slovenia still has large reserves for exploiting the value added potentials of deciduous wood. The ministry believe that this potential should be sought mainly in an increase in the commercial use of roundwood within Slovenia



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www.gasper.si

Windows and entrance doors made of wood and wood-aluminium

The business tradition of the Gašper family means 50 years of experience in the use of wood as a material from the regional forests and hillsides (pine) and from different parts of the world (larch, oak, meranti, etc.). The focus is on high-quality windows and entrance doors made of wood and wood-aluminium.

The sphere of activity of the Gašper includes also semi products such as laminated wood for windows and doors. We create multifunctional elements (joinery) of the facade cladding, for a unique and balanced living environment, and we sustainably improve the quality of living and well-being of people.

The Gašper company makes 50% of its turnover abroad. In recent years, we have invested in the most modern computerised CNC technology for the production of windows and entrance doors, which ensures maximally flexible production and the best quality, where we can fulfil every special wish.



and in strengthening technologically more advanced alternatives to the use of roundwood for energy.

As a material, wood is also a suitable construction solution for the green transition, as one cubic meter of wood binds approximately one tonne of carbon dioxide.

Enrolment Rises Again Following a Promotional Campaign

The extremely rapid changes in production processes and business models require new knowledge, which is why continuous changes need to be made to education and training in this area. While the number of secondary school and college students studying wood-related

topics is higher in Slovenia than in most EU countries (when set alongside the size of the sector), Igor Milavec believes that the figures are still too low.

In Slovenia, education for forestry professions takes place at secondary forestry and woodworking schools in Postojna and Maribor, at the Higher Vocational College in Postojna, and at the Department of Forestry and Renewable Forest Resources at the University of Ljubljana's Biotechnical Faculty. "In 2020 we responded to the initiative put forward by educational organisations, who were concerned at the insufficient enrolment numbers at all education levels, by launching a promotional campaign to encourage students to take up forest and forestry studies at all levels," say the ministry. The ministry regard the results of the campaign as

encouraging, with increases in enrolment at all levels.

Deciduous wood is traditionally used to a greater extent for energy purposes, which suggests that Slovenia still has large reserves for exploiting the value added potentials of deciduous wood.

Meanwhile, scientific research work is being carried out mainly at the Slovenian Forestry Institute, which is continuously involved in a range of domestic and international research projects. The forestry competence centre tracks changes on the market and in production, and also provides staff education and training in collaboration with the Wood Industry Cluster at the CCIS. ■

Timber Firms Also Investing In Environmental Strategies

The Slovenian wood-processing industry contains several companies that create products with high value added and are also active internationally. They include **Stilles**, a company that carry out a large number of projects for the Marriott hotel chain. These projects have included the furnishing and equipping of Marriott hotels in the Czech Republic and Georgia, and the renovation of Sheraton hotels in Zagreb and the Falkensteiner Diadora in Zadar. They currently have several projects in the pipeline, from a collaboration with the Mandarin Oriental chain to a range of activities aimed at expanding production. "In the middle of June we began building a new plant for the production of a full range of hotel fixtures and fittings, and will be installing a new production line for composite modular panels and cross-laminated panels," say the company.

To develop the panels they have partnered with the **Inno Renew** institute and with **Bruno Dujčić**, an expert in the design and construction of wooden buildings and the holder of the patent for the panels. The company's development is built upon an environmental strategy underpinned by the use of recycled materials. "We choose recycled chipboard panels from the Italian company Saviola for all our ready-to-assemble furniture panels. Saviola are the first and so far only company in the world to have been awarded an FSC certificate for the production of 100% recycled wood panels," they explain. They

are also awaiting the installation of a solar power unit that will cover a quarter of their energy needs from next March. The challenges faced by Stilles are similar to those faced by many other companies. The biggest problem currently is the continuous rise in energy and raw material prices, although they are also struggling to recruit sufficient numbers of specialist and mobile staff.



Photo: Stilles



A COMPANY WITH TRADITION AND INNOVATION

LIVARNA GORICA, a 100% related company of ZÜRN GmbH & Co. KG, Munich, is a foundry with more than 70 years of experience in cast iron technology. With a team of 50 employees and 50 contractual workers, we manage a high-level production. We offer best customer support and flexible logistic services. The location close to the sales market is an important geographical advantage. Among other, we export to Denmark, Germany, France, Italy, Austria, Sweden and Slovakia. Our modern and efficient manufacturing system reaches a capacity of over 10.000 tons per year.



A large number of our production are thin-wall and core-intensive casting components. Our production program are grey iron castings between 0,5 and 24 kilos in EN-GJL-150 to EN-GJ-300 material such as gear-boxes, bearing housings, pump housings, gear hubs, engine parts, gear levers, bearings, weights, flanges, fittings and others. Coreless and complex core intensive cast components are produced in high-speed throughput. The fast and flexible output is particularly suitable for the production of medium to large volumes.



The Integrated Management System includes Quality management SIST ISO 9001: 2015, Environmental Certificate SIST ISO 14001:2015 and Occupational safety of our employees.



GREEN BUILDINGS

Responding to Unpredictable Market Conditions

Slovenian companies are making products and providing services that ensure a healthier and more comfortable living environment with the lowest possible carbon footprint.

Nina Šprohar

Lumar Have Received Numerous Awards for Technological and Technical Achievements

“Innovation is one of our guiding values. This fact demonstrates that the company has a strong focus on encouraging innovation. We have a treasury of knowledge and details that we enhance with new solutions and innovations. For a number of years, our employees have been encouraged to take part in this process through intersectoral operation and technical coordination, and through interdisciplinary cooperation with outside experts and providers,” says **Nataša Teraž Krois, Head of Development and Sustainability at Lumar**. When seeking out and developing new solutions, they work on various research projects with external research institutions and other partners. According to Teraž Krois, the results of this process of encouraging innovation can be seen in the awards and prizes they have received for their technological and technical achievements, which include a Green Pencil Award in 2013, a Jože Mrak Innovation Award in 2014, an Active House Certificate in 2019, and a Quality Mark in Construction environmental certificate in 2019 and 2022.

Alongside the continuous architectural and technological development of products (individual details and the integration of new materials to ensure the highest

quality), superlative design and above all higher standards of comfort in their houses, Lumar are also engaged in the intensive development of solutions under the Lumar Zero Emission Living trademark. “These solutions are presented as package solutions for zero-emission living that we then incorporate into our houses as systemic solutions: solar power units, smart installations, energy management using the optiMOON system, rainwater recovery and so on,” says Teraž Krois.

Removing Boundaries Between Indoor and Outdoor Space

Lumar have unveiled several new houses this year, all based on the three key pillars of modern sustainable construction: living comfort, energy efficiency and attention to environmental impact. According to Teraž Krois, the new Vivus 140, Varius 170, Artis 175, Atractivo 175, Aspectus 180 and Varius 202 catalogue houses are an improvement on their previous house designs: “With the open, modern



Photo: Lumar

Lumar are engaged in the intensive development of solutions under the Lumar Zero Emission Living trademark.

design of the living areas and the option to upgrade with outside terraces, these houses remove the boundaries between indoor and outdoor space, providing new functionality throughout the seasons for pleasant and highly comfortable living.”

Lumar have unveiled several new houses this year, all based on the three key pillars of modern sustainable construction: living comfort, energy efficiency and attention to environmental impact.

Their model house in Dragomelj, the first certified active house in Slovenia, was upgraded in 2022 with an energy storage unit and optiMOON system, which enables the control and management of energy production and consumption. It also has a green roof. The solution is being presented in cooperation with the MOON Porsche Slovenija trademark.

The company have also added the new patented iQwood solid construction system. “iQwood is a solid, extremely stable

and safe wooden structure made exclusively of solid Slovenian alpine wood and without any adhesives, chemicals or metals. It consists of cross-stacked wooden boards, firmly and permanently joined with solid wooden dowels. All Lumar’s houses, both catalogue and made-to-measure, can be constructed using the iQwood system. These houses provide our customers with an even healthier and more comfortable living environment with the lowest possible carbon footprint, or even a positive carbon footprint, for the entire lifecycle of the house,” says Teraž Krois. She adds that innovation and development are evident not only in the company’s products and energy solutions, but also in their sustainable business models and the way they operate. The awarding of a Green Star certificate, which is proof of their success on the path towards the green transition, is further confirmation of this. The certificate rewards and highlights those companies that are boldly and decisively creating value added and profit without

having a major impact on climate and the environment.

Being Sustainable By Focusing On Nearby Markets

In line with their sustainable business strategy, the company have decided not to go after new markets, an approach they believe is not suited to the sector, being neither ecological, sustainable nor people-friendly, especially if the construction site is more than five or six hours away from the production location. “We know this sounds unambitious or even utopian, but we believe that companies in our sector will work ever more locally through sustainable business transformation. On the topic of global expansion, we have had several discussions on the topic of selling know-how, which means that instead of selling labour and housing components, walls, etc., we help someone in a distant location to set up the technology themselves, which would contribute to a cleaner environment,” says Teraž Krois.

MBS | T I M B E R

Wood is
our nature.



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P R E M I U M E U R O P E A N T I M B E R

Excellent quality and state-of-the-art services are our trademark for all MBS Timber products.

Renowned woodworking companies from over 50 countries worldwide value their cooperation with MBS Timber for its top product quality, reliability and friendly and competent consulting services. Our further strengths are many years of experience, comprehensive know-how on wood, state-of-the-art technology and logistics, as well as highly trained employees.

MBS Timber offers a range of products for house building and further processing of wood products.

Our production of profiled boards and laths, in addition to all standard glued and sawn timber products, has secured us a place among comprehensive providers for any woodworker or pre-fabricated house manufacturer.

Both last year and this, the company have noticed a growth in demand for nearly zero-energy houses, which has led to increased sales. Indeed, last year was the best in the company's history. This year will not be greatly different – indeed, the first half of 2022 was even more successful than the first half of last year. “Every year brings new challenges, and that will be the case in 2023 as well. The joy of enterprise and management lies precisely in resolving the challenges that arise, which makes our work interesting,” say the company.

They have noticed that people are once again seeing house and home as important factors in their quality of life, and are prepared to build larger, more spacious houses that are furnished with better materials and equipment. This pushes the price up. “Customers are increasingly wanting larger living areas in which the family can enjoy time together. Even before, and especially during the coronavirus pandemic, people were wanting an extra work room or a ground-floor office area with its own entrance if necessary. Most of the houses we make at Lumar are nearly zero-energy houses that use less than 15 kilowatt hours of energy per square metre (kWh/m²). Customers can obtain grants for this from the state-run Eco Fund,” they add.

Marles Provide House Buyers With Digital Twin Monitoring

Marles have completed the Dom24h house at their business zone. In the company's words, it is the most technologically advanced building in Slovenia, with a package of newly developed smart solutions that increase quality of life. “We wanted to show that we were on top of the latest trends, and to incorporate the latest development achievements into our buildings. Our research focus addresses energy-saving standards, earthquake-proof construction, fire safety, the incorporation of environment-friendly materials, modern spatial arrangements and European standards. Dom24h is therefore a smart house, one that is innovative



Photo: Aljoša Videtič

When innovating products for the market, Rihter focus on the development of products and solutions that are based on the circular economy and resolve the current challenges that are appearing on the market.

in terms of the solutions it offers and, at the same time, energy self-sufficient, thus making it a net-zero energy house,” they explain.

Marles prepared for the rise in the prices of raw materials in good time, which has enabled them to operate smoothly in all areas.

Marles believe that digital transformation has made a considerable positive contribution to the building planning and management process. The company provide their customers with the option of having a “digital twin”, which employs sensors to monitor the condition of their building. “The sensors are integrated into a single information system for managing and controlling the condition and operations of the building and appliances. It also enables the house to be managed remotely. The digital twin is produced during the building design phase, which means that, even before construction starts, many of the costs and potential difficulties are removed. It also makes other processes easier during the building's lifecycle,” they explain. The technical term for this type of design process is “building information modelling” (BIM).

Ceiling and Wall Cooling and Heating

One of the Marles's most state-of-the-art solutions is the incorporation of a floor heating system and a ceiling and wall cooling and heating system. “This is one of the healthiest cooling and heating systems. It creates pleasant, evenly warmed rooms with an almost ideal temperature throughout the year,” they explain, adding that this system provides the highest level of living comfort currently available on hot summer days. At the same time, in combination with a solar power unit and energy storage system, it provides the best system for cooling rooms.

With a subsidiary in Austria and a series of representatives in Italy, Germany, Switzerland and Croatia, the company are proving that they can be a major exporter of prefabricated wooden houses on the most demanding European markets as well. The company's vision is “to expand into foreign markets and become the leading provider of original solutions for the construction of modern wooden buildings in Europe.” Although the rise in the prices of raw materials has proved to be a major challenge for most, Marles anticipated the situation in good time, made the right preparations and are currently operating smoothly in all areas.

Rihter Focus on Sustainable Components in Innovation

Rihter also say that despite the steep rise in the prices of materials seen in the last year, and the various crises they have had to overcome, they are very satisfied with their sales figures for 2022. "We are eyeing the future with great care as we know that we will have to make a sincere effort with every customer to convince them that we are a trustworthy partner in the field of prefabricated houses," they add. They believe that the rise in interest rates for loans and the limited options for obtaining them are among the factors that will lead to a reduction in demand. Other factors include the constant price rises and the uncertain situation on the market brought about by price rises for materials in particular. "We always try to ensure that we offer our customers the best possible service and make the entire house construction process as easy as possible for them," they say.

They are constantly engaged in development and innovation, which, since they are a service and manufacturing company, take

place in two areas: internally, with improvements to solutions and the introduction of new processes, digital tools, materials and procedures; and in the development of products for the market. "We are currently dealing with sustainable components in both areas of innovation: in internal development with employees' skills, in the company's culture and in cooperation with the local environment. When innovating products for the market, we focus on the development of products and solutions that are based on the circular economy and resolve the current challenges that are appearing on the market," they explain. They are also proud of their success in sustainably transforming the company, improving their products and services, offering the market new sustainable buildings and providing comprehensive house-building services to customers, from initial discussion to the production of a house that is ready for occupancy.

They generate around 40% of their turnover on foreign markets, mainly in Italy, Switzerland, Germany and Croatia. In

these countries they mostly work with the same business partners, although they are also constantly looking for new business opportunities in countries in which they build fewer buildings or in countries in which they have not yet worked. They add that these are largely European countries.

The company have decided not to go after new markets, an approach they believe is not suited to the sector, being neither ecological, sustainable nor people-friendly.

M Sora Looking At Alternative Types of Wood

There has been no shortage of development activity at M Sora this year. The company are busy optimising and modifying processes at the company, as well as developing new products. "Optimisation mainly involves updating procedures throughout the entire process chain, starting with the complete digital transformation of field procedures



Manufacturing and sale of builders' joinery

TUNING d.o.o. has been present on the market since 1999 and today employs more than 30 people. The main activity is the supply, installation of interior doors, entrance doors, windows and blinds, and the production of its own interior doors under the brand TUNING DESIGN, the quality of which is recognized by more and more customers in neighboring Austria and Croatia. In 2021, the company began a renewing of processes and digitalization of operations. The company also manages 2 VIP VULCO car service workshops and we are a proud partner of the GOODYEAR network. Presence in foreign markets and cooperation with international companies gives us confirmation of good work.

In 2023 we are opening a new furniture salon in Ptuj (Osojnikova cesta 12, 2250 Ptuj), which will have more than 400 m² of floorspace to showcase our own products and those of our partners.

VALUE PROPOSITION / OFFERING

More than 20 years of experience, Cooperation with trusted companies (Pirnar d.o.o., ACTUAL Fenster, DIERRE, Roletarstvo Medle, Senčila Medle, Westag-Getalit AG, EKO-OKNA S.A., TUPAI, ...). The company's vision is to become trustfull company in the supply of builder's joinery and to become one of the major actors in the interior door manufacturing market in Slovenia and abroad, Capacity to quickly adaption.



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SEGMENTS THAT ARE MOST RELEVANT FOR OUR COMPANY

- Wood/pvc/aluminium builders' joinery industry,
- Production automation system.

REFERENCES

- Pirnar d.o.o.,
- ACTUAL Fenster,
- DIERRE,
- Eko-Okna S.A.,
- Westag & Getalit Ag,
- Roletarstvo Medle d.o.o..

MAIN ACTIVITIES / PRODUCTS / SERVICES

Supply and installation of:

- interior doors,
- entrance doors,
- PVC, ALU, WOODEN windows
- blinds.

Production of its own interior doors under the brand TUNING DESIGN.

(measurements, assembly, servicing) and making changes to sales and production processes,” they say. “On the production side of things, we have been testing new technologies for monitoring the flow of materials and products using RFID technology, and are currently in the process of building a digital twin that will enable us to monitor production using ‘live’ data. This will be particularly useful for optimising the time-based and material aspects of production.” The company are also starting to measure their carbon footprint and the environmental, social and corporate governance (ESG) indicators, which will help them to direct and focus their future development.

Rihter are proud of their success in sustainably transforming the company, which will bring improvements to their products and services. They have offered new sustainable buildings and are now providing customers with comprehensive house-building services, from initial discussion to the production of a house that is ready to occupy.

They are also looking for new opportunities. “In response to the fact that there is a shortage of our basic raw material, i.e. wood, or that it is currently difficult to get hold of, we are exploring the possibility, as part of the ReWinnUse project, of using alternative types of wood (Scots pine, Douglas fir, steamed black locust, heat-treated poplar, chestnut), as well as increasing our use of scrap wood, of which there are huge quantities in Europe and which is still mostly used for heating,” they say. Their partners in this project are the Norwegian institute NIBIO, the Department of Wood Technology at the Biotechnical Faculty and the Slovenian Forestry Institute. In the Icon 2.0 project, which was approved in autumn 2022 and also involves the **Kolektor Sisteh** company, they will be focusing on developing windows that can be fully disassembled into their component parts. They are also developing an accompanying innovative

business model and a new modular window-installation process, and will be developing and integrating a new system for tracking products, components and production processes in order to optimise production still further.

Upgrading Their Line of Large and High Elements and Sliding Walls in 2023

“Where the two projects mentioned earlier are part of our strategic development efforts, we also have a number of fully applicable development projects in development. These new products will see the light of day in the next year,” say the company, adding that the products will supplement their line of large, high elements and sliding walls. These latest solutions will be unveiled at the Dom (Home) fair. They have also developed two new types of window, the Natura Optimo XLS and the Natura Ultimo. Both are made of wood: in the Optimo, the sash and frame are aligned both inside and out, while the Ultimo’s USP is that the glass lines up with the wood. “This is a response to several requests from architects for a modern look and good heat insulation,” say the company.

Company’s Advantage Lies in Quality Not Quantity

M Sora export around 44% of their products, with a strong presence in Austria, Italy, France, Germany and the Netherlands. They also have regular customers in the US and Canada, and sent several orders to New Zealand in 2022. They do not have any plans to break onto new markets. Why? “The Austrian market is big enough for us on its own and offers numerous possibilities for growth. Our main advantage certainly does not lie in quantity, but in niche, boutique timber-framed window products of the highest quality. We’re not talking about classic timber-framed windows here, but of glazed walls combined with sliding walls, the construction of window elements several floors high, and the development of new products entirely for final customers with specific product requirements,” they explain. They provide customers with comprehensive

engineering and integrated solutions. They are convinced that this approach will provide the basis for long-term co-operation with well-established architects and partners abroad.

M Sora are building a digital twin that will enable them to monitor production using ‘live’ data, and will be particularly useful for optimising the time-based aspects and material aspects of production.

This year has been a turbulent one for the company, mainly on account of the instability of the prices for materials. They are also faced with supply shortages and delays. Nevertheless, they admit that they will end the year on a high. What are they expecting from 2023? “Next year will bring new challenges, mainly in the form of energy price rises. This will have a negative effect on us, as will the predicted downturn in the building sector. Regardless of what the next year will bring, I believe that the last few years have shown that the Slovenian economy is more than capable of responding to unpredictable situations. I also think that this will be the case next year as well,” says **Barbara Šubic, Head of the Joinery Division at M Sora.** ■



Photo: M Sora

“Our main advantage certainly does not lie in quantity, but in niche, boutique timber-framed window products of the highest quality,” say M Sora.



The company MONTER DRAVOGRAD d.o.o. was established in the year 1947 and works more than 75 years in the field of manufacturing of steel products. Today the company is active in a field of building and constructing special purpose machinery and devices according to customer documentation and plans. Production program includes manufacturing of welded components, mechanical processing and final assembling (mechanical, electrical assembling, hydraulic assembling and pneumatics) and as well the final paintwork of products.

Working field:

- Machine building
- Mining
- Shipbuilding
- Building industry
- Automotive industry
- Wood processing industry
- Electro industry
- Forklift renovation

Company in numbers:

- 240 employees
- Producing products up to a total weight of 64 tons
- 15.000 m² modern equipped halls

New acquisitions in 2022 /Green energy

- A solar power plant with a rated power of 999.12 kW installed on the roofs of the production halls.



TYPE	TOS 1	TOS 2	TOS 3	TOS 4	TOS 5	TOS 6	TOS 7	TOS 8	TOS 9	TOS 10	ŠKODA
CNC TOS											
Table:	1800 x 2200	1800 x 2000	1800 x 2500	1800 x 2500	1400 x 1600	1800 x 2500	1800 x 2500	1400 x 1600	1800 x 2500	2000 x 2500	2000 x 2000
x:	3500	3500	4000	4000	2000	5000	5000	2500	4000	11000	8000
y:	2000	2000	3000	3000	1600	3000	3000	1600	3000	4500	3000
z:	1250	1250	1600	1600	1250	1600	1600	1250	1600	1200	1600
Maximum load	12.000 kg	12.000 kg	20.000 kg	20.000 kg	8000 kg	25.000 kg	25.000 kg	8000 kg	25.000 kg	80.000 kg	65.000 kg
Spindle diameter:	DIA 130 / ISO 50	DIA 130 / ISO 50	DIA 130 / ISO 50	DIA 130 / ISO 50	DIA 125	DIA 130 / ISO 50	DIA 130 / ISO 50	DIA 125	DIA 130 / ISO 50		DIA 160 / ISO 50

OUR REFERENCES:



MONTER DRAVOGRAD d.o.o.

Otiški vrh 177

2373 Šentjanž pri Dravogradu

Tel: +386 (0)2 8787 730

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GREEN TRANSITION

Easier and Quicker to Develop New Technologies

Sustainable development is one of the highest priorities of many Slovenian enterprises. The energy crisis has further fuelled the need for enterprises to undergo significant technological renovation.

Darja Kocbek

The EU estimates that industry will have to implement green transition by the end of this decade – and time is running short. “It is not so much a question of what has to be done in 2023, but how to speed up those activities that companies have begun in the last five years so that they can remain on the market and improve their competitiveness, supported by the material and energy efficiencies created by green technologies,” explains **Vesna Nahtigal, Executive Director for Industrial Policy at the Chamber of Commerce and Industry of Slovenia (CCIS).**

In her words, the energy crisis has further fuelled the need for enterprises to undergo significant technological renovation. Companies required to obtain a comprehensive environmental permit for plants that cause industrial emissions (IED) must meet the requirements of the best available techniques (BAT) conclusions. Even where companies have gone through renovation and are only a few years old, these conclusions lag behind the rapid development of the new green technologies that companies must adopt if they wish to remain on the market.

In response to this, the CCIS have been warning that the protracted procedures for obtaining environmental permits prevent companies from undergoing

technological renovation, even though they are investing in more efficient processes, in terms of material and energy, that have significantly lower environmental impacts. New innovative technologies are often obsolete even before they reach the production stage. “We can see that it is easier and quicker in current conditions to develop, design, finance and

implement new technologies than to wait round for the relevant permits to be granted,” explains Nahtigal.

New Milestones Continually Being Set at Hrastnik Glassworks

Steklarna Hrastnik are one company that have already been placing sustainable development and the green future at the



The finishing touches are being put to the design of a new furnace that will increase production capacity at Steklarna Hrastnik.

heart of their operations for a number of years. They do this by continually setting new milestones for technological possibilities and development capacities, all with the aim of making the future considerably greener than the present. Producing some of the world's purest glass, hand in hand with sustainability, is at the centre of the company's mission.

Steklarna Hrastnik are one of the leading European producers of special glass packaging, boasting exceptional potential for further growth.

As a result of extensive investments of over EUR 93 million in the last six years and changes to production programmes, Steklarna Hrastnik are today acknowledged to be one of the leading European producers of special packaging glass, with exceptional potential for further growth, and for expanding operations and consolidating market position. As customer demand is outstripping available

capacities, the key objective is to secure those capacities as quickly as possible so as to keep up with demand.

"We remain committed to realising all our current planned investment potentials and to development and expansion, in both local and international environments," say the company. "All developmental and strategic investments plans are currently being implemented without a hitch." The finishing touches are being put to the design of a new furnace that will increase production capacity at Hrastnik. In 2023 they are planning to upgrade the new hybrid low-carbon furnace and make investments in innovative energy and digital transformation projects. "Our emphasis on transforming glass production by minimising environmental footprint and carrying out other sustainable projects will only become stronger with these new investments," they say. The company is also in the final phase of acquiring the SFS Paraćin glassworks via their owner, the Swiss firm GlobalGlass AG.

"The takeover is still the subject of the usual conditions precedent, including approval by the relevant competition protection authorities," say the company. They add that this process should be completed by the end of the first quarter of 2023. The company also point out that they will continue to expand globally and build awareness of the fact that glass packaging is the safest and most sustainable packaging there is.

Innovation is Key

Hrastnik management also point out that innovation, particularly in terms of sustainable development, does a useful job of raising the company's profile among existing and potential customers, brand owners and potential future employees. "It gives us an advantage over the competition on the market, while also smoothing the transition to carbon neutrality, better utilisation of new technologies and faster digital transformation. Sustainable development is woven into all levels of the company's operation, from the



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manufacture of premium glass products to improvements to processes and the working environment.”

Hrastnik are planning further activities involving the use of hydrogen as a carbon-free fuel in 2023, including the first industrial-scale production of glass in the EU using hydrogen. They are also part of H2GLASS, the largest glassmaking project using hydrogen at an industrial level in the EU.

One important part of the company's drive towards sustainability is raising awareness of the use of glass products and packaging, as they believe that it is an indispensable part of the solution to the problem of ever-increasing pollution of the environment with plastic particles. They are therefore very carefully when choosing projects to support and take part in, whether local or global. “At least two of these projects are worth mentioning,” say the company. “The ‘Adijo plastenka – živijo steklenka’ [Goodbye Plastic, Hello Glass] project in collaboration with Rotary Slovenija, and a project being run with the prestigious JRE group of restaurants, with tap water being served in superb glassware from our factory at all the group's fine-dining establishments.”

Improving Energy Efficiency and Investing in Renewables

The company intend to continue to strategically modernise the glass production process, which is energy-intensive and involves highly demanding working conditions. Ambitious steps are being taken towards automation, digital transformation, improvements to working conditions and lower environmental impact. As the company say: “Day by day, in line with the company's development strategy, we are becoming a smarter manufacturing plant that can compete in the world of Industry 4.0 and of circular models of business and living. Decisive development steps require dynamic and strategically directed investment cycles.”

In line with these cycles, they are making long-term improvements to energy efficiency and security, and investing in

renewable energy sources. Deploying ground-breaking solutions, they are increasing the use of waste heat, replacing fossil fuels with more environmentally friendly products, better utilising their melting furnaces, and introducing other new people- and environment-friendly developments. Occupational health and safety, improvements to working conditions and upgrading employees' skills are further high priorities for the company, as only healthy, satisfied, well-trained and motivated staff can help the company grow further. The company also pay a good deal of attention to the need to coexist in harmony with the local environment in which they operate.

Talum, one of the world's most efficient manufacturers of primary aluminium and aluminium alloys, have been intensively engaged in the circular economy for more than 20 years.

“All our activities therefore aim to keep sustainable development at the very top of our priority list, regardless of the challenges that involves,” they explain. Hrastnik were recently awarded

an EcoVadis 2022 Gold Medal for their sustainable development activities. “The sustainability of our glassworks was given an advanced rating. EcoVadis analyses and checks the performance criteria for companies' environmental, social and ethical practices in more than 200 industries and 160 countries,” they add.

Open-Loop Recycling at Talum

In the last ten years, Talum have undergone an intensive restructuring process leading to the production of aluminium products with high value added. They are very active in the circular economy, having launched the first in-company recycling processes more than 20 years ago. “Today we have efficient circular economy models in place,” they explain, “and can boast the development and production of new aluminium alloys based on recycled aluminium and aluminium products.”

Using a series of innovative approaches and high-level technical knowledge, they have managed to establish a closed-loop recycling system in which materials from the industrial plant itself are returned for recycling. They stress that they



Photo: Lovro Rozina/Steklena Hrastnik

Hrastnik are planning further activities involving the use of hydrogen as a carbon-free fuel in 2023.

are one of the few companies with such a system in place. "This process involves amalgamating aluminium alloys from a variety of sources of unknown composition, contaminated with lacquers and paints – in other words, post-consumer recycled or PCR material."

Keen to Cease Production of Electrolysed Aluminium by 2030

In the next few years, the company aims to step up its processing of waste aluminium and increase the volume of 'green transition' products.

"We will grow intensively and develop a programme of aluminium slug manufacture for the pharmaceutical, cosmetics, food and packaging industries, although we already manufacture slugs for containers made of entirely recycled aluminium and have reduced our carbon footprint for this activity by 75%. We will continue on this path."

In the area of casting, they are planning to focus in the coming years on industrial transformation, with particular emphasis on further automation, robotisation and digital transformation with the aim of becoming a smart casting factory. In addition to developing and manufacturing highly efficient heat exchangers for cooling technologies, they are also positioning themselves as a development supplier in battery-cooling segments for electric vehicles and in casings for heat pumps and solar absorbers. As regards the development of aluminium billets for the construction industry, they are moving towards billets of non-standard quality, which can be manufactured without using primary aluminium.

"Our strategy states that we will cease producing electrolysed aluminium by 2030, as it involves an electricity-intensive process. We have halved our electricity consumption from 1.2 terawatt hours

(TWh) in the last five years, while the crisis of the last year has led to a reduction in electrolytic production and therefore to a fall in electricity consumption to 175 megawatt hours (MWh)," they explain.

As a result of the extremely high prices of electricity and natural gas, Europe and Slovenia are faced with the possibility of being unable to compete on global markets or to do any cost-effective business at all.

Talum would therefore like to see swift and agile measures taken, with the introduction of regulated energy prices at EU level and in Slovenia so as to ensure that Slovenian businesses can enjoy the same conditions of business as other EU countries, and Europe can compete with other parts of the world. "Only then will we be able to keep the production and processing of all materials within Europe, which is the basis for a competitive, industrially robust Europe," they point out. ■

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KOV, d.o.o.

Growth and success down to a well-tuned workforce

KOV, d.o.o. from Jesenice, a manufacturing, maintenance and development company, have seen continuous growth in recent years. They say that this is first and foremost down to a workforce fully committed to its profession.

The history of KOV, d.o.o. from Jesenice started in 1995, when the company's owner, Vojo Jovičič, opened a sole tradership and began manufacturing metal goods and carrying out maintenance work at small manufacturing plants. He set up the company to build on his many years' experience: first at an ironworks, then at a secondary school in Jesenice, where he passed on his knowledge to the younger generations, before deciding, after serious consideration, to set up his own workshop. At that time, he was mostly involved in locksmith works for building construction. In 2010 the situation on the market and the contraction in the construction sector encouraged the company, which at that time employed six people, to redirect its focus to mechanical engineering and maintenance. Four years later it became a limited liability company (d.o.o.), since which time it has grown continuously and invested in manufacturing premises, machinery and staff. Today, KOV, d.o.o. has a workforce of 60 and 5,000 square meters of covered business space at an industrial park in Jesenice. The company is certified under the EN ISO 3834-2 and EN ISO 1090 standards, and is also licensed to manufacture pressure equipment. Its annual turnover in 2021 was EUR 8 million. It consolidates its position by being reliable and by carefully managing the entire work process, from planning, development and manufacturing to assembly and maintenance.

Some two-thirds of KOV's business is with countries abroad, with most exports going to Austria, Germany and the UK. However, there are no plans to increase exports as the company is keen to ma-

intain the very good relationships it has with clients in Slovenia. Managing director Anže Mrak says that while company performance is good, there is always room for improvement.

Commitment of the workforce a key component of success

The company values its well-motivated workforce very highly. They are committed to their work and, in the management's opinion, one of the key components of the company's success. Despite the company's continuous growth, everyone knows each other, which produces a tightknit team all striving towards the same objective. The company places great importance on improving work processes, the working environment and interpersonal relationships, encouraging innovation and fostering a sense of belonging. As the company sees it, one of its competitive advantages lies in the fact that the sales staff are, at the same time, technologists and project managers. This has a strong positive impact on responsiveness, the relevance of the products offered and all subsequent manufacturing processes. The managing director is also from the manufacturing and technology department, which means that his knowledge is wide and he is always on hand to help the company make the right decision at the right time.

What are the company's plans for the coming year? The company says that 2023 will be focused largely on the upgrading and further digital transformation of business processes; they are also planning

to provide further education and training to staff at all levels of the company, and to purchase several new machines. But the main priority remains to ensure that the workforce stays motivated to continually improve, and to foster personal growth and a sense of belonging.



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GREEN TECHNOLOGIES

Green Products Developed in Cooperation with Buyers

Keko Equipment are highlighting two ceramic products, Kronoterm a new generation of heat pumps, Miniplast is testing a new cartridge, while DS Smith are focused on replacing problematic plastic.

Darja Kocbek

Companies in Slovenia are aware that the development of green products and technology, facilitating the green transition and going carbon-free, is a vital condition for their survival on the market and maintaining a competitive edge, and is one of the key factors in the search for new buyers and new markets.

Keko Continuously Developing and Improving Technology

Edo Ujčič, assistant managing director of the company **Keko Equipment**, explains that the main new features they are developing as part of the green transition are tied to two products – ceramics for solid state batteries and ceramics for fuel cells. Ceramic materials are undoubtedly a basis for the transition to clean and green technologies. In his words the company are continuously developing and improving technology and their technical approach across the entire range of machinery and process lines. “Our rich experience and knowledge in the production of passive electronic components are constantly being improved through a variety of feedback from production environments around the world. Experience, bolstered by new knowledge and new technological approaches to production and control, is enhanced by loyal and

satisfied customers and repeat orders,” explains Ujčič.

The aim of Keko Equipment is to make and continuously develop innovative, intuitive, and reliable human-machine interfaces (HMI).

Reliable machines, proven technical support and a stable company environment offer long-term technological and developmental support for future challenges and opportunities, he adds. Their potential in the market is meanwhile

gaining strength, and confirms their deep involvement in renewable, green and emission-free energy trends through their work or the entire array of machinery and lines. “Our aim is to formulate and continuously develop innovative, intuitive and reliable human-machine interfaces (HMI). We provide a developmental approach that enables the efficient operation and monitoring of vital processes, good analytics and rapid links with any business information environment,” explains Ujčič.

The core focus of the company in his words is selling knowledge enriched with



Photo: Keko Equipment

Ceramic materials are undoubtedly a basis for the transition to clean and green technologies.



Photo: Kronoterm

Through digitalisation and the development of services Kronoterm offer their partners tools that will ease their sales, installation, start-up, maintenance, and servicing.

the technological experience of successfully operating machines and lines in various sectors and industries throughout the world. The plans that Keko Equipment have for 2023 are linked to the plans of those that use their machinery and technology for casting and processing LTCC ceramics. These users are among the

most prominent global names of the green transition in what are called dry batteries without electrolytes, i.e. solid state, and among manufacturers of high-temperature fuel cells (that also offer the highest efficiency), involving both SOFC and SOEC principles of operation. All the industrial activities related to this

are located principally in Europe or the USA, explains Ujčič.

Kronoterm Seeking to Create Devices that will Be Fully Circular

Kronoterm have since their founding been developing technology that is vital to the green transition and carbon-free heating of buildings. Through the development of devices that can be repaired, upgraded, and practically fully recycled, they are enabling customers to drastically reduce their carbon footprint (even by more than 80 percent) and to completely eliminate local emissions of CO₂, SO₂, NOx and dust particles.

Kronoterm are developing devices that can be repaired, upgraded, and practically fully recycled. This allows customers to reduce their carbon footprint by more than 80 percent.

“In the development phase we are increasingly focused on minimising the use



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of materials, extending the lifetime of devices, ensuring that they can be repaired and recycled and ensuring that our devices are as energy-efficient as possible. Our aim is to make devices and appliances completely circular, even if this means that we need to change business models," they say at Kronoterm.

Among the main new features they have been developing for their customers, they highlight the new generations of heat pumps, which drastically increase energy-efficiency compared to the current generation, and at the same time address the need for the simple and quick installation of appliances. Through digitalisation and the development of services they offer their partners tools that will ease their sales, installation, start-up, maintenance, and servicing. "Since 2019 our air/water heat pumps for heating have been using the more environmentally friendly coolant R452b, which does not harm the ozone layer and has a full 67 percent lower carbon footprint than existing coolants," they told us.

The managing director of Miniplast assesses that at the EU level tax breaks should be offered for all products made from BIO/Recycle raw materials.

Miniplast's Key Green Products are PE Bottles

In 2018 the company **Miniplast** together with raw material suppliers started producing eco plastic bottles. They are made of sugar cane and intended for the chemical industry. Eco plastic bottles are environmentally friendly, because they are fully degradable. "Currently we are testing a new product, the 2-K cartridge 25 ml and 50 ml for the needs of glue manufacturers and for dental prosthetics," explains **managing director Boštjan Poredoš**.

Miniplast's key green products are in his words the PE plastic bottles ranging from 10 ml to 1000 ml, 2-K cartridges and mixers for the glue industry and stomatology. Miniplast is a 100-percent exporter. It exports products to 26 countries. Its main



Photo: Simon Koležnik/Miniplast

"The main challenge in the circular economy is how to ensure that the entire product can be reused," stresses managing director of Miniplast Boštjan Poredoš.

export markets are Germany, the Netherlands, the UK, Austria, Italy, Poland, Switzerland, Spain, Portugal and Turkey.

Regarding the main challenges in the green transition, Poredoš takes the view based on many years' experience in the area of BIO/Recycle packaging that at the EU level tax breaks should be offered for all products made from BIO/Recycle raw materials. Only then can the entire industry redirect itself towards a circular economy. So far only a few countries have passed regulations imposing additional taxation on products that are not made from at least 30-percent recycled materials. The main challenge in the circular economy is how to ensure that the entire product can be reused, stresses Poredoš.

Circular Economy Begins With Designing Sustainable Packaging

"When we talk about the green transition, it's important to realise that the circular economy actually begins with the design of sustainable packaging. Even in the stage of product development we need to consider what happens to the product and its packaging after use," says **General Manager of DS Smith Slovenija Michal Zawistowski**. In his words the circular economy is at the centre of the environmentally sustainable "Now and Next" strategy of DS Smith, which focuses on better design, optimisation of packaging, protection of natural resources by making use of every fibre and

empowering companies and individuals to transition to the circular economy.

Even in the stage of product development we need to consider what happens to the product and its packaging after use.

They have set themselves the goal of DS Smith, starting in 2023, producing only recyclable packaging or packaging for reuse. "I can proudly state that we have achieved this goal. By 2030 we want absolutely all our packaging to be recycled or reused," he explains. To create packaging they use only as much materials as absolutely necessary, and they produce packaging from recycled materials and make sure it is again recycled or reused.

DS Smith Offers Paper Solution for Replacing Plastic Trays

As for the new products they are developing as part of the green transition, Zawistowski explains that they are focusing on the replacement of problematic plastic both in terms of primary packaging and in the form of an alternative to various fillers that protect products from damage. "We have a paper solution for replacing plastic trays for wet and fresh foodstuffs and prepared meals, and with special innovative cardboard carriers we can replace the plastic wrapping on cans or plastic beverage bottles, and we can make all kinds

of containers, boxes, cardboard wraps and shelf-ready packaging,” he lists off.

Experts at DS Smith are also exploring the possibility of using alternative fibres for the manufacture of paper and cardboard, so we can further extend the cycle of material use, reduce the amount of waste and regenerate natural systems.

“We want to make use of every single cellulose fibre, and with circular solutions reduce the amount of waste and pollution. Our experts are also exploring the possibility of using alternative fibres for the manufacture of paper and cardboard, so we can further extend the cycle of material use, reduce the amount of waste and regenerate natural systems,” explains Zawistowski. He emphasizes that they are striving especially to understand customer needs and customer supply chains. At the PackRight development centre, which is located at the headquarters in



General Manager of DS Smith Slovenija Michal Zawistowski: “By 2030 we want absolutely all our packaging to be recycled or reused.”

Brestanica, they offer customers workshops and project meetings where together they search for solutions. “In this way we get to know their products, specifics and requirements. Even in the packaging construction stage we can precisely evaluate project optimisation

using the Value Tool application, which was created through the know-how and experience of the DS Smith group and enables a review of value in individual stages of the supply circle,” he explains. They can present customers with reasons for certain packaging changes using specific numbers and amounts.

In the past two years there has also been major growth in demand for sustainable packaging for online sales, and they expect this trend to continue, since the majority of European consumers want more cardboard and less plastic packaging, and they are also willing to pay more for products in sustainable packaging. “Another change we are noticing at the moment is the increased demand for solutions that could replace polystyrene foam and other plastic mass used to protect products; what are termed inserts that are used to keep the contents of boxes undamaged. In this segment we can boast the development of innovative cardboard solutions which will soon be a part of our customer’s packing line,” concludes Zawistowski. ■



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LUZNAR D.O.O.

When it comes to fabrication of custom-designed printed circuits, they handle it ALL themselves

A family firm based in Kranj, now run by the second generation, Luznar's principal line of business is the fabrication and assembly of printed circuits. Their greatest competitive advantage is that they do everything themselves, from design, through procuring the materials, to finishing the products and providing additional services.

Luznar's story began in 1985. That was when their fabrication of printed circuits began. Over the years they have expanded, and have also been engaged in the assembly of printed circuits for some time now.

Many strings to their bow

They are the only firm in the broader environment that designs, fabricates and assembles printed circuits under a single roof. As they say themselves, this allows them to keep a close eye on quality, to stay flexible, and to deliver fast to their customers. All of this saves their customers time and money. They are also the only maker of printed circuits who can faultlessly fabricate prototypes and other small series within 24 hours of receiving the order, and four-layer printed circuits within 48 hours of receiving the order.

They place a great focus on their customers, and communicating with them, and support them with effective advice before, while and after meeting the order. They respect them and understand that each customer has its own business, and its own attributes and aims. They always listen carefully to their needs, and meet them when this is feasible. Sometimes however this requires them to act outside the confines of their sector, and seek external collaborators. They also package and finish their products according to their customers' requirements.



A foothold in many industries

The firm is based in Kranj, and currently employs 37 people. It had revenues of just under €4 million last year, and is expecting an even higher figure this year. They have a presence in aviation, the space industry, the car industry and the casino industry, the manufacture of demo boards, signalling, medicine, and other electrical industries. There is practically no area that they do not cover.

Their main market is Slovenia and the rest of the EU, but they also sell to third world markets. They take great pride in their quality certifications: TÜV, UL, Platinium AAA and IPC.

Being a family firm is an advantage

Luznar's history as a family firm is seen as a great advantage, which they have done very well to exploit. They are convinced that their family tradition has brought credibility, stability and long-term thinking, based on respect and good communication. They value mutu-



al respect between their employees, and respect for their agreements with customers, for whom they always try to offer something new.

Next year they are planning to build their own production line for chemically gilding and plating printed circuits. They also plan to make several investments in new machinery capable of fabricating even more complex products.

A new sales portal early next year

And one more thing is promised: a new sales portal is due to be launched in early 2023, to provide customer support in making it easier to enquire about and order products, but also to help themselves in responding more quickly to customers.



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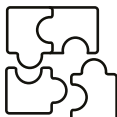


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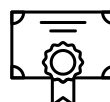


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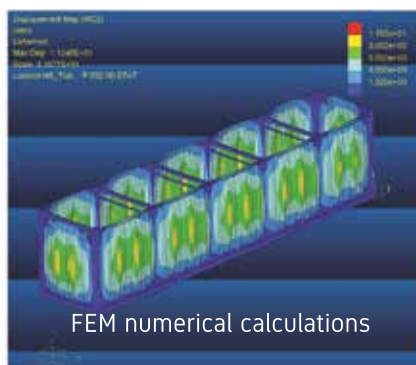


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ENERGY COMPANY INVESTMENTS

Important Investors Mainly in South-Eastern Europe

Petrol and GEN-I are investing in the energy transition, HSE are investing in new production resources, and Eles are part of several international smart-network development projects.

Darja Kocbek

Slovenian energy companies have become major investors in the markets of South-Eastern Europe in particular. In the last five years, most of **Petrol's** investments have been in the production of electricity from renewable energy sources, the bulk of them in Croatia, Bosnia and Herzegovina and Serbia, where the natural potentials of wind, sun and water are considerable. For the **HSE Group**, the biggest opportunity in the markets of SE

Europe lies in long-term Power Purchase Agreements (PPA); these enable them to offer an integrated market product to producers of electricity from renewables.

Petrol point out that their first wind generator, at Glunča near Šibenik in Croatia, began operating in 2017, and was joined by the Ljubač generator, the Group's second in that country, at the end of July 2021. The small hydroelectric power plant at Jeleč, the first of five such

plants in Bosnia and Herzegovina, began operating in 2017, and was followed by the Grajići plant in Serbia at the end of 2021. The biggest merger of the last ten years was completed last October with the purchase of **Crodux Derivati Dva d.o.o.**, which sells refined petroleum products in Croatia.

More Than a Third of Petrol's Investments in Energy Transition

"The next major investment will be in solar power plants in the Knin area of Croatia, with an estimated total value of EUR 17 million. It will start producing electricity at the beginning of 2023," explain Petrol. The company are planning investments totalling EUR 698 million by 2025, with 35% of this going to energy transition.

As far as opportunities on the markets of SE Europe are concerned, they explain that, after several years of being the number one energy company in Slovenia, they are now hoping for the same in other countries in the region, namely Croatia, Serbia, Bosnia and Herzegovina, and Montenegro. Regional indicators show that the Group are gaining in strength in the SE Europe region. "In 2021 the Petrol Group created 28% of their EBIT and 31% of their EBITDA in the region, with 47% of their employees coming from outside



Photo: Petrol

In the last five years, most of Petrol's investments have been in the production of electricity from renewable energy sources.

Slovenia. We intend to further consolidate these regional indicators, with the exception of the number of employees, in 2022," they explain.

Growth in business is expected in Croatia in particular, with the company keen to become the leading provider of fuel and sustainable energy solutions in that country by 2025. "This is why we like to say that Croatia is our second home. We estimate that the Group's turnover in Croatia will exceed the figure for Slovenia by 2025."

Welcome Support from the Croatian Government

Petrol's energy plans have also been welcomed by the Croatian government, which last year passed new legislation that clearly highlighted its desire to move towards renewables. At the end of 2021, the Petrol Group's retail network comprised 593 sales outlets, with almost half of them outside Slovenia. The goal of the strategy is to increase this network to 627 outlets by 2025.

The Group also intend to invest efforts in remaining the number one choice for energy transition projects in the region by providing integrated services with high value added. "We will develop and strengthen our presence in natural gas and electricity supply and sales, in sales of liquefied petroleum gas and in energy efficiency projects. Electricity production from renewables has a special place in the energy transition process, so we will try to get ahead of the other major providers in South-Eastern Europe," they add.

Transfer of Good Practice to Other Markets

When talk turns to technological solutions, the Petrol Group are keen to stress that they always strive to transfer the parent company's good practices, solutions and product range to the other markets on which they operate. They do so by making certain adjustments depending on the market, the legislation and other circumstances: their 'Na poti' mobile app in Croatia, for example, enables the

customer to order and pay for products in advance before picking them up.

With new digital channels, an expanded range of energy products and a personalised offer, they are keen to get closer to the customer and offer them support to move away from traditional energy sources and towards cleaner renewables. "We are keen to become the key link in the wider ecosystem by providing energy sources that are adapted to and help shape the market, which is why we are increasing operational efficiency by releasing additional funds for investments in producing energy from renewables," they explain.

In spring 2021, Petrol unveiled their new generation of Q Max fuels, which has been granted an EQTM certificate by the European Organization for Quality (EOQ). The certificate guarantees lower consumption, greater energy efficiency and reduced emissions, all of which, as the company are keen to point out, are another step forward towards low-carbon mobility.

"For aluminium with glance!"

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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Energy Renovation of Buildings in Urban Areas

Petrol are also working closely with towns and local communities, helping them to carry out energy renovation projects on public-sector buildings, increase the energy efficiency of street lighting, manage the urban water cycle (smart management of drinking water supply systems and waste water treatment) and optimise district heating systems. “By employing integrated energy solutions, we are also improving energy efficiency in industry, business and households. We are developing our own Tango IIoT platform for near-real-time management, thereby helping to resolve some of the challenges faced by businesses today,” say Petrol.

Turning to the challenges brought by the war in Ukraine, they explain that they see significant potential in wind and solar energy, and are therefore planning, constructing and operating wind parks and solar power plants in areas where they could be economically efficient, and where the potentials of wind and sun could be exploited in a way that did

not harm the environment. By developing and implementing projects for the production of electricity from renewables, for their own needs as well as for the sale of electricity, they intend to exceed 160 MW of installed power by 2025. At the end of 2021, Petrol had a total of 68.9 MW of installed power at its disposal for electricity production from renewables.

They are also supporting energy transition through energy-efficiency projects by carrying out projects for local communities, including the refurbishment of street lighting and the optimisation of drinking water supply and district heating. The continuous expansion of electric vehicle-charging infrastructure is also aiding the energy transition process; the Petrol Group are now able to offer charging stations in Slovenia, Croatia, Serbia and Montenegro. “We own and operate over 300 charging stations in the region, with charging speeds ranging from ultra-fast to fast and normal.” They add that, if all goes to plan, they should have a network of 1,575 electric vehicle-charging stations by 2025.

Eles Investing in Smart Networks, GEN-I in Solar

Eles are taking part in several international projects. Smart networks are one of the areas in which they are particularly active. In 2022 **GEN-I** finished constructing the largest solar power plant in North Macedonia, and connected it to the grid in September. The GEN-I Group has its own companies on the markets of Austria, Italy, Bulgaria, Serbia, Bosnia and Herzegovina, Croatia, North Macedonia, Kosovo, Albania, Greece, Turkey, Ukraine and Georgia.

“Petrol’s investment policy in 2022 has been directed towards expanding operations in the field of electricity production from renewables, consolidating the company’s position and expanding operations in the sale of energy products and in energy and environmental solutions.”

Two Key Advantages of Long-Term Agreements

HSE explain that they are not planning to invest in new production resources on the markets of South-Eastern Europe in the next few years. However, they do have a foothold in almost all countries in the region when it comes to energy trading. If it is to meet its energy targets, the EU needs to improve cross-border energy supply across its large geographical market, which is based on electricity imports and exports. HSE have therefore decided to take part in the FARCROSS project. The aim of this project is to make it easier to ‘unlock’ cross-border energy flow capacities and facilitate regional cooperation by integrating the main interested stakeholders in the energy chain and setting up demonstration projects involving in-built software and hardware solutions.

On the topic of long-term Power Purchase Agreements (PPA), the company explain that the biggest advantage of these products lies in the large degree of flexibility and relatively high capital capacity they offer. ■



Photo: Petrol

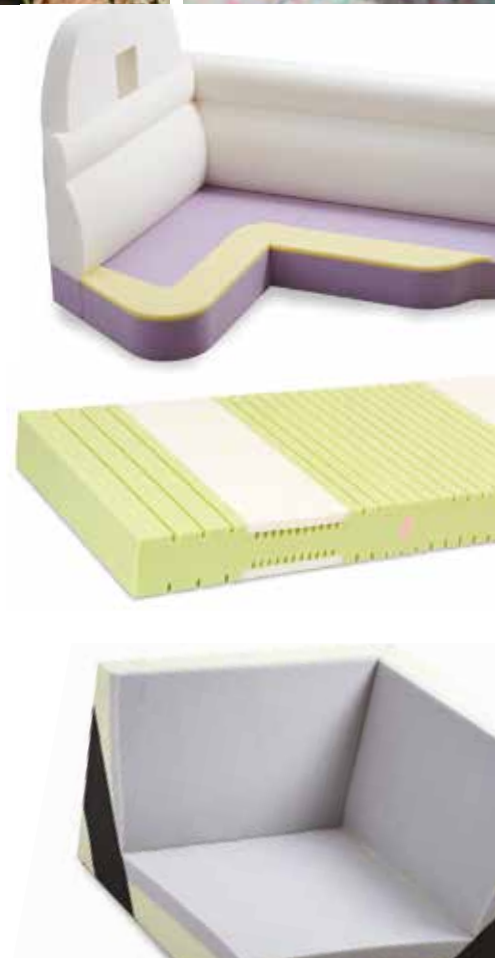
The Petrol Group own and operate over 300 charging stations in the region.



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TOURISM AND CUISINE

Stars Put Slovenia on the Culinary Map

Delicious, high-quality Slovenian food is earning plaudits from some of the world's top gourmets, who are increasingly coming to realise that Slovenia is a sustainable and development-oriented destination that is well worth visiting.

Tomaž Kavčič

Michelin, who are responsible for the world's most prestigious gastronomic guide, have again published their list of the best culinary experiences in the country. Slovenia have been on the Michelin list since 2020, testament to the rapid development of the country's food scene in recent years – to the delight, not only of Slovenian but also of a growing number of foreign diners. Michelin stars are an excellent way of promoting a country and its cuisine, and increase the range of gastronomic products and services on offer.

Michelin announced its arrival in Slovenia in 2020 by saying that “the quality of Slovenian gastronomy is no surprise” and that “thanks to talented chefs who transform ingredients of the finest quality into unique culinary creations, Slovenia is a ‘must go’ destination.” The latest third edition of the Michelin Guide Slovenia is further proof that Slovenian cuisine remains at a very high level. The country can now boast ten Michelin-starred restaurants, an increase of three on last year.

Ana Roš retained her two stars in the 2022 Guide for **Hiša Franko**, and nine establishments were awarded one star; these include **Gostilna pri Lojzetu (Tomaž Kavčič)**, **Dam (Uroš Fakuč)**, **Hiša Denk (Gregor Vračko)**, **Atelje (Jorg Zupan)** and **Grič (Luka Košir)**. **Cob (Filip Matjaž)**, **Milka (David Žefran)** and **Restavracija Strelec (Igor Jagodic)** were awarded their first stars this year, while **Uroš Štefelin** was

again awarded one star, this time for his new **Hiša Linhart** venture.

Seven restaurants also received a Bib Gourmand Award for exceptionally good food at moderate prices, and 41, six of them for the first time, made Michelin's list of recommended restaurants.

Fine Dining is Excellent Promotion for Slovenia

The Michelin stars awarded to its restaurants are, of course, an excellent opportunity to promote the country as a whole. Nowadays, culinary experiences are one of the reasons why many people choose to visit a country for the first time. This is something they are well-aware of at the Slovenian Tourist Board (STO), who point out that having ten Michelin-starred restaurants is way above the average for Europe in terms of stars per capita. “This is a huge success story that confirms the excellence and maturity of Slovenian gastronomy and its chefs. Not least, it provides an excellent opportunity to promote the country, its tourism and its food,” said **Maja Pak**, STO Director, on the occasion of the publication of the third edition.

STO make a point of highlighting the excellence of the country's cuisine and chefs at all major tourist-industry events and in the many campaigns across the world aimed at the more discerning guest. It is therefore no wonder that Slovenian cuisine makes regular appearances on the

covers of some of the world's most prestigious magazines.

Ana Roš: Gastronomy is Art

Slovenian cooking's growing reputation on the world stage is, of course, primarily down to the exceptional chefs and kitchen teams, all of whom work hard and with great creativity to offer their guests a personalised culinary experience. Nowhere is this truer than at **Hiša Franko**, which incorporates the uniqueness of its home valley in the most innovative ways. The chief conductor of this exceptional team of chefs is **Ana Roš**, who needs no introduction.

“The fact that Michelin decided to send its inspectors to Slovenia to find out what was happening there was considerable recognition for the country itself. Food tourism is one of fastest-growing branches of tourism, and food tourists are among the most well-informed, which is ideal for a destination like Green Slovenia. They also tend to spend the most money,” says **Roš**, who adds that she is delighted with her Michelin stars.

While she believes that success breeds success, there is still some way to go. “Slovenes are still learning how fine dining works. It is a far more complex field than you think. We equate cuisine far too much with luxury. Interestingly, this is something we don't do with art galleries or the theatre, or at concerts ...



Photo: Suzan Gabrijan

Ana Roš: "Food tourism is one of fastest-growing branches of tourism, and food tourists are among the most well-informed, which is ideal for a destination like Green Slovenia."

Gastronomy is art. Above all, it is the art of bringing everything together in such a way that this art becomes useful; at the same time, it brings together various actors in the local food chain. This makes a project economically and socially sustainable."

Explaining her personal success, she highlights the fact that she has managed to put together a local supply chain for Hiša Franko. She is keen to take the same path for the other projects she is planning over the next few years. The Pekarna Ana bakery was recently opened in Ljubljana to great acclaim, with a number of other projects in the pipeline. "We will open a bistro in Knafljev prehod in Ljubljana based on Slovenian agricultural produce and a highly traceable food supply chain. We are also thinking of opening a bistro in Savudrija, and finishing up negotiations for a seafood bistro in Trieste, which could open in 2024. At the same time, there's the Tuš supermarket line of products, which I regard as something like my baby and to which we regularly and consistently add new products."

Uroš Štefelin: Confirmation That Our Team Are On Top of Their Game

"Michelin stars have put the country on the gastronomic world map and are extremely important for Slovenia's profile as a culinary destination, mainly because they promote Slovenia as a boutique, green destination of active adventures," says world-renowned chef Uroš Štefelin of Hiša Linhart.

He also says that a star is a recognition that inspires self-confidence and confirms that every member of the team is on top of their game. "It came out of the blue and was completely unexpected. We have always worked from the heart and from what we believe is right. So for the Michelin Guide to recognise us in this way makes us very happy. We have never changed direction or the way we work simply to gain awards, but have always remained true to ourselves," he adds.

Hiša Linhart has also been awarded a Michelin Green Star for sustainability because of its short supply chain, which incorporates a large number of local

producers. Local food and a local supply chain are two things they are betting on in the future as well. "We are working with local producers to put together our menus for the next few years. We want to have as many local ingredients on our menu as possible, as they are the basis of exceptional dishes," adds the chef, who believes that 90% of restaurants in Slovenia are still aimed at hungry diners and 10% at those who wish to be a little more adventurous. They are seeing an upward trend in the number of adventurous diners.

Hiša Linhart are keen to see the work and cooperation of all culinary stakeholders continue into the future. "We want to show even more clearly how crucial interconnectivity is to an environment. We're thinking here of links with other restaurateurs, schools, artists, and so on. This is something we have shown to good effect in the 'Okusi Radol'ce' [Flavours of Radovljica] project, which is an example of good practice in bringing the local environment together," adds Štefelin. ■

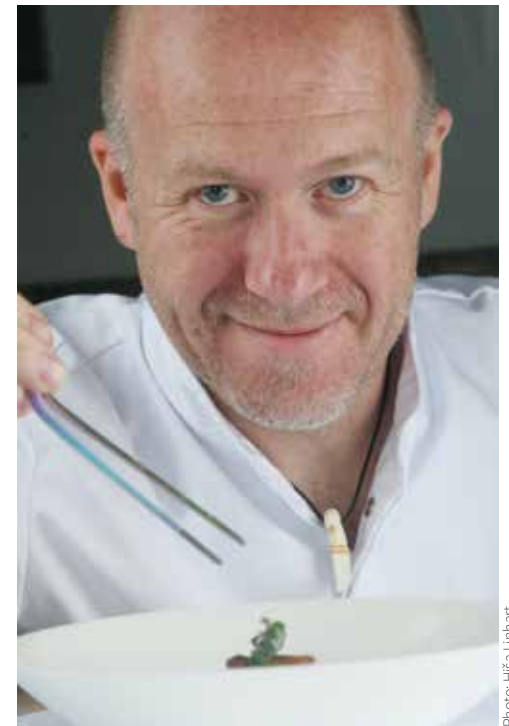


Photo: Hiša Linhart

Uroš Štefelin: "We have never changed direction or the way we work simply to gain awards, but have always remained true to ourselves."

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TOURISM

A Wonderful Experience for Visitors

Sustainable, green and safe. Slovenia is all this, and more. It holds countless attractions for visitors, from activity and adventure holidays in the open air, sports tourism, business meetings and events, to wellbeing and wellness, and also has fascinating towns and cities, culture and gastronomy.

Barbara Perko

According to the **Slovenian Tourist Board** (STO), Slovenia can be very satisfied with the rebooting of tourism. Bank of Slovenia figures show exports of travel services to be approaching their levels of 2019. “Next year we expect the gradual recovery in Slovenian tourism to continue, with a fall in the number of domestic guests and a rise in the number of foreign guests. The forecasts for next year are uncertain: the tourism sector is facing numerous challenges, most notably the energy crisis and general inflation,” is the assessment of the STO. It adds: “According to the forecasts of the European Travel Commission (ETC), the largest outward markets in the coming years will include Germany, Austria, Italy and Switzerland, which have traditionally been important markets for Slovenian tourism. The UK market, also one of the most important markets for Slovenian tourism, is also forecast to recover (over the last nine months Slovenia has seen a trend of rising arrivals and overnight stays from the UK market, but the figures remain down just under a third on 2019).”

Six Major Tourism Products

“Given the trend for niche tourism and unique experiences, and the potential for tourism in Slovenia, the STO has defined six tourism products that are the subject of heavy promotion: activity and

adventure holidays in the open air, sports tourism, business meetings and events, wellbeing and wellness, cities and culture, and gastronomy,” says the STO in identifying the key areas.

Slovenia made National Geographic’s prestigious list of top 25 destinations for 2023.

Next year will see a particular focus on activity and adventure holidays and on sports tourism. “In recent years Slovenia has hugely strengthened its international profile as one of the most competitive destinations for activity holidays and international sporting events. A major contribution to Slovenia’s profile in this area came from the STO’s collaboration and liaison with top sportspeople and



Photo: Iztok Medja

Slovenia has strengthened its international profile as one of the most competitive destinations for activity holidays and international sporting events.

Slovenia's tourism ambassadors with the I feel Slovenia brand," it adds.

Another major factor in raising Slovenia's profile was the partnership with globally influential media and brands, such as National Geographic, Lonely Planet, Condé Nast Traveler, Eurosport, Michelin, Gault & Millau, 50 Best Discovery, and Google Arts & Culture, who have often highlighted Slovenia as a boutique or niche destination that is green and safe. "A highlight of recent publications was Slovenia making National Geographic's list of top 25 destinations for 2023," is the STO's proud claim.

Slovenia and its tourist destinations will be branded under the slogan I feel Slovenia – My Way.

Upgrading and Strengthening Digital Marketing Content

Digitalisation is also a vital part of the messaging for tourists. The STO has made significant progress in upgrading and strengthening its digital content marketing, making use of advanced technologies and digital tools. "We should highlight NFTs, the new digital card, and the use of blockchain technology

for promoting tourism, where Slovenia is one of the pioneers at international level. The STO drew a good deal of attention in this area at World Travel Market London," it adds.

Together with the Julian Alps, the STO launched a limited-issue NFT that also gives entry to a one-off event under the name of Ultimate Sensory Adventure in the Julian Alps, which will be held in May 2023 and will give guests an authentic experience of nature. The focus will be on activities in nature and on the excellent gastronomic offer, but it will also raise the issue of endangered plant and animal species such as the Alpine mynah and the western capercaillie. Slovenia was the first country in the world to issue an NFT, at the opening of Expo 2020 Dubai.

Authentic Local Experience

In the future the STO will also focus on tourists looking for unique experiences in a sustainable, niche, safe destination, and for products with high value-added. In neighbouring European markets the talk will be of the "high-value traveller". "The Slovenia Unique Experiences collection plays a major role here, and gives travellers a more authentic local experience," says the STO. The SUEs are five-star

experiences that showcase Slovenia as a green boutique destination.

Slovenia's profile is also being significantly raised by sports stars such as Luka Dončić, Goran Dragić, Jan Oblak, Anže Kopitar, Tadej Pogačar, Primož Roglič and Janja Garnbret.

A number of unique events also offer Slovenia the opportunity to further strengthen its profile and reputation. Between 21 February and 5 March Planica will host the world championships in Nordic skiing, the largest sporting event in its history. Maribor will host the 2023 European Youth Olympic Festival, and Bled will host the European rowing championships. "Another factor in Slovenia's profile as a destination for adventure and activity holidays is the STO's partnership in sports events such as the Tour of Slovenia cycle race, where in conjunction with key race partners the STO ensures that the race is covered on Eurosport, a global TV network. This year the STO purchased advertising space to feature Slovenia and its tourist destinations in 238 TV adverts and 3.2 million online views on the Eurosport website," reiterated the STO.

The STO will also strengthen Slovenia's profile within the framework of other influential international events, such as the Frankfurt Book Fair, where Slovenia will be the guest of honour.

Businesses are betting on localism and domesticity.

Slovenia is also recognised globally as a sustainable destination. Lonely Planet rated it fifth on its list of recommended countries to visit in 2022, while Condé Nast Traveler ranked it among its 12 most sustainable destinations for 2022. The STO is continuing to augment its Slovenia Green scheme, including a project to eliminate single-use plastic. A total of 250 Slovenia Green symbols have already been awarded. The Slovenia Green symbol is held by 58 tourist destinations, 121 accommodation providers, four nature



Photo: Marfart

Slovenia is recognised globally as a sustainable destination.

parks, nine travel agencies, ten tourist attractions, 46 restaurants and two beaches.

Coexistence with Nature is of Key Importance

Alpinia destinations offer nature lovers everything they might expect. "All of our accommodation units are located in the wonderful ambience of Triglav National Park, which means that coexistence with nature is of key importance. This is particularly evident in the case of Hotel Bohinj, where a decision was made to renovate rather than demolish and rebuild the hotel, despite the higher investment required. But this was not the end. Sustainability principles were also followed in the hotel interior, which is practically all clad in wood, and features local Alpine architecture and craftsmanship. In the renovation we worked mostly with Slovenian suppliers and contractors," say the firm.

From the moment they enter the hotel guests are welcomed by the pleasant

Slovenian Gems Heavily Marketed to Foreigners

The STO has a range of activities to get selected target markets enthused about breaks in Slovenia. These include a variety of marketing and promotional activities encompassing TV and digital presence, presentations at tourism fairs, partnerships with highly reputable and influential global media and brands, showcasing of well-known and less well-known tourist attractions for foreign journalists, intensive social media presence, foreign-language podcasts (with German coming soon, to go along with English), and many others. All of these activities are building Slovenia's reputation and profile as a green, boutique, sustainable, responsible and safe destination.

"The STO mainly carries out marketing and promotional activities in 20 outward markets, with a particular focus on markets within an 800 km radius. The STO's activities are undertaken in close collaboration with Slovenian tourism businesses, product associations, destinations and other key partners of Slovenian tourism," explains the STO.

aroma of wood, which becomes their companion on every subsequent step. "The feeling of locality and domesticity is not only evident in the interior fittings, but also in the culinary experience, where the main focus is on localism and seasonality. Quantity is not to the fore, but rather

quality, which is a vital ingredient in the well-made dishes that we serve our guests. Another attraction is the daily events that give guests an unforgettable experience, from meeting and socialising by the fireplace, to wine tastings, and even local markets that give guests the chance to

BIOTERME'S HEALING WATER

Bioterm's major attraction is its **thermal mineral water**, which comes from two springs at depths of 2,273 m and 1,537 m. The water ranges from 42° to 51°C at source, and is pure, free of pollutants, of good quality, hyperthermal, hot, and rich in sodium, potassium and hydrogen carbonate. The **healing effects of the water** have been investigated and described by Prof. Janez Kraševac, a balneologist and doctor of medicine. It is recommended for enthusiasts of **sports and recreation, and above all for therapeutic applications**, thanks to its beneficial effects on the functioning of the motor system and spine. You can enjoy swimming in any of **five indoor and nine outdoor pools**. A special feature is the **biological pool** in the glamping Sun Valley, where the pool conditions are maintained in a totally natural way. The greatest attraction for accommodation guests is the **pool on the first floor of the Hotel Bioterm**. Anyone seeking more authentic contact with nature can soak up the sun's rays on the **FKK terrace**. In addition to swimming, a day at Bioterm can be spent enjoying a **Finnish, infrared, Turkish or herbal sauna, a classical or Ayurvedic massage, a bath for two, or some of our cosmetic services, making for a healthy and relaxing experience, and allowing you to gather new strength for the ever-increasing challenges of everyday life**. Outside high season, Bioterm thermal park has special offers and deals during weekdays available to all generations.

A BREAK AT BIOTERME

Visitors to Bioterm can enjoy a healthy break in a variety of comfortable accommodation.

You might stay at the **four-star Hotel Bioterm**, which is part of the sustainable tourism scheme, and is built entirely from natural materials. It boasts an **EU Ecolabel** and a **Slovenia green accommodation certificate**, which give complete assurance that it puts nature conservation at the heart of all it does, and offers all the luxury of life in the fresh air. The **glamping Sun Valley** lies on a sunny slope close to the outdoor pools, and is home to villas and adventurous tents for two to six people, whose terraces are kissed by the morning sun, but offer a pleasant shade in the heat of the afternoon. It makes for an unforgettable break amid fields, forests and vineyards. The villas, some with hot tubs on the terrace, are open year round, while the tents are open between May and September. The **glamping village boasts an biological pool, individual saunas for hire, and a nearby fishpond for additional relaxation in nature**. Next to the covered parking area for accommodation guests is the **camper stop park**, which is open year round and also offers a **half-board option with amenities and services**.

It was awarded the **Green&Safe** symbol in 2021, in recognition of its commitment to upholding the relevant travel standards, and ensuring that employees and guests have a healthy and safe experience in luxurious nature.



get to know our local suppliers and their products better,” is their description of the possibilities facing their guests.

Guests can expect the unique experience of staying in a charming hotel, where every detail is well-considered, and getting to know an area via its local cuisine and daily life. Of course the local area also offers many opportunities for enjoyment. “Don’t miss the chance to explore the delights of the jewel that is Bohinj, with a walk around the lake, a trip to the nearby mountains, or simply admiring them both from the comfort of the hotel wellness suite,” is the feeling at Alpinia.

It is quality rather than quantity that is to the fore in Slovenia.

The Heart of the Hotel is its Staff

Hotel Bohinj is designed to give the feeling of living in nature. The details of the decor are inspired by the local traditions.

“From the very beginning Hotel Bohinj has aimed to attract guests looking for a special experience, a taste of local life, and coexistence with nature. Surrounded by the Julian Alps, with a view of the summit of Triglav, and close to Lake Bohinj itself, it makes a wonderful setting for creating truly lasting memories,” is the explanation.

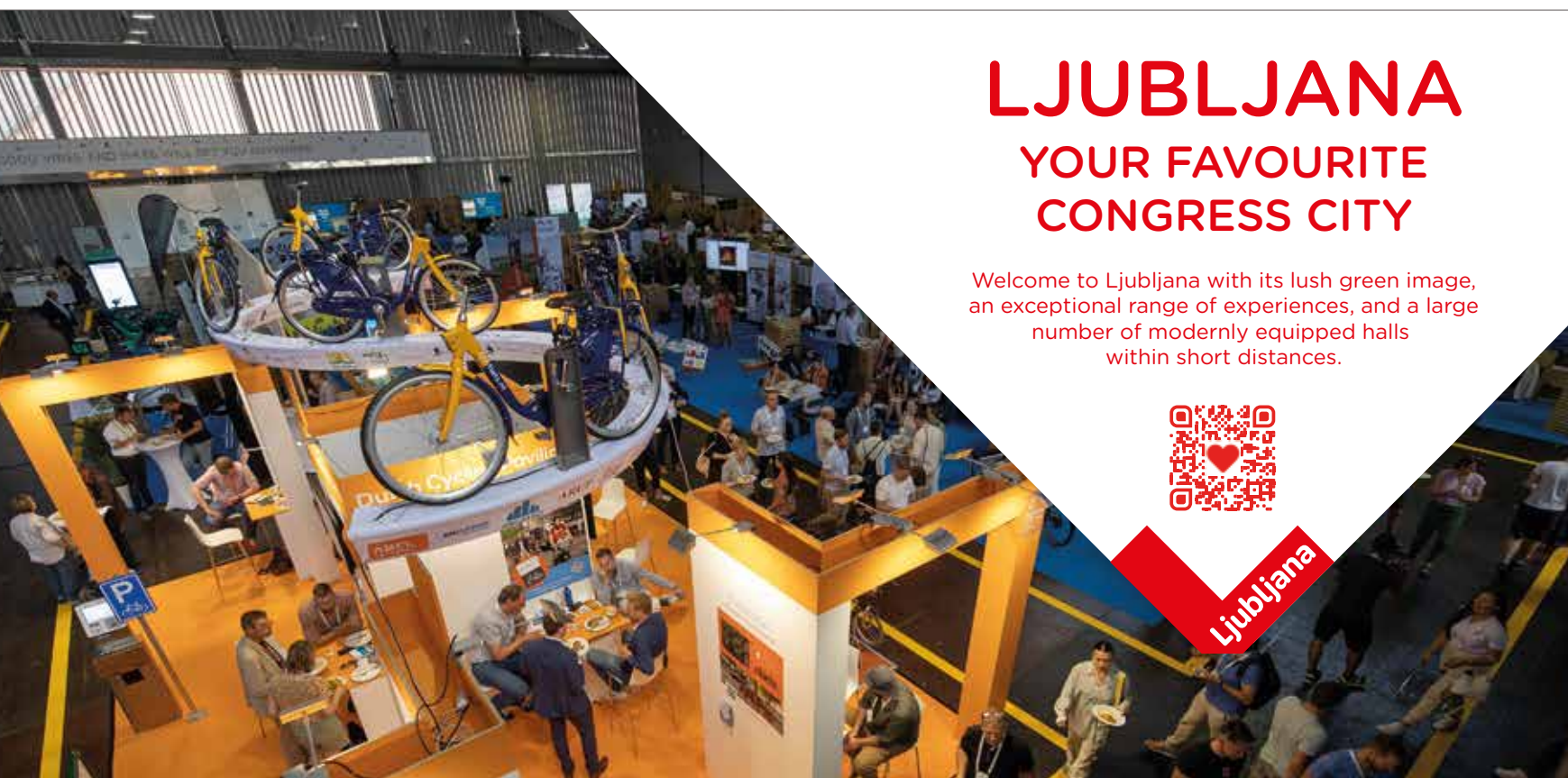
They are committed to attracting guests who take pleasure in charming but undiscovered gems, and above all want an authentic local experience. “We try to make our guests feel cosy and warm above all, which is not only down to the ambience, but also to the very heart of the hotel: its staff. Here it’s no good being the most beautiful hotel in the world, if you don’t have staff who at every step can conjure up an amazing experience that will stay with you all the way until... the next visit,” is their watchword.

They are highly renowned on the Slovenian market. More and more guests are coming from Croatia, Hungary, Germany,

Italy, the Netherlands and France. “A nice surprise for us was the large number of guests from the USA and the UK. In some way they are our primary markets, even though we welcome everyone who is looking for an experience of this type,” reiterates Alpinia. They expect the share of foreign guests to continue rising, but will be careful to foster contacts with domestic guests.

More and more guests are coming to Bohinj from Croatia, Hungary, Germany, Italy, the Netherlands and France, and also from the USA and the UK.

Their plans do not end here. “Next comes an upgrade of our other accommodation capacity: Penzion Hiša Triglav and Apartmaji Tuba. The coming years also have in store the reconstruction of Vila Muhr, also known as Karađorđevićeva Vila, and Hotel Zlatorog, which was once the pride of Bohinj tourism.” ■



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FOOD INDUSTRY

Slovenian Food Products Available Practically Throughout the World

Food products from Slovenian manufacturers have a long tradition on international markets. More than half of their products are exported, mainly to Europe, but Slovenian food can also be found in North America and all the way to Vietnam and Australia.

Tomaž Kavčič

Ljubljanske mlekarne Gaining on International Markets with Greek and Icelandic-Style Yogurt

Ljubljanske mlekarne are generating export success within the **Lactalis group**. In addition to a strong presence on the domestic market, they are exporting just a little under half of their production volumes of dairy products. In total they are present in around 50 countries, with their major export markets being principally Kosovo and France, where they ship the skyr Icelandic-style yogurt under the siggi's brand, which provides significant value added.

Ljubljanske mlekarne are the biggest European producer of skyr.

They have also made successful inroads into the markets of Spain and Portugal, where they started exporting Greek-style yogurt in kilogram packaging, and they export to Italy mainly lactose-free products under the Zymil brand. Through the upgrading of automation and increasing of capacities they have made major investments specifically in the production of skyr, being the biggest European maker of this product within the entire Lactalis group.

Main Market for Delamaris is Austria, With Exports also to USA and Australia

Delamaris is an export-oriented supplier of canned fish from its own development and production, with a history going back over 140 years. It is part of the **Jata Emona** group, one of the biggest food production companies in the region. Each year Delamaris produces 23.1 million canned fish

and meat prepared meals, and exports 55 percent of this internationally.

They have a presence on 25 markets. They cover the entire Balkan peninsula, practically all the other markets of the European Union and the UK, and their canned products are also available in Australia and America. "Our biggest foreign market is Austria, and we are expanding



Each year Delamaris produces 23.1 million canned fish and meat prepared meals, and exports 55 percent of this internationally.

Photo: Delamaris

our product availability to other existing EU markets while also entering new markets. Delamaris products are a favourite throughout the world, and we are always open to new partnerships, in America, Asia, and Africa,” says **Janez Rebec, Managing Director of Delamaris**.

Delamaris are seeking to penetrate the Asian and African markets with their fish products.

Delamaris offers a range of 50 different products made of various types of fish, mostly mackerel, and the range of products also includes tuna, pilchards, salmon, and sea bream. Foreign shelves are stocked mostly with mackerel of the Provencale, Picnic and Izola brands. In the future they are also seeking to invest in their own Delamaris brand, so they recently developed new fish salads, which for the moment have been offered only on the domestic, Slovenian market, but they want to take them to international markets.



Incom Leone's products can be found on more than 35 markets around the world.

Incom Leone Offer Both Classical and Innovative Products

Around 90 percent of the entire turnover of **Incom Leone** is generated outside Slovenia. Their products can be found on more than 35 markets around the world,

ranging from the USA, the whole of Europe and all the way to Vietnam, China, Australia and even New Zealand. In business terms the company's major markets are the United Kingdom, Germany, Scandinavia and the USA. The USA in particular

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is very important in terms of potential, since it offers huge opportunities, consumers are very open to innovation, and an added advantage is the actual size of the market, they explain.

Incom Leone have observed that shoppers are most open to new products in the UK and USA, while in Germany and northern Europe they seek out traditional products.

Since these are very different markets and also very different consumers, it is hard to assess which products overall are the favourites. They point out that in the UK and USA, consumers are looking mainly for innovative products, while in Germany and Scandinavia shoppers prefer to stick with more traditional products.

Novelties and innovations are always being prepared for all markets, but for these reasons they go mainly to the markets of the USA and UK. Company



Photo: Jure Makovec

The USA in particular is very important in terms of potential, since it offers huge opportunities, say Incom Leone.

executives have observed that fears of a coming crisis and price rises have had the effect of changing consumer habits,

such that they are looking more for traditional products and for market brand products. ■

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Mercator-Emba, d.o.o. is a company with over 60 years of tradition in the production of cocoa instant products (standard and fine granulation), dessert toppings, syrups and fruit preparations. By continually investing in knowledge, development and modernization of the production plant Mercator-Emba, d.o.o. has become one of the leading manufacturers of confectionary products in the region as well as an established and important supplier to some of the world's biggest companies.

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PRIVATE LABEL

Instant cocoa products are manufactured also for private labels. For many years we have been providing European retailers with top-quality products, best suited for the consumer needs. We offer tailor-made products that come in various packaging possibilities.



DESSERT TOPPINGS SLADKI GREH BRAND

Sladki greh dessert topping offers a wide selection of flavours, which can be used to sweeten all kinds of desserts and ice creams.



PRIVATE LABEL

In addition to our own brand Sladki greh, dessert topping are also manufactured and sold under a private label. They come in a variety of flavours that are produced according to our buyers' wishes/expectations.



B2B

TOPPINGS, FRUIT PREPARATIONS, SYRUPS

An important part of our production represent toppings, syrups and fillings, which are manufactured for dairy, ice cream and bakery industry and known for their high-quality ingredients. On top of that, our great asset is our own development department, which enables us to fully adapt the final product to customers' needs.



A WIDE VARIETY OF FLAVOURS

In addition to a wide variety of flavours our selection of toppings, syrups, fillings and fruit preparations boasts itself with numerous other possibilities, such as: vegan, reduced sugar, without sugar, high protein, dairy free, gluten free, free of artificial flavours and colours, lactose free, preservative free and so on.



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QUALITY



CONTACT

KATERINA TURK

Head of Sales and Marketing

✉ katerina.turk@mercator-emba.si
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TOSAMA d. o. o.

Tampons – from natural and biodegradable materials

Tosama Marks Its 100th Birthday By Thinking Sustainably

Tosama, which manufactures medical devices and intimate care products, and is best known for its tampons, stakes a great deal on natural materials.

In 2023 this Slovenian company celebrates 100 years since its founding. Its very first products, cotton pads and bandages, established the foundations for the two activities that are the basic building blocks of Tosama's success today.

Just over a decade ago, the company adopted a strategy based on three overarching decisions relating to development and manufacturing in both primary activities (medical devices and intimate care products):

- the company is oriented towards the sustainable and the natural;
- the production process is ecologically aware and environmentally friendly;
- development is steered by care and responsibility for women's intimate health.

Natural raw materials

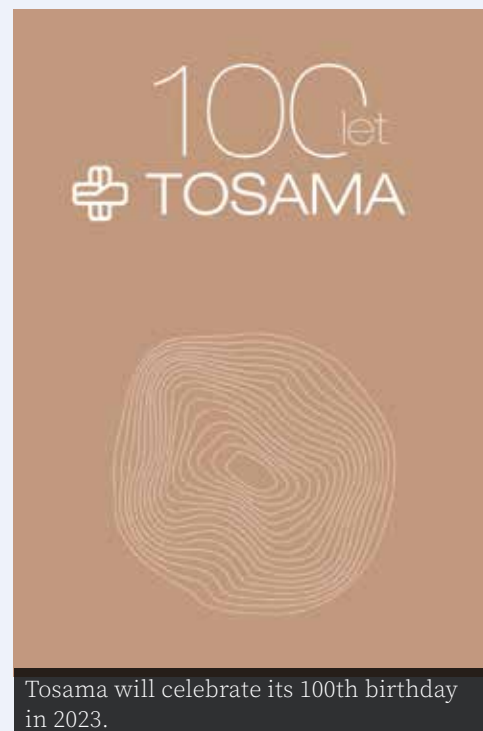
Cotton has become the company's main raw material, in line with its decision to manufacture as many of its products as possible from natural materials. Ordinary and organic cotton are proven to be the best materials for sanitary pads and tampons, and therefore for women's health, which is why all pads and 62% of tampons manufactured at Tosama are made from cotton.

Abolishing and replacing plastic

Two years ago the company put together an ecological project team that is constantly on the look-out for opportunities and options for drastically reducing the use of plastic at all stages of the work process. Under the slogan 'Green Vision – Tosama's Decision', the use of plastic materials has been reduced by 100 tonnes since the project started.

One of the most successful projects is, without doubt, the development of reusable applicators for digital/applicator-free tampons.

This product means that in two years every user of classic applicator tampons throws away two kilograms of plastic waste less, while still keeping all the benefits and comforts she has come to expect.



Tampons will be completely biodegradable

The company are particularly engaged in seeking out sustainable solutions in the development and production of tampons, their most recognisable and successful export products. Their aim is to offer fully biodegradable tampons to the market. They already offer classic digital tampons, biodegradable and entirely made from natural materials (the tampons themselves as well as their foil wrapping), but will be expanding their product range to incorporate biodegradable applicator tampon tubes. They are planning to unveil their new, fully biodegradable applicator tampons next year on the occasion of their 100th birthday.



Only one reusable applicator for digital/applicator-free tampons reduce plastic applicator waste by two kilograms in two years.



Reusable applicators for digital/applicator-free tampons are Tosama's new, innovative and patented solution for reducing plastic waste.



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Dr Mark Pleško
co-founder and managing director
of the company Cosylab

INTERVIEW

Cosylab's State of the Art Solutions for Cancer Treatment

Cosylab have been setting up new approaches for cooperation with scientific institutes focused on fusion research, and companies that could use accelerators and fusion for commercial purposes

Darja Kocbek, Photo: Cosylab

Like companies in other sectors, for high-tech companies the current circumstances are creating uncertainty regarding future demand. The reason for this is the increasing caution on the part of buyers and partners, and the postponing of non-essential investments for later, while there is also greater caution among investors about financing startup companies, while at the same time inflation is pushing up regular operating costs, explains Dr Mark Pleško, co-founder and managing director of the company Cosylab.

What are the Cosylab plans for 2023? What will be the main challenges?

In 2023 Cosylab will continue to develop customised software solutions for the most complex systems in the world, such as particle accelerators, large telescopes, fusion reactors, innovative medical devices and cancer treatment systems. We have been setting up new approaches for cooperation with scientific institutes focused on fusion research, and companies that could use accelerators and fusion for commercial purposes. Investing in energies of the future is right now an especially relevant market niche on global energy markets. Besides this, on the world scale there is interest in our state of the art cancer therapy solutions,

which have been well-established on advanced markets for some time. This is not just in the USA and Japan, Europe too is increasingly ambitious about introducing advanced solutions for treating cancer. And we are trying to bring our best practices to other parts of the world, too.

Slovenia is "just the right size" as a country, enabling rapid access and cooperation with a variety of stakeholders.

Which are these?

Our OncologyOne package is unique in the world, for it contains all the software required for the operation of irradiation devices, from LINACs to complex proton therapy systems and boron neutron capture therapy (BNCT). For 2023 and beyond we are developing AI-based solutions that will significantly improve and speed up cancer treatment, while bringing treatment costs down, so as to make treatment accessible to a wider circle of patients around the world. Our main challenges are related principally to the increased recognition of our brand in market segments where we have not been present since the very start of our

operation, consolidation of several years of growth, including improvement of internal processes, and dealing with the consequences of the current geopolitical situation, which are common to all companies.

How are you progressing with the proton therapy centre?

For several years now at Cosylab we have been putting our efforts into constructing a centre for cancer treatment using proton therapy. This is a complex project that requires extensive preparation and a lot of coordination, but the pandemic and change of governments in Slovenia have unfortunately seriously slowed down procedures and the planning of implementation. We are aware of the importance and benefits of proton therapy for Slovenian oncology patients, and our wish is for the coordination among involved stakeholders regarding the method of implementing the project to be concluded as soon as possible, and that we might agree on the specific activities for establishing the proton centre in Slovenia in the coming months.

What are the advantages of proton therapy?

The main advantage of proton therapy is more precise cancer radiation therapy,

since it directs more energy to the tumour and less to the surrounding healthy tissue. For certain tumours both proton and photon therapies are equally effective, but proton therapy has an advantage where the tumour is in a sensitive part of the body, for instance the brain, and for child patients, where oncologists want to reduce the risk of the later development of a tumour resulting from the irradiation of healthy tissues around the original tumour.

What are the solutions to the main challenges, what can high-tech companies themselves do, and what needs to be done at sector level?

The solutions are specific from company to company, but in general we all need to strive to maintain the level of quality of our products and services. At the same time we are striving to offer appropriate value, to retain existing buyers and gain new ones, and to be prudent in our investments and expenditure. At the sector level it is important to have the cooperation of complementary development partners, who can help each other in development and in penetrating new markets. As a global company Cosylab plays an active part in establishing sectoral trends, where the cooperation with diverse groups of clients and partners from all over the world enables us to merge the latest knowledge and experience.

Cosylab are using artificial intelligence to develop solutions that will improve, speed up and lower the costs of treating cancer patients.

How were you able to break into the USA and China?

Both the USA and China are investing large sums in advanced scientific technology fields in which Cosylab has globally recognised competence. After the initial successes in Europe, in addition to competence we acquired appropriate references that have afforded us greater recognition,

and we were able to embark on projects outside Europe with greater self-confidence. In the USA we have our own team at Stanford, which is working with the university's internal team on their accelerator (SLAC). China is a special challenge, but in transitioning to foreign markets we have been helped by economic diplomacy, which has opened the doors to these key markets. The rest of course we have to do on our own.

Cosylab's OncologyOne software package is unique in the world, for it contains all the software required for the operation of irradiation devices.

What are the other markets that Cosylab wants to enter?

We are not limiting ourselves to specific countries or regions, there are opportunities across the globe. We are developing key competences in the area of large science and technology infrastructure and related projects, and at the same time in the area of cancer treatment we are creating solutions that will in the next

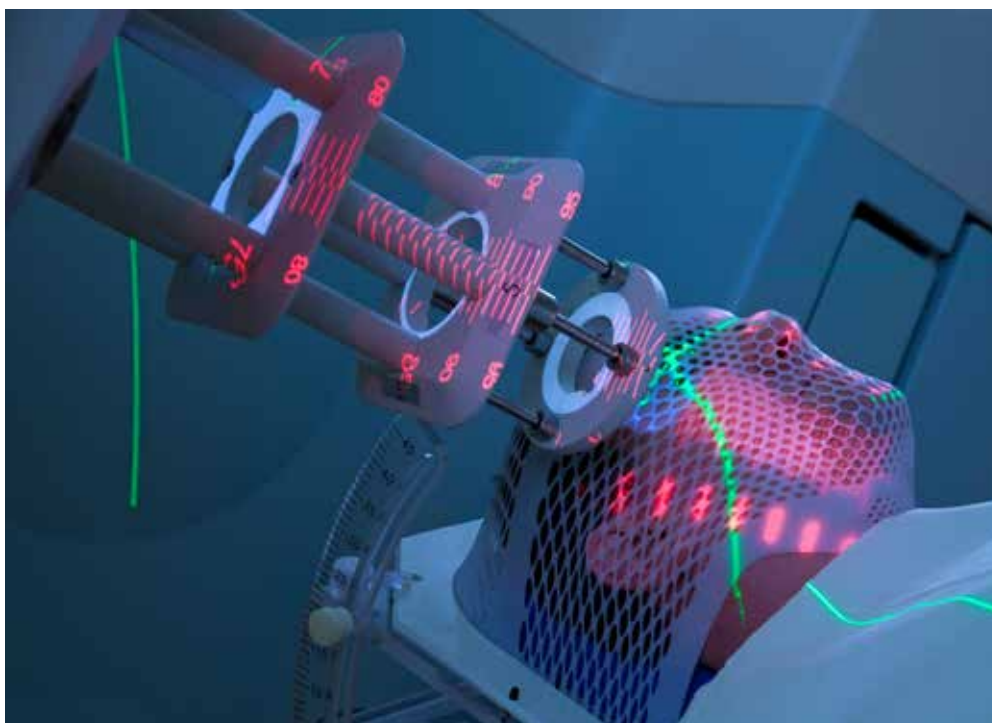
few years constitute a health technology breakthrough.

Since Cosylab is a global company, please explain what distinguishes Slovenia and Slovenians, and how does the rest of the world see them?

For some years now we have consistently received praise abroad for our engineering know-how and adaptability, and many people also know Slovenia for its natural beauty and above all for the quality of life in our country.

What kind of business environment is Slovenia for companies like Cosylab?

Slovenia has a favourable geographical position and a relatively good education system, but of course like other Slovenian companies we would like a lower tax burden, so we can more easily recruit promising professionals from abroad, fewer administrative barriers and the best possible international air connections. It is precisely due to the company's international nature that we can confirm that Slovenia is "just the right size" as a country, enabling rapid access and cooperation with a variety of stakeholders. ■



For certain tumours both proton and photon therapies are equally effective, but proton therapy has an advantage where the tumour is in a sensitive part of the body.

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DATAPAN, D. O. O.

Present in All Major Shipyards Worldwide

Datapan from Solkan, an expert in automatization, particularly in the nautical industry, is celebrating twenty years of business next year. In this time, they have made a real breakthrough, winning recognition and a firm foothold globally. They continuously research and develop new solutions, which gives them the ability to always offer customers exactly what they need.

Datapan's core activity is automatization of heating, ventilating and air-conditioning (HVAC), and lighting systems, particularly in the nautical industry. They have two main products named HVAC Blue Automation and UNImar. For more information check their website at www.datapan.si. "We provide state-of-the-art, tested solutions for the airing and ventilation of small and large vessels. Our solutions are based on the customers' needs and requirements. Automatization leads to better and more effective system operation and control of the system itself. The main benefits of our solutions are energy efficiency, a comfortable working or living environment and reduced energy consumption." This is how their activity is described by the company, which currently has 22 employees engaged in continuous research and development of new solutions.

They collaborate with various institutions such as Research and Development Institutions, Universities, and most importantly, the end users of their systems.

Increasingly Challenging Projects Worldwide

Over time, continuous care for proper implementation of projects, customer focus and an innovation-based search for new solutions have allowed Datapan to win new and challenging projects worldwide. They provide their customers with a comprehensive solution package that includes consulting, planning, software development, and the installation and start-up of all devices on the site. Their solutions have helped complete over 300 projects in Slovenia and abroad. In their hard-to-penetrate line of business, this track record of implemented projects makes it the key to acquiring new projects and creating trust. "We have been present abroad for 15 years and more. Our solutions are being implemented on more than 70 ships such as ocean liners, ferries and oil rigs. We have a strong presence in all major shipyards worldwide; in Italy, Spain, Portugal, Turkey, Japan, China, Korea, Norway, Denmark and the list goes on," we were told at Datapan. They are also working successfully at the local level, by helping develop the Goriška

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Kristjan Rijavec, Director Datapan d. o. o.

region through employment. Even though it could make business easier, they have never considered moving to a large urban centre. They remain loyal to their region, surrounded by lovely nature, being well aware that it is not to be taken for granted. Responsibility for reduced energy consumption along with responsibility for nature is one of their primary concerns.

Highly Valued Employee Satisfaction

Datapan invests heavily in technological development and employee satisfaction, as they believe that it results in a higher level of service. Their mission is to apply the latest automatization technologies for the improvement and optimization of their customers' work and technological processes, through a positive work atmosphere within the company and professional attitudes to work and customers.

Their projects are contracted for several years ahead, so their planning is focused on their successful implementation. Although the days at Datapan are dynamic and always busy, they like to emphasize that what matters is not just the goal but also the path. This is best summed up in the words of mountain climber Nejc Zaplotnik: "He who seeks a goal will remain empty when he reaches it, but he who finds a path will always carry the goal inside."



Datapan Team

Building digital bridges between partners

bizBox is simplifying and automates B2B communication with customers, suppliers and authorities - providing flexible and secure EDI services covering everything from the initial partner approach to ongoing operation.

Unified **EDI COMMUNICATION** for all your partners.

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> 55 ERP/DMS solutions has built-in bizBox services



> 1.250.000 exchanged documents per month



Connected to other global EDI exchange providers and networks

INFORMATION TECHNOLOGY

Slovenian Companies Are in Step with the World

In the area of artificial intelligence competence centres Slovenia is becoming increasingly visible in the world.

Jerneja Srebot

Technology Had to Adjust Rapidly to New Conditions

Digitalisation remains a fundamental trend in the area of IT, and along with it the more efficient use of data, whose quantity is increasing relentlessly. Vital to this development are solutions in the cloud, while solutions in the area of the internet of things (IoT) are coming increasingly to the fore. Such solutions enable the linking and integration of all devices in use, and thereby the gathering and sharing of data. This process has been additionally spurred by the pandemic, which in a very short time demanded the adaptation of technology to a completely different way of working. External circumstances thus pretty much forced advancements which would otherwise have taken a lot more time, in the opinion of some precisely because of the difficult mental leap required to understand the digital transition. In line with this, the market dynamic has also shifted – in all these new technologies new competitors have rapidly joined the race, albeit lacking any long years of experience yet still responding with alacrity to current trends in the market.

Advantages in Broad Knowledge and High Quality Criteria

In Slovenia there are numerous established companies which either

independently or through professional associations are recognising digital needs and are drawing up effective strategies for implementing the digital transformation. Many people see the advantage of Slovenian IT companies as lying in their broad knowledge and high criteria of quality. As a small country, Slovenia can adapt to the market with greater speed and agility, and as such it already has a track record of being integrated into international economic currents. The development of

companies has also been spurred greatly by digitalisation, which has accelerated the creation of innovative and advanced digital solutions with high value added.

One of Slovenia's major advantages is its price competitiveness compared to other Western European countries.

Another of Slovenia's major advantages is its price competitiveness compared



Photo: Cosylab

As a small country, Slovenia can adapt to the market with greater speed and agility, and as such it already has a track record of being integrated into international economic currents.

to other Western European countries. Yet since it is hard for it to compete in the market given its scale, some experts see its potential as lying mainly in niche sectors. "Slovenia is developing a fine example of this in the area of artificial intelligence competence centres, where we are becoming a more prominent global partner," say the people at the company **Žejn**.

Relying on Successful Multinationals

The company **Špica** takes the view that for IT companies to be successful it is important for them above all to monitor the market and adapt to its needs. "We observe with open eyes the players around us and the moves they are making. It's especially important here to watch America and Asia, since with a slight shift it's also coming to Europe," they say. In their work therefore they are opting for the tactic of "standing on the shoulders of giants", which has allowed them to become the Microsoft partner of the year in 2020. Their service for recording working hours

can now be purchased straight from Microsoft, regardless of where they are in the world. In their view Microsoft is a textbook example of a traditional IT company which, despite its history and tradition, managed to trim its sails and catch the wind of the new technologies.

The **Špica** company has developed a network of its own companies in all the main cities of the former Yugoslavia, and has recently observed a renewed linking of this area with the rest of Europe. "This will reliably improve the economic situation," they say, adding: "At the same time it's noticeable that plenty of production lines are moving back from China to the south-eastern margins of Europe, which reduces the logistical risks and supply chain crises for companies".

Majority of Companies Facing Similar Challenges

The pandemic demonstrated to all companies that the modernisation of IT processes and infrastructure is essential for maintaining a competitive edge. "The

majority of companies are encountering similar data challenges, regardless of the industrial branch or geographic area of operation," observe the people at the company **Netica**. The number of data sources is increasing, and at the same time their automation is still incomplete and to a large extent dealt with manually. Ultimately everything requires more time and additional resources, and the possibility of errors is greater. Non-standardised terminology hinders searching in databases, for which reason data remain hidden and information exchange is incomplete.

The company Špica takes the view that for IT companies to be successful it is important for them above all to monitor the market and adapt to its needs.

In the light of these challenges and dealing with them, Netica have developed their own solution, NETILAB, an automated data management and analytic software that provides automation



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of data management and analysis. It is already being used by the development centres of a number of global pharmaceutical giants, in Slovenia and abroad, and the company are planning its expansion to the markets of SE Europe, the Middle East and the Pacific.

By linking up the latest data technology, NETILAB creates a comprehensive data management solution. It is ideal for research and development departments as well as for quality control in companies that have to deal with a large volume of complex data and develop new products. It is especially suitable in the areas of biotechnology and the chemical and food industries.

Expanding Services to New Industries

The company **SETCCE** has steered its development into the management of digital transactions, and has thereby created advanced cloud services that facilitate the electronic preparation and signing of documents. They support both large-scale business systems and ecosystems that link together multiple companies into partnerships. For these systems they offer the specialisation of a one-stop-shop, which with the help of various digital tools eases complex processes and the management of signature workflows with buyers, partners or internally. They place great emphasis on signature tools being placed in business information systems in such a way that they will be above all simple for the user.

The number of data sources is increasing, and at the same time their automation is still incomplete and to a large extent dealt with manually.

As a major provider of DTM (Digital Transaction Management) services in the Adriatic region they are also planning further expansions, which they do not see merely in the geographic sense, but also in new branches of industry and smaller business systems. "We are gradually transitioning from the classical approach to customers and into digital marketing, and

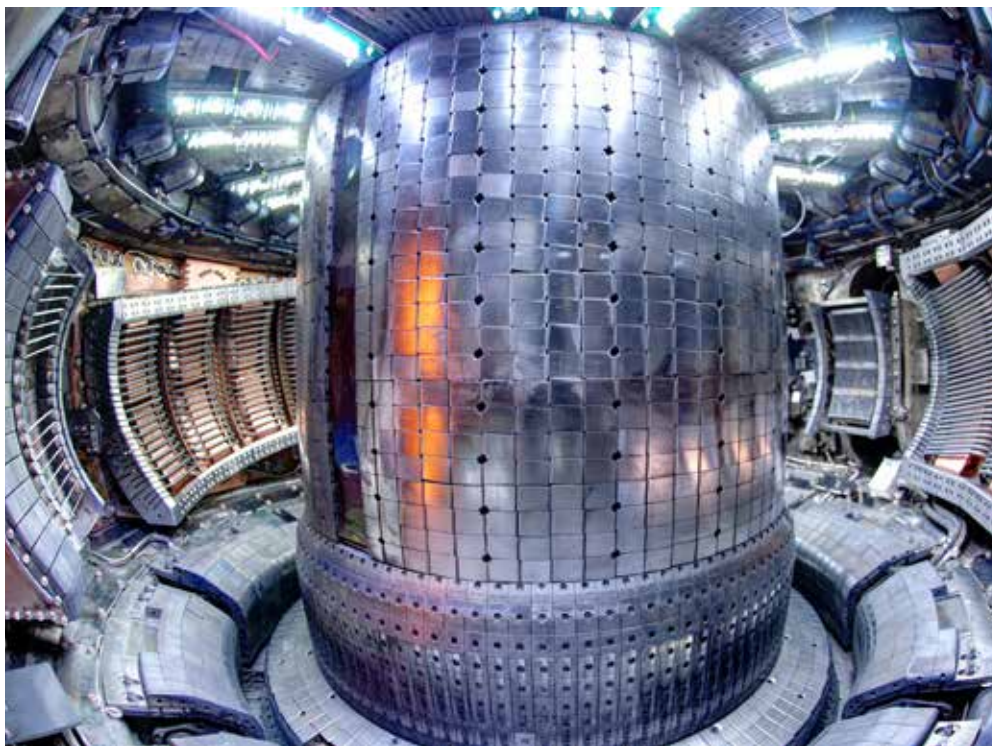


Photo: Cosylab

The company Cosylab uses its software programmes to equip the most complex systems.

we will adapt our services to the small and medium-sized enterprise segment, since these are next in line to adopt digital management of transactions," they say.

First the Organisation's Mindset Needs to Be Changed

The Žejn company is involved for the most part in automation and robotisation, which enable the saving of tens of thousands of man hours that would otherwise be spent on entering and transcribing already known data. Here they emphasize in particular the importance of the organisation's mindset, since from the outset the new reality of the marketplace needs to be internalised. "We started – interestingly – with the values of the organisation. We changed things so that everyone, from the directors to project managers, developers, sales people, technical coordinators, testers, administration, are constantly asking themselves, is this necessary and/or can we automate this," they say. This transformation led them to build their own competence centre, LegalTech in Munich, which they opened in 2017.

"We are proudest of the fact that in the competence centre we are one of the rare ones to employ 'legal engineers' within

the LegalTech field. This position can't even be set up in the small Slovenian market, nor do we have the educational institutions that could train such personnel," they explain. By linking up with universities and employing young people with "legal engineer" education they are attracting prominent buyers, ranging from the German railroads and telecommunication companies to major international conglomerates from the USA.

Cooperation with some of the largest global companies and strong involvement in research activities enable XLAB to remain on top of trends.

Providing Support for the Entire Lifecycle of Data

The company **XLAB** are also involved in automation. As IT automation specialists and experts in the Ansible tool they help companies safely and reliably introduce automation into every pore of the organisation in a simple and effective way. Cooperation with the biggest global companies and major involvement in research enables XLAB to be up with the trends,

and in the future they are planning to further bolster their global presence. “XLAB provide services in the fields of artificial intelligence and machine learning, and also offer support to the full lifecycle of company data, from management, analysis and visualisation of results to the placement of the entire solution in the cloud,” they say.

As a global company they play an active part in establishing sectoral trends, where the cooperation with diverse groups of clients and partners from all over the world enables the merging of the latest knowledge and experience.

In the field of IT automation, XLAB are one of the world's leading experts on Red Hat Ansible, the most popular open code technology for automation, since they work closely with the product team responsible for developing the Ansible

tool, and with major global companies that they help both in implementing automation and in automating their products. “Last year we launched on the market a tool in the sector of automating, the Quality Scanner for Ansible Playbooks, which helps Ansible tool users write high-quality scripts. Our scanner allows users to check the quality of their scripts with one click and provides them with tips on improving scripts, and in this way they achieve reliable and secure automation,” say XLAB staff.

Software Enabling the Best Technology for Treating Cancer

The company **Cosylab** uses its software programmes to equip the most complex systems, which can be found in particle accelerators and fusion reactors, large telescopes and certain medical devices and systems for treating cancer. Their systems are built into some of the leading global scientific projects (CERN and ITER, for instance), and they are also used by the

largest manufacturers of medical accessories and cancer treatment centres. “We enable the manufacturers of irradiation devices for treating cancer to offer the best technology by using our software. Our OncologyOne package is unique in the world, for it contains all the software required for the operation of irradiation devices, from LINACs to complex proton therapy systems and boron neutron capture therapy (BNCT),” they explain.

As a global company they play an active part in establishing sectoral trends, where the cooperation with diverse groups of clients and partners from all over the world enables the merging of the latest knowledge and experience. “Advanced software is the key to digitalisation; we are currently developing AI-based solutions that will significantly improve and speed up cancer treatment, bring treatment costs down and thereby make treatment accessible to a wider circle of patients around the world,” they state. ■



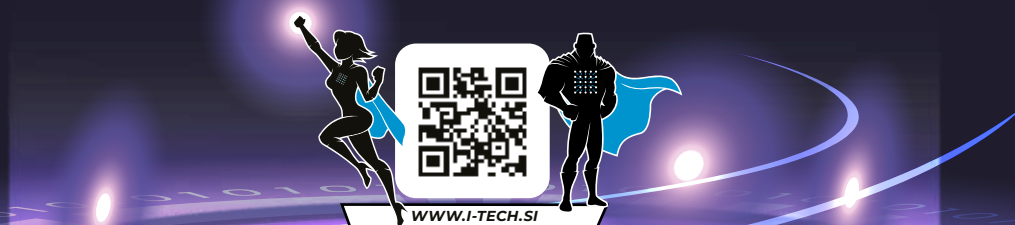
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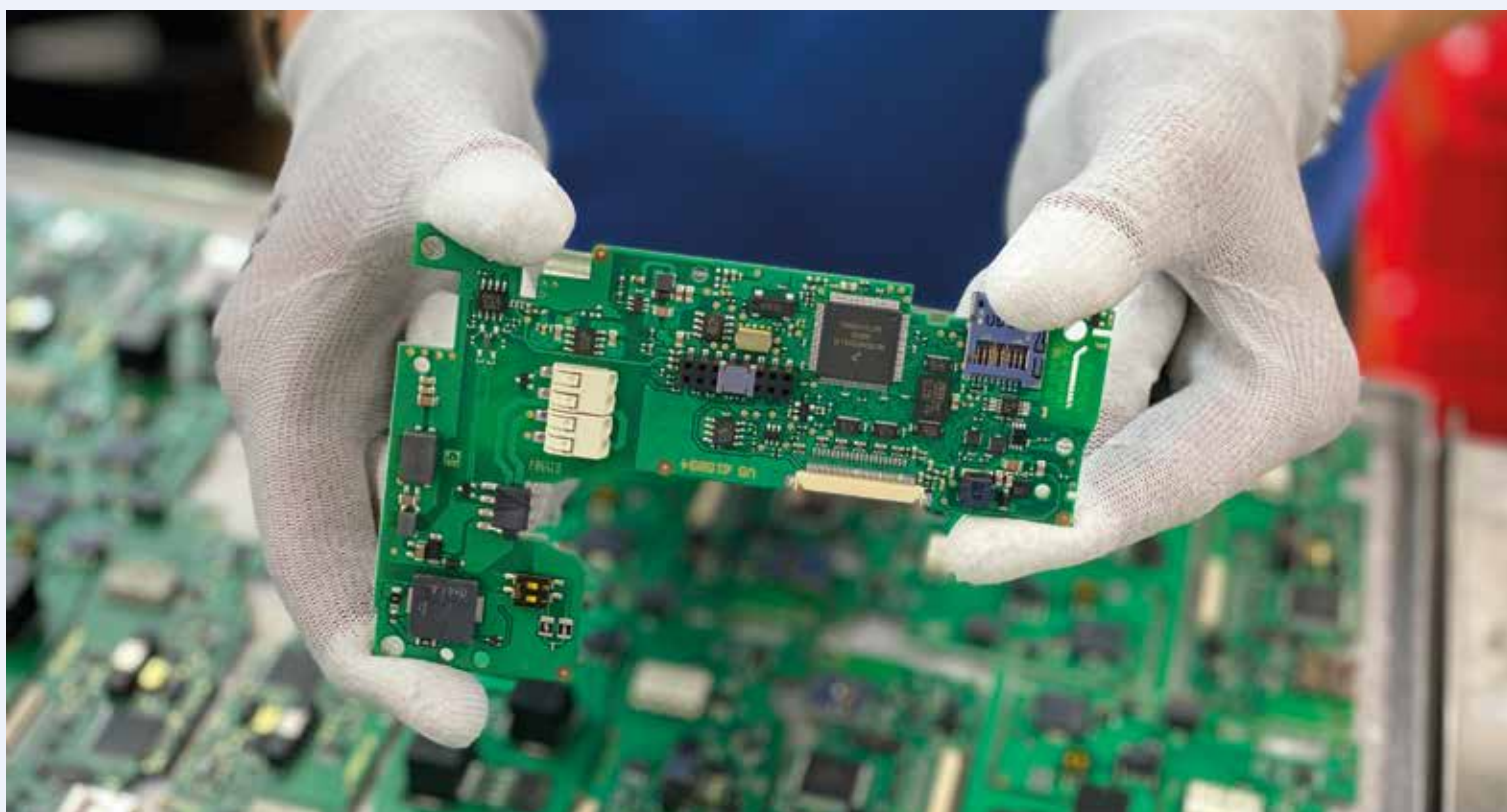


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ELRAD INTERNATIONAL D. O. O.

Keeping electrical appliances running smoothly



Elrad electronic circuits are vital components in electrical appliances made by numerous established global manufacturers.

The Elrad Group from Gornja Radgona have been in this market for more than 25 years now. Their main activity is developing, fabricating and selling electronic circuits and controllers. Working with partners, Elrad also make cable sets and circuits, and combined products made of metal and plastic. They specialise in electronics for mains- and battery-driven electrical tools.

Presence on three continents

Together with their partners, the group has more than 2,300 employees on three continents: Europe, Asia and the Americas. Each year they make more than 30 million electronic components, and generate EUR 250 million of revenues. The Elrad Group consists of five manufacturing firms: in Gornja Radgona in Slovenia, the firm's headquarters, in Vlasotince in Serbia, in Dongguan in China, in Manila in the Philippines, and in the Guanajuato region in Mexico. Their choice of global production locations reflects their customer base, and allows them

to ensure smooth supplies of electronics in the very places where their customers' manufacturing is done.

Comprehensive solutions

"Our competitive advantage is based on providing comprehensive solutions ranging from development, to industrialisation and production. We are experts in electronic circuits containing electronic and mechanical components, including connecting wires, metal contacts, and housing made of plastic or other materials. One feature of our electronics development is our speed of launch,

with an excellent time to market. We also market our own off-the-shelf products. We are renowned for maintaining the very highest quality (<50 ppm) in our products, and for our excellent technical support for customers in the development, industrialisation and sale of electronics,” say Elrad.

A wide product range

Elrad specialise in electronics for mains- and battery-driven electrical tools, and in recent years have been growing their sales in other sectors. They supply electronics to world-renowned makers of electrical tools, including Stihl, Bosch PT, Husqvarna, Metabo, Gesipa and Fromm.

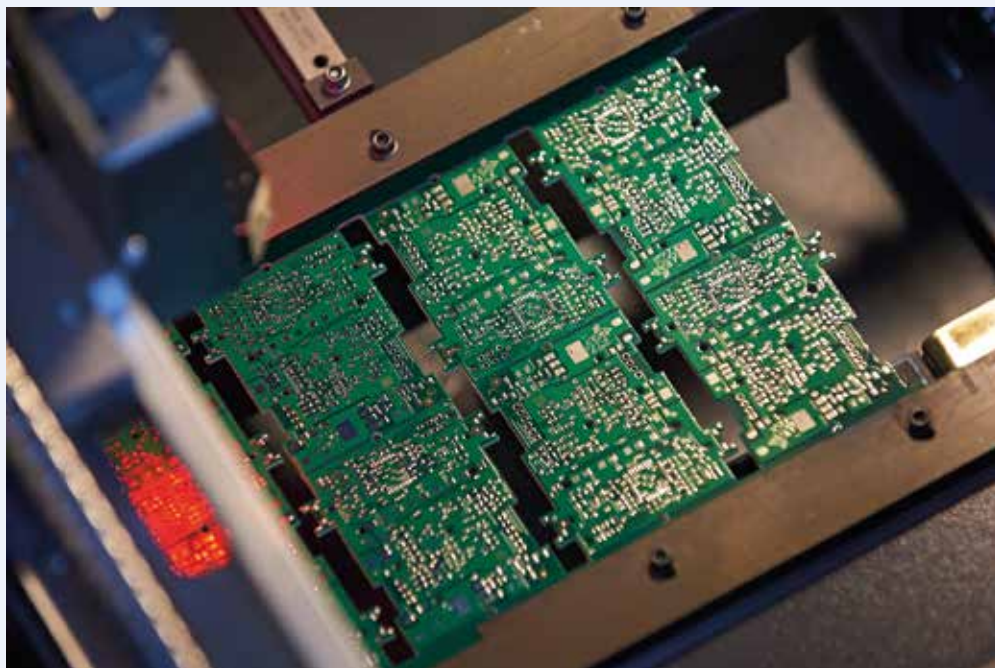
Their second most important segment is garden tools, with electronics for Husqvarna robot mowers, and for garden tools and appliances made by Stihl and Bosch. Other customers use their electronics for small household appliances (e.g. BSH), for white goods (Miele, Liebherr, Gorenje), for Audi (Forvia) and Mercedes (Gruner) in

the car industry, for industry (Bosch, Rexroth, Emerson), and in many other sectors. For the aforementioned customers, Elrad are a strategic and preferred supplier.

Green energy use

In recent years they have moved into the rising segment of green energy use, with electronics employed for energy conservation. This encompasses battery management systems for household energy savers, typically connected to solar panels, electronics for high-capacity portable batteries (2.1 kWh), with a 230 V / 120 V switchable output for use in the field where there is no electricity network, and other applications.

They apply standards to ensure the systemic management of quality, environmental practice, health and safety, and social responsibility (Quality: ISO 9001 and IATF 16949; Environmental management: ISO 14001; Health and safety: OHSAS 18001 and ISO 45001; Social responsibility: IQNet SR10).



For any queries with regard to your electronics, you can find us at:

Cveto Maučec (cveto.maucec@elrad-int.si, +386 2 5684 352)

Marko Mauko (marko.mauko@elrad-int.si, +386 2 5684 372)

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SMART CITIES AND COMMUNITIES

Common Standards Are Key to Efficient Smart Cities

Slovenian companies are already introducing the smart cities concept at home and abroad. Uniform but adaptable platforms help to optimise city living and involve residents population in the management of the data obtained.

Jerneja Srebot

Advantages of Compatible Tools and Services

Smart cities and communities are areas that can be established with the help of a raft of organisational approaches involving electronic data collection, IT solutions, open-source data and data analysis. These days, an individual is expected to use an ever-greater number of digital services – services that are not necessarily compatible with each other. In this context, smart cities and communities constitute an integrated approach to enabling the individual to interact with their environment within the digital society.

These days, an individual is expected to use an ever-greater number of digital services – services that are not necessarily compatible with each other.

Ernest Žejn, Head of the ICT Horizontal Network for Internet Services and Director of Žejn d.o.o. stresses that smart cities and communities are important for precisely this reason. “They require all stakeholders to work towards a single, integrated user experience that sees automation as much of a priority as digital,” he explains. The purpose of these

solutions is therefore not (for example) to have a user complete an online rather than a physical form, but to have them complete no form at all, as all the necessary data would already be available to the program.

As far as technologies and organisational measures are concerned, it is crucial to take into account the wishes of both decision-makers and residents.

The best practices in this area are currently to be found in OASC (Open and Agile Smart Cities) and the FIWARE Foundation, which encourage and require stakeholders to make uniformity and interoperability two of their top priorities. Both organisations have therefore set up a system of international standards and good practice that Slovenian companies have also begun to use.

Connectivity is Necessary for Efficiency

The basic objective of smart cities and communities is to raise quality of life by optimising management processes. High-quality smart cities and communities solutions facilitate the development

and integration of solutions in different verticals, from mobility and the management of resources (energy, water, waste) to the management of public services (libraries, public transport, healthcare, education).

As these technologies and organisational measures are being introduced, it is crucial to take into account the wishes of decision-makers and residents; it is also important for business, research organisations, civil society, local government and state authorities to be involved. Smart Society, which brings all these stakeholders together in order to coordinate the digital transformation of smart cities and communities, is the type of partnership actively operating in Slovenia. “Members of the Smart Society partnership are committed to applying common standards to the construction of interconnectible digital solutions, which is key to an efficient smart city,” explains **Flavio Fuart, Head of the ICT Horizontal Network at the Information Technology and Telecommunications Association of the Chamber of Commerce and Industry of Slovenia**, who adds: “By creating the conditions for reuse, we accelerate the development of the digital economy and improve residents’ quality of life at the same time.”

Development is Driven by Residents

In addition to improving quality of life, the concept of smart cities aims to ensure sustainability, as smart cities are at the core of the digital and green transition. This is also promoted by LIVING-IN.EU, a European Commission initiative, which focuses not only on the technological interoperability and openness of urban digital platforms, but mainly on citizens and cities, as they represent the driving force for the development of smart cities.

Standardised urban digital platforms enable residents to acquire knowledge and skills so that they can participate actively and safely in the functions offered by smart cities.

A city therefore behaves like an ecosystem of open innovations led first and foremost by its residents; this ensures ethical and socially responsible access to data and its (co-)use and management.

In this way, standardised urban digital platforms enable residents to acquire knowledge and skills so that they can participate actively and safely in the functions offered by smart cities.

Competitive Products Must Be Developed and Suitable Niches Sought

Although smart cities are relatively new in Slovenia, some companies have already launched developments in this area. In cooperation with some of these companies, the Smart Cities and Communities Strategic Development-Innovation Partnership (SRIP PMiS) focuses on the development of Slovenian products that could be competitive, first on the European market and then on the global market. Their past experiences tell them that the opportunities tend to arise mainly in suitable niche areas. They therefore direct their efforts not only towards the development of excellent, creative and modern products and services, but towards the search for

the right niches in which these products can compete with others. "The search for such niches also opens up new areas of research, such as carbon-neutral cities directly aimed at improving the quality of (urban) life," says **SRIP PMiS Director Matjaž Logar**. Over the next ten years, he expects an increasing emphasis on carbon neutrality in cities, including the development of solutions for self-driving vehicles, which will enable routes to be optimised through interconnectivity.

Telekom's Services Integrated into a Single Platform

Telekom Slovenije are seeing greatest interest in solutions connected with optimising traffic, mainly for the smart management of traffic flows, which includes traffic calming systems, smart car parks and smart signalisation. There is also considerable demand for electric vehicle-charging solutions, increases in energy efficiency, emission and water loss



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reductions, and the monitoring of quality (water, air, noise levels).

They have already brought their solutions to several Slovenian cities. In Zagorje ob Savi, they have installed a central communications station for electric vehicle-charging and for the monitoring and analysis of data to improve the planning and management of resources such as parking spaces, water and energy use, and utility services. The station also provides public lighting as it takes over the functions of street lights and the space they occupy. They have also set up a system for collecting and processing data in Novo Mesto, where they have also introduced a single urban card that provides access to all public city services.

In several parts of the country, Telekom Slovenije have also helped to optimise urban transport.

“In Tržič we have installed a system for directing vehicles to free parking spaces, and set up a system in another municipality that will also link this information to the parking fee payment system,” say Telekom Slovenije. All their urban-based solutions are linked together on a single platform that is easy to use and open for future upgrades and links to other providers. Telekom Slovenije are also open to international initiatives, projects and joint cooperation.

T-2's Platform Already Up and Running in Several Cities

T-2 have also designed their own smart cities and communities solution: an open platform that interconnects all smart services and is managed via an online user interface in the cloud. The platform hosts a family of applications that enable inhabitants to monitor the results from Internet of Things devices, such as air quality, energy and water use in households, the situation on the roads, timetables, local news and so on. Parking fees can also be paid and vehicles reserved within the GreenGo vehicle-sharing scheme.

Telekom Slovenije are seeing greatest interest in solutions connected with optimising traffic, mainly for the smart management of traffic flows.

In order to set up the system, T-2 constructed an entirely new infrastructure, and designed T-2 cloud services on a system enabled by solutions offered by the Red Hat company, a US company whose experts, according to the company, “were so impressed by the smart cities concept as an example of good practice that they upgraded it and invited us to present our solutions at the Red Hat Summit in Boston.”

In Slovenia, their platform is already up and running in the Municipality of Logatec, and will shortly be introduced to the City of Kranj; it also operates in Skopje, the North Macedonian capital. Alongside implementation of the platform in several large towns and cities, T-2 are also constantly upgrading it, incorporating more and more new services, and optimising functions to make it as easy as possible to use.

Solutions Will Expand When Awareness Increases

The **Imagine** company have, in the meantime, been focusing primarily on the management of municipal property. Their platform collects all information on the property, which enables records to be standardised and all the information to be monitored and analysed; processes can therefore be accelerated, costs optimised and municipal employees' workload lightened. In addition to property, the platform also enables the management of other resources and infrastructure within the municipality, such as roads, public transport, cemeteries, cultural heritage, buses and bus stations, advertising spaces and stands. It works on all internet-enabled devices and does not require the installation of any new infrastructure.

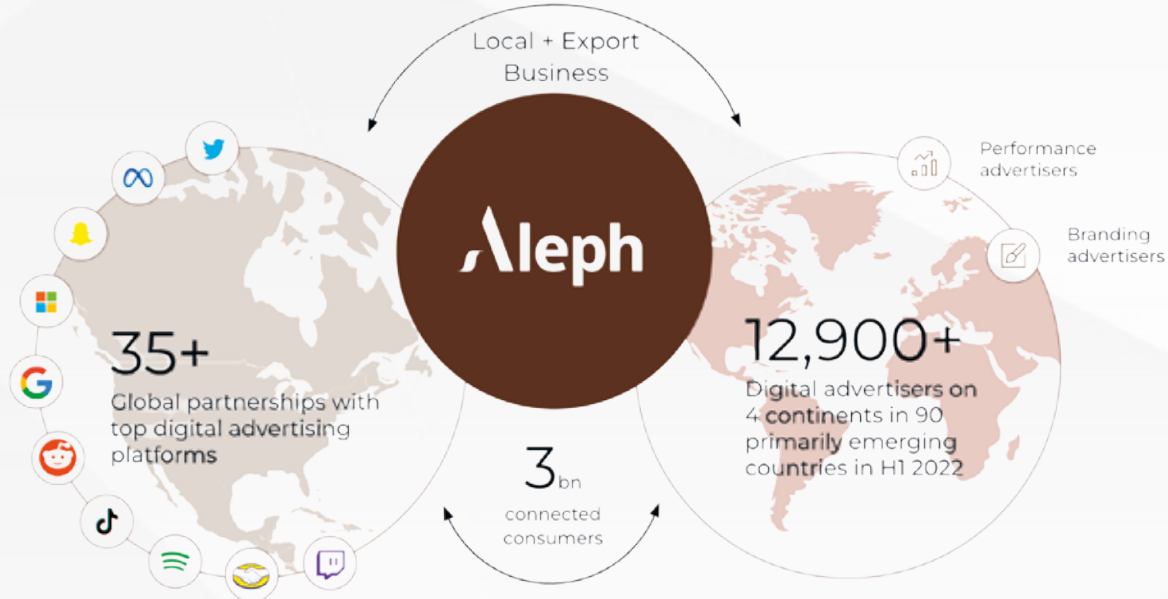
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Imagine operate in many countries in Eastern and Western Europe, and have plans to expand into Lithuania, Latvia, Estonia and to consolidate their presence in the Balkans. As smart cities and communities are still in the early stages of development, the company are, for now, waiting for an increase in awareness of the importance of the area, which will in turn stimulate the need for digital transformation. “In the next phase, we are planning the upgrade of the existing solution, which will also incorporate users of urban infrastructure and services,” say the company. ■



In Zagorje ob Savi, Telekom Slovenije have installed a central communications station for electric vehicle-charging and for the monitoring and analysis of data to improve the planning and management of resources such as parking spaces, water and energy use, and utility services.

CONNECTING ALL PLAYERS IN THE DIGITAL ECOSYSTEM



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ALEPH

Aleph was created in 2021 by IMS (founded in 2006) and Httpool (founded in 2000), to become an umbrella brand. Today Aleph manages over **15,500 advertisers**, whilst representing more than **30 digital media and advertising platforms**. Our key mission at Httpool is to **empower the digital ecosystem** in emerging countries, unlocking, and driving economic growth. The combination of Aleph's group's resources, experience, and **market familiarity**, in addition to the strong presence held by each of our local regional entities', **neutral market position**, and access, awards us a winning stance, and enables us to unlock unprecedented market potential for our clients and partners.



SMART ELECTRONICS

Slovenian Enterprises Successful in Smart Electronics

Over the last decade, several highly innovative companies with high value added have grown up in the smart electronics segment in Slovenia – and have also met with global success. Advanced digital technologies contribute to rapid development.

Tomaž Kavčič

Iskotel Operate in More Than 50 Countries Worldwide

S&T Iskotel, informacijske in komunikacijske rešitve, is the main company within the S&T Iskotel Group and one of Europe's leading suppliers of comprehensive and highly reliable solutions for a secure, smart and connected future. With a wide portfolio of IT, communications and business solutions, the Group has a presence in more than 50 countries worldwide. They have their own R&D and manufacturing centre and more than 1,000 employees in ten countries.

In recent years, Iskotel have successfully reoriented their business towards markets in Central and Western Europe.

Their solutions play an important role in the development of more advanced, better connected, sustainable and secure societies. The company generate around three quarters of their turnover abroad. They have traditionally sold their telecommunications solutions on Eastern European markets, but have managed in the last few years to reorient their operations to strategically selected, important new markets, mainly in Central and Western Europe, including the UK, Germany,

France, Spain and, shortly, Italy. This has proved to be an even more important move in light of the war in Ukraine, which has presented the company with quite a few challenges. Nevertheless, they have risen to them quickly, with business results showing that their decision to re-route to new markets was the right one.

This year in the UK they have signed a multi-million euro contract with the fast-growing telecommunications operator Zzoomm to provide super-fast fibre-optic links to individuals and companies throughout the country. With their own customer premises equipment (CPE), they have provided a top-quality Wi-Fi 6



Photo: S&T Iskotel

Iskotel's solutions play an important role in the development of more advanced, better connected, sustainable and secure societies.

solution for remote connections for the French operator Zeop. In Germany and Austria, their mobile private 5G networks are opening up opportunities for digital transformation and secure connectivity in transport and critical infrastructure segments, specifically for railways, ports, airports and large energy companies.

In 2022 Iskratel signed a multi-million euro contract with the fast-growing telecommunications operator Zzoomm to provide super-fast fibre-optic links to individuals and companies throughout the UK.

Doing business on new markets requires investment, so the company have started developing suitable solutions, working with partners on selected markets, and researching and analysing the approaches available to them. Together with customers and partners at home and abroad, they are keen to further the development towards a more advanced society and to provide reliable, smart and secure

solutions for a more connected world. In terms of sales and operations, they are committed to the objective of becoming Europe's leading supplier of smart broadband solutions and applications for fibre-optic and fixed next-generation wireless networks.

Metrel Make Their First Foray Into Medical Appliance Safety

Metrel were founded in 1957 as a factory producing electrical measuring instruments and components for the domestic market, before gradually becoming one of the world's leading manufacturers of measuring and testing equipment. They are one of the few companies in this sector that develops and manufactures products at a single location, from design and assembly, to quality control and calibration. They have a presence on every continent, but are strongest in Europe. The company's most important markets in the smart technologies segment are Germany, France and Scandinavia. They also have a presence on other markets

in Western, Central and Eastern Europe, while their most important non-European markets are South America and South-East Asia. They are also looking for new opportunities in the Middle East, Africa and North America.

Metrel are also looking for new opportunities in the Middle East, Africa and North America.

With a difficult economic period fast approaching, the challenge lies, of course, in understanding the specific needs of individual markets. On the one hand, there is the persistent problem of securing certain materials and of rising prices on supply markets; on the other, recession fears mean that there is a noticeable reluctance to buy on the part of customers, which is leading to greater competition in lower price segments. On European markets there are also challenges and opportunities connected with securing energy self-sufficiency and the consequent accelerated transition to renewable

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sources. Metrel also believe that securing sufficient capacity and stability on the electricity network, where their instruments are an indispensable product, will present a major challenge going forward.

They also believe that securing sufficient capacity and stability on the electricity network will present a major challenge going forward.

In the next few months, they will launch an instrument for testing the electrical safety of medical appliances, which is an interesting and fairly new area for Metrel. Aware of the importance of renewables, the company are upgrading their existing portfolio of instruments for photovoltaic systems. Next year they are planning new solutions in the field of electric mobility, and hope to expand their range of products for the testing of electric vehicles and electric charging equipment for vehicles of all types. ■



Photo: Metrel

In the next few months, Metrel will launch an instrument for testing the electrical safety of medical appliances.

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SPECIAL MATERIALS

“In the Field of Materials Production, Slovenia is a World Leader”

Slovenian companies that manufacture materials are strongly involved in the green transition process. They are not only reducing CO₂ emissions and modernising work processes, but are also actively involved in a large number of European, global and in-house projects aimed chiefly at the digitalised, sustainable and circular economy.

Nina Šprohar

SIJ Continuously Developing New Products and Technological Processes

The SIJ Group are constantly investing in the best available technologies, digital transformation and the development of and research into new lighter types of steel for the most exacting applications. These steels have a longer lifespan and other advantages that also lower their environmental impact. As **Slavko Kanalec, Executive Director for Manufacturing, Technology and Investment at the SIJ Group** explains, interconnected teams of multidisciplinary specialists are active within R&D departments, developing new products and technological processes, anticipating needs on the market and creating made-to-measure solutions for customers. Among other things, they are developing new niche types of special steel for use in the aviation and e-mobility industries.

With the ongoing development of highly complex non-oriented electrical steel plate, **SIJ Acroni**, which is part of the Group, are following market trends and are actively involved in the green transition. “We are also manufacturing superaustenitic stainless steel for the most exacting applications and, by developing ferritic stainless steel, are making

an entrance onto the applied hydrogen technologies market,” explains Kanalec.

Involved in International Green Projects

Kanalec highlights the importance of the role R&D departments play in the transition to a green, digitalised, more sustainable and circular economy. “We manufacture steel from waste steel, which is 100% recycled during the melting-down

process. We are in the top 15% of the most efficient steel manufacturers worldwide when it comes to carbon footprint – and that footprint will come down even further in the next decade. We will achieve this by making continuous technological improvements and taking part in international projects connected with the European Union’s climate policy and with the Innovation Fund for the co-financing

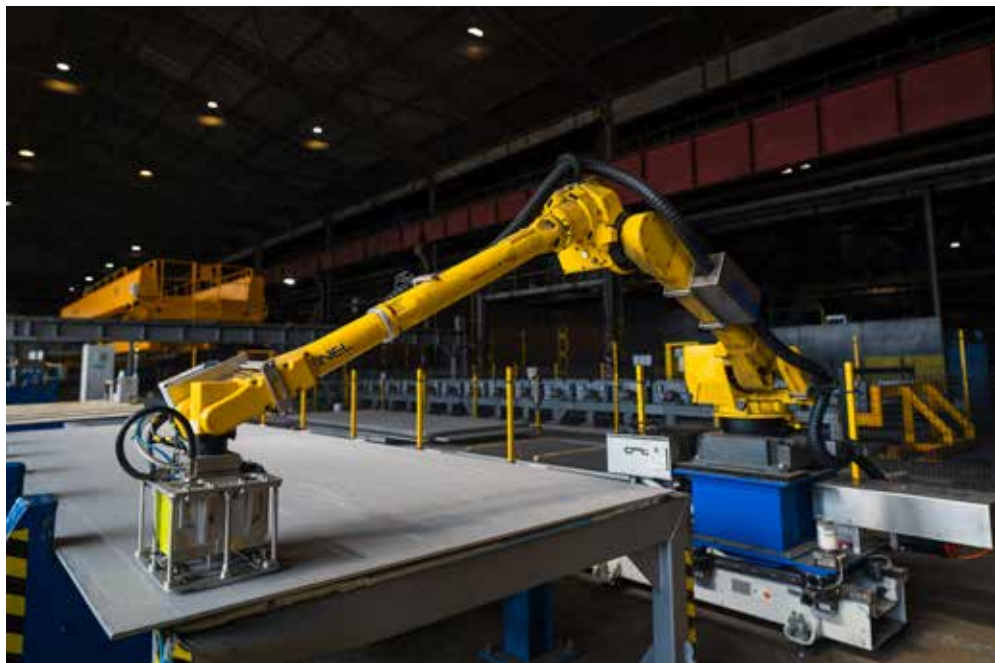


Photo: Dobran Laznik

SIJ Acroni are following market trends and are actively involved in the green transition.

of ground-breaking low-carbon technology,” he says.

The SIJ Group are in the top 15% of the most efficient steel manufacturers worldwide when it comes to carbon footprint – and that footprint will come down even further in the next decade.

Last year, under the ETEKINA project, which is part of Europe’s largest innovation-promotion programme, they launched a new system for the consumption of waste heat with Institut Jožef Stefan and a number of partners from abroad. “We estimate that the waste heat yield from flue gases is more than 50% and that the quantity of emitted heat will exceed 2,360 megawatt hours. Waste heat from the SIJ Group will be the main source of heating for the town of Ravne na Koroškem,” says Kanalec. In addition to this, SIJ Acroni are using the “Creators” project to examine the possibility of

developing an overarching energy community model by using waste heat to heat towns and cities, and of installing a solar power plant and hydrogen station producing up to 5 MW of energy. Development experts have been recognising the Group’s innovative achievements at regional and national level for a number of years – not least this year, with the company receiving eight CCIS innovation awards.

Waste thermal energy from the SIJ Group will be the main source of heating for the town of Ravne na Koroškem.

Most Efficient Business Model in the Current Circumstances

Kanalec stresses that SIJ’s sales focus will remain on the marketing of the most complex products with high value added for the most demanding industries: energy, the aviation and automotive industries, oil and gas, and machine engineering. The

company have a presence in more than 70 countries and are one of Slovenia’s biggest exporters. “We have maintained a stable share of exports of slightly over 80% for the whole of the last decade,” says Kanalec, who highlights Germany, Italy and other European countries as the company’s main export markets. He also says that their 27% market share makes them one of the three largest manufacturers of thick stainless steel sheets in the EU. They are even more of a major player in the tool steels market, where they are the world’s third largest manufacturer. “We are also trying to secure a larger market share in the US, Canada, Australia and other developed markets that require above-standard steel products. In these economies, the euro-dollar exchange rate is currently very favourable to us, although the same cannot be said of the differences in energy prices, which are considerably lower for our competitors outside Europe. We are aware of the importance of strengthening



Providing glass cleaning, ventilation and air conditioning in vehicles

The company SEP d.o.o., based in Mokronog and with a subsidiary in Bijeljina (Bosnia-Herzegovina), is a development and manufacturing company that makes plastic components using moulding, suction blow moulding and injection technologies. The product range comprises components and finished products for vehicle window-washing systems, and components for vehicle ventilation and air-conditioning systems.

Their products are installed by a wide range of European car manufacturers. They can be found in vehicles produced by Stellantis, Volkswagen Group and the Renault-Nissan group. Their products are present in more than 50 different models on the market. The company is also intensively involved in systems for cleaning cameras and other sensors for the needs of developing autonomous driving. For development purposes they rely on their own know-how, which is based on more than 25 years of experience.



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our position in international supply chains, in addition to entering new markets”.

Waste thermal energy from the SIJ Group will be the main source of heating for the town of Ravne na Koroškem.

The SIJ Group generated income from sales of EUR 1,032.8 million in the first nine months of 2022, which was an increase of 44.5% on the same period last year. “Despite the difficult geopolitical situation, in the first half of the year we were able to take full advantage of the favourable market conditions in terms of demand for steel and steel products. Our manufacturing capacities were also full, with a good order-book structure. These good results were also aided by the optimisation of manufacturing volumes, introduced in September, which led to a reduction of between 30 and 40%. This was introduced in response to the extremely high energy prices and the fact that our customers were uncertain of their willingness to accept such price conditions. We will continue with this business model, which is the most efficient one given the circumstances, until at least the end of the year,” says Kanalec, who hopes that the energy market will stabilise as quickly as possible. Any stabilisation would ensure that conditions remain roughly comparable for all European manufacturers and would



Photo: Dobran Laznik/SIJ

SIJ's sales focus will remain on the marketing of the most complex products with high value added for the most demanding industries.

place the business environment on firmer ground. He adds that, alongside this, the frameworks should be put in place to limit imports from third countries, which are enjoying considerably better price conditions, particularly for energy, than manufacturers in Europe.

Elpro Križnič's Smart Factory

The **Elpro Križnič** company, which has been in the electricity and sheet-metal processing industry for more than 30 years, has undergone major changes in the last 12 months. They moved to new premises at the beginning of 2022, which enabled them to move their electrical and metal

activities from three locations to just one. “Our new smart factory, which operates on Industry 4.0 principles, has all the working and development conditions we need to satisfy the most exacting customers. The move posed many challenges in various organisational and management areas. We are extremely proud of having been able to overcome these challenges successfully,” say the company.

They are also trying to secure a larger market share in the US, Canada, Australia and other developed markets that require above-standard steel products.

Their electrical projects for industry and construction encompass the manufacture of low-voltage switching and control devices and medium-voltage Siemens devices, and the manufacture, installation and start-up of low-voltage systems. Their sheet-metal processing services include the development and manufacture of various types of casing from different types of sheet metal for the incorporation of a wide variety of components, such as casings for electrical switchboards, chargers, storage systems and batteries.

Heavy Focus on Innovation

Elpro Križnič are currently present on the domestic market and in Austria, Italy and



Photo: Nik Jarič/Elpro

Elpro Križnič moved to new premises at the beginning of 2022.

Germany. “We are particularly proud of the fact that our customers regard us as a strategic partner capable of meeting their demands very quickly because of our flexibility, responsiveness, rapid supply chains and excellent technological capacities. We are keen to be recognised more widely on the European market as a reliable strategic partner in the fields of electricity and mechanical sheet-metal processing,” they explain. They add that the electricity sector is currently in a phase of development, renewal and expansion, as electricity, which is the most reliable and sustainable energy source, is becoming the number one energy resource worldwide. Sheet-metal casings are a key part of the process of electrifying living environments.

The company place considerable emphasis on innovation, which is, because of the nature of their work, a constant feature of their operations. As they offer comprehensive solutions from idea to product development, they encourage their employees prioritise continuous individual growth. They believe that professionalism

is a key precondition for success, and also encourage employees to put forward their own suggestions and proposals.

The Elpro Križnič company moved to new premises at the beginning of 2022, enabling them to bring their electrical and metal activities under one roof.

Talum Digitising Their Business and Production Processes

The **Talum** company are very active in green and smart transformation projects. Their aim here is to upgrade waste aluminium processing and increase the capacities of products that form part of the green transformation process. They explain that they aim to increase the share of waste aluminium in their products from 39 to 55% by 2025, and have also designed a digital transformation project, “Aluminium 4.0”, which points the way forward for the digital transformation of the company’s business and manufacturing processes.

They are also developing a “Virtual Battery” project to address the primary production of aluminium. “We would like to establish smart aluminium production using intermittent renewable energy sources. The project addresses the primary production of aluminium (electrolysis) and contributes to the stability of electricity transmission and transmission infrastructure in order to integrate a greater share of renewables. The contribution made by this project lies in managing the electricity transmission system by increasing the provision of electricity from renewables, and in the production of aluminium, which is an indispensable lightweight metal for transport, packaging, construction and general industry,” say Talum. Manufactured aluminium represents an energy bank, as it is possible to renew the majority of the original energy invested every time the product is recycled.

All these activities are carried out through innovation, which has become part of the everyday life of the company. “We have been systematically monitoring

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and promoting innovative activities for more than ten years. We are proud of our employees, who through mass and professional innovation, make proposals and suggestions for improvements to our processes. Through the 'Upam si' campaign, we also encourage our staff to put forward proposals outside the customary frameworks." The company believe that innovation is a key pillar for building the future. The innovations or improvements that come from their manufacturing and business processes relate mainly to the circular economy, industrial transformation, energy efficiency, and improvements to the productivity and efficiency of processes.

Talum aim to increase the share of waste aluminium in their products from 39 to 55% by 2025.

Closed- and Open-Loop Recycling

In the last ten years, Talum have undergone an intensive restructuring process; this has led to the production of aluminium products with high value added. They are also very active in the circular economy, having launched the first in-company recycling processes more than 20 years ago. "Today we have efficient circular economy models in place," they explain, "and can boast the development and production of new aluminium alloys based on recycled aluminium and aluminium products. Using a series of innovative approaches and high-level technical knowledge, we have managed to establish a closed-loop recycling system in which materials from the industrial plant itself are returned for recycling. We are also one of the few companies to have established an open-loop recycling system. This process involves amalgamating aluminium alloys from a variety of sources of unknown composition, contaminated with lacquers and paints – in other words, post-consumer recycled or PCR material." In the area of industrial transformation and through robotisation and automation, they are putting processes in place to improve productivity and, with their digital

transformation activities, are aligning their operations with the country's overall digital strategy. At the same time, they are trying to manufacture ever more complex and demanding products, and are also able to boast the development of smart devices for the manufacture of castings and fully automated production lines.

Talum are also planning growth and development in their aluminium slug manufacture programme for the pharmaceutical, cosmetics, food and packaging industries.

Talum are also planning growth and development in their aluminium slug manufacture programme for the pharmaceutical, cosmetics, food and packaging industries. They are also manufacturing slugs for containers made of entirely recycled aluminium, reducing their carbon footprint for this activity by 75% in the process. In the area of casting, they will focus in the next few years on industrial transformation, with particular emphasis on further automation, robotisation and digital transformation with the aim of becoming a smart casting factory. In addition to developing and manufacturing highly efficient heat exchangers for cooling technologies, they are also positioning themselves as a development supplier in battery-cooling segments for electric vehicles and in casings for heat pumps and solar absorbers. Regarding

the development of aluminium billets for the construction industry, they are moving towards billets of non-standard quality, which can be manufactured without using primary aluminium.

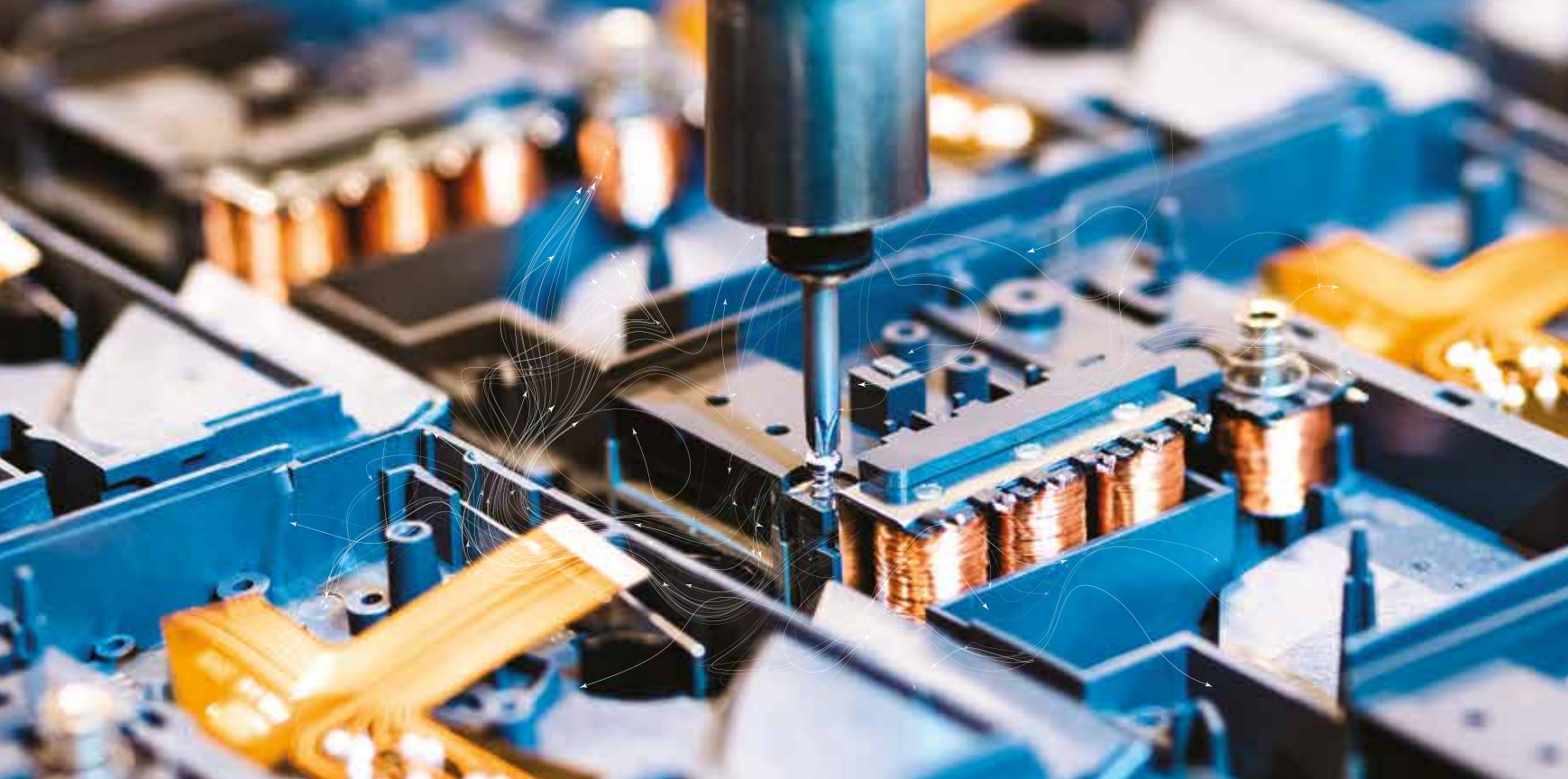
Europe Should Be Manufacturing Its Own Materials

"The green transition is based on the production of materials. What is happening at the moment, not only in Slovenia but throughout Europe, is that we are losing material production and increasing the dependence of the European economy because of the energy crisis," say Talum. In their words, they need competitive conditions if materials production is to be maintained in Europe. Slovenia has adopted a strategic document and industrial strategy, and set out a smart specialisation strategy that provides a plan for the future development of the economy. "In the area of materials production, Slovenia is at the very top of the global scale in terms of modernity of processes and the low level of CO₂ emissions produced, better than the European average. Consequently, large improvements are difficult to implement. Slovenia is an explicitly export-oriented economy. We need agility and consistency to ensure comparable and competitive systemic frameworks in all areas, an awareness of the importance of energy independence and of securing supply chains of materials as close as possible, and intensive investments in research and development," say Talum. ■



Photo: Talum

Talum are also planning growth and development in their aluminium slug manufacture programme for the pharmaceutical, cosmetics, food and packaging industries.



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MEDICINES AND MEDICAL DEVICES

Pharmaceutical Companies in Slovenia Banking on Innovation

Encouraging forecasts leading to pharmaceutical company optimism. Trends show that the generic pharmaceutical industry will continue to grow despite the current uncertainties caused by the pandemic and other global instabilities.

Nina Šprohar

Lek Creating a Culture in Which Innovative Spirit Feels at Home

Over the years, pharmaceutical company **Lek**, part of the Sandoz Group, have embarked on a large number of successful innovative projects, both at home and globally. Last year alone, they were engaged in more than 200 development projects. The company believe that innovative environments develop mainly where a strong culture is in place that encourages and rewards innovation. "At Lek, we actively and continuously work on this

and create an empowered, inquisitive and inspiring culture in which innovative spirit feels at home."

They are also aware that an innovative environment also requires adequate and timely investments in equipment, which is why they invest around EUR 200 million in R&D every year. Up to now they have invested over EUR 3 billion at their Slovenian sites, with more than half going to development and the remainder to the upgrading and strengthening of their production capacities.

They have also received numerous awards, including innovation awards from the Chamber of Commerce and Industry of Slovenia (CCIS), a Golden Practice Award, and awards given within the Novartis Group for exceptional achievements in R&D. This year they again received a national CCIS Gold Award for their development of a generic version of ferumoxitol, which is used to treat iron deficiency anaemia.

Innovations that bring ground-breaking medicines and products will come even more to the fore in the pharmaceutical industry in the next few years.

Digital Transformation is an Opportunity To Speed Development Still Further

Lek explain that the current economic situation coincides with digital transformation in healthcare; for the pharmaceutical industry, this provides an important opportunity to move beyond traditional business models. The company are moving towards the sustainable digital transformation of R&D at all levels. "This gives us a unique opportunity to develop even more quickly and release those medicines onto the



Photo: Krka

In the last few years, Krka have brought to market the most ground-breaking 'fixed-dose combination' products.

Products Sold in More Than 155 Countries

Novartis's products, including those manufactured in Slovenia, are sold in more than 155 countries and reach almost 800 million patients. Last year the Slovenian development centre, which is Sandoz's leading development centre, submitted 29 generic drug files on the key markets of the US, Europe, Russia, Japan, Brazil, Australia, Mexico and Thailand; it also launched 13 generic drugs for treating anaemia, cancer, cardiovascular diseases, fungal diseases and pulmonary fibrosis. Last year Sandoz dispatched 2,540 different products from Slovenia to 74 countries around the world, 211 of which were newly launched products, while Novartis in Slovenia launched 778 new products in more than 80 countries in 2021.

market that patients need," they say. "Digital transformation is key to better patient care, cost-effectiveness, greater transparency, and the improved production and development of drugs."

They promise that they will place even greater emphasis in the future on innovative science and technology for resolving the most complex pharmaceutical issues, the development of treatment methods and improved access to healthcare. "We believe that innovations that bring ground-breaking medicines and products will come even more to the fore in the pharmaceutical industry in the next few years. We are also maintaining a high level of investments in R&D, steering them to areas in which unmet medical needs still exist. At the same time, we are seeking out top talents to design and realise these ground-breaking innovations."

According to Lek, "digital transformation is key to better patient care, cost-effectiveness, greater transparency, and the improved production and development of drugs."

Krka Also Developing Veterinary Drugs

By realising their planned innovations, **Krka** are creating modern medicines to treat a wide range of patients. As they point out, they are remaining true to their policy of developing products to treat today's chronic diseases. Drugs to treat cardiovascular diseases, diabetes and cancer, as well as drugs from other 'iron' treatment areas (central nervous system

disorders, gastrointestinal disorders, pain-relieving drugs, etc.) are well represented in the company's development portfolio. In terms of development, the company also place a good deal of emphasis on veterinary drugs, chiefly for pets.

They say that they invest 10% of their annual sales revenues in R&D. "New product development is based on our own innovative R&D solutions. These enable us to ensure that our products are the latest available, meet the highest prescribed quality standards and are also affordable." They add that they have protected more than 350 innovations with numerous patents in Europe, America and Asia.

Every Employee Can Be an Important Source of Ideas and Innovation

Krka say that innovation is one of the most important values they cultivate in their

development teams. They achieve it "in a highly creative environment containing development experts who are highly qualified and use the best research equipment, with the critical exchange of opinions and expert suggestions taking place in an inclusive and psychologically safe environment." They believe that this is the only way to expand their range on a yearly basis with new products and their own innovative R&D and technological solutions.

Innovation is not only encouraged in development, but in all work processes and at all levels of company operation. "We know that all our employees are a potential and important source of ideas and innovation. For a number of years we have been tying their initiatives into a system of mass innovative activity, which has become part of the culture of the company and makes an important contribution to the development and expansion of Krka's operations in a rapidly changing business environment." In the 'Your Efficiency Counts' corporate campaign, which has been running since 2003, employees are encouraged to continuously search for ways of improving and increasing the quality of their work in the course of the performance of their everyday tasks. They say that they are therefore proud of every new product "as a certain amount of innovation, along with the commitment and work of our researchers, is built into every one."



Krka are creating modern medicines to treat a wide range of patients.

Krka a Regional Leader in the Development of Drugs with Combined Active Ingredients

In the last few years, Krka have brought to market the most ground-breaking 'fixed-dose combination' products. As they explain, these are products that combine two or three active ingredients, which considerably eases the treatment of those patients who have to take several drugs at the same time. "We recognised the importance of combination drugs quickly and can say that we are currently the region's leading company in this field."

In Krka's opinion, the best innovation is the one that enables production of the very latest drugs using the simplest technological procedure at the lowest cost and with the smallest carbon footprint.

They believe that this is the result of a decision made more than ten years ago, when they recognised the possibility of deploying a new approach to drug development and registration. They were therefore the first company in Europe to offer a product that is used to treat hypertension and is a combination of three active ingredients: perindopril, indapamide and amlodipine. "Krka's decision and boldness at that time were later recognised by other generic pharmaceutical companies and regulatory agencies; they were also the reason why European recommendations were issued in 2018 by the European Medicines Agency, which wrote Krka's experiences and partly also its 'pioneering direction', into the recommendations."

Constantly Adding to Their Portfolio of Drugs

Krka are also proud of the growth of their portfolio of drugs for treating diabetes, with four important new products joining established products on the market in 2022. They are also making significant additions to their portfolio of products for treating cancer, autoimmune diseases, and diseases of the blood and blood-forming organs. "All the products are result of great work by our employees and of their determination to be the best and to boldly confront all the challenges that the development of a new product brings. We are building all the future successes of Krka on those employees and it is them of whom we are most proud," they say.

Combination drugs with two or three active ingredients are not the only innovative generic drugs being developed at Krka. "In Krka's development, researchers and their managers strive to include innovation that is consistent with modern expert findings at every step with the aim of providing patients with modern, high-quality, safe and effective medicines at affordable prices as quickly as possible after expiry of the key patent protection," they explain. In their opinion, innovation must also go hand in hand with cost-effectiveness. "The best innovation is the one that enables production of the very latest drugs using the simplest technological procedure at the lowest cost and with the smallest carbon footprint. The greatest innovations are therefore often hidden within ostensibly the simplest pharmaceutical forms, such as classic tablets or capsules," they add.

Increasing Their Presence in Western Europe

Krka strives to be present in as many markets and with as extensive a range of medicines as possible; in their opinion, this confers an advantage on the company when it comes to tackling changing economic conditions in different parts of the world. Today, exports account for just over 94% of the Krka Group's entire sales. As they are keen to point out: "Our products can be found from Vladivostok in the east to Reykjavik in the west. They are sold on 70 markets divided into six sales regions. We have a strong network of companies and offices abroad, and are also expanding our production capacities outside Slovenia. We have our own

factories in the Russian Federation, Poland, Croatia, Germany, and China, and more than 45 companies and representative offices abroad."

Today, exports account for just over 94% of the Krka Group's entire sales.

As well as having a strong presence on the generic pharmaceuticals markets of Eastern, Central and South-Eastern Europe, the company has been operating on Western European markets for more than 20 years. "We are expecting to strengthen our presence in the coming years in Western Europe, where we have several wholly owned companies through which we market our products. This is a large generic market in which Krka's presence remains relatively small in terms of current market shares, so many opportunities still remain," they say. They are also enlarging their presence on overseas markets, specifically in the Middle and Far East. They add that one of the strategic objectives is to incorporate some of the markets in the overseas region into the key markets by 2024.

Upward Trend in the Use of Generic Products

Krka are optimistic because, they say, forecasts for the sector are encouraging, with trends indicating that the generic pharmaceutical industry will continue to grow despite the uncertainties caused by the pandemic and other global instabilities. "Governments and health insurers in many countries are promoting the use of generic drugs in order to make savings in healthcare, as these drugs have the same effectiveness, safety and quality, if manufactured by high-quality suppliers, as the drugs produced by their originators, while being more affordable."

The use of generic products therefore has a positive impact on health expenditure, with demand for them increasing as a result of the fact that some markets are only now beginning to develop. Krka are also seeing an upward trend in growth in developed markets, such as Western

Europe. They are therefore looking to the future with optimism but also with caution “as we are historically used to the challenges that come with focusing on so many markets.”

Cleangrad: “We Are Currently the Only Company in Europe Offering These Solutions”

Cleangrad, who work with a large number of pharmaceutical companies, currently have every reason to feel satisfied. At the beginning of 2022 they moved into a new office building, which offers better working conditions, and also finished the 2021 financial year on a high. Managing Director Jernej Zupančič says that the company are most proud of the national Gold Award from the Chamber of Commerce and Industry (CCIS) for their sliding doors for clean rooms innovation. They add that they are further developing and successfully testing the first fireproof walk-on ceiling, with a load-bearing capacity of 250 kg/m², which will be installed at one of their



Photo: Cleangrad

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major customers. “We are currently the only company in Europe offering this solution,” says Zupančič.

They are mainly present on the markets of Benelux, Austria and Switzerland, but would also like to expand their operations to the Irish and German markets

at some point. Zupančič says this sector is currently seeing considerable demand and a large number of projects. As they already have more than enough work lined up in 2023, they are having to turn down projects “because our capacities in some months are completely full.” ■



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Take advantage of the best business opportunities in Slovenia – make an offer or find a supplier. Foreign companies can register and search for trade inquiries through our special inquiry database BORZA (www.borza.org), where you can find both Slovenian and international business partners.

Go International

The CCIS is the primary meeting hub for Slovenian development and export-oriented enterprises, which are the very engine driving the core of development and innovation in the Slovenian economy. Our continuous interaction with foreign enterprises, institutions, and experts is converted into engaging activities like business delegations, educational and other major events, and B2Bs. It is our mission to provide you with our assembled information about inquiries on international markets, assistance in connecting Slovenian and foreign enterprises, and making your business experience here as productive and lucrative as possible.

Looking for Partners in Slovenia?

The International Relations Department is the perfect contact point for anyone interested in working with Slovenian companies. Along with providing information on the Slovenian market, it also provides support to foreign enterprises and institutions in finding new partners. It is responsive, creative, and tirelessly modern. At the same time it makes sure that all its partners are treated as individuals, on a case by case basis.

Legal Framework

The CCIS can provide you with information about Slovenian legislation or offer you legal consulting on Commercial, Corporate, Property, Enforcement, and Labour Law, as well as information on public procurement and insolvency procedures.

SloExport: All Major Slovenian Companies in One Place

SloExport is a database catalogue containing information on more than 6,500 Slovenian exporters. It is a tool that will be of great assistance in seeking information on individual Slovenian companies.

Excellent SME Certification

In conjunction with the renowned global credit insurer COFACE, the Chamber of Commerce and Industry of Slovenia is issuing Excellent SME certificates to Slovenia's most successful small and medium-sized enterprises.

This certificate enables potential investors or business partners to verify a company's existence, its actual web address, and, most importantly, its creditworthiness.

Ljubljana Arbitration Centre

The Ljubljana Arbitration Centre is an autonomous and independent arbitration centre providing administrative services for the resolution of disputes between parties through arbitration, mediation, conciliation, and alternative forms of dispute resolution.

Promotion and Advertising

The CCIS offers several packages of promotional opportunities and advertising also to foreign partners to increase their visibility on the Slovenian market.

Environmental Protection

The CCIS can provide information on new and existing environmental legislation, and other environmental aspects, including exchanges of best practice and benchmarking through conferences, training activities, and individual consultations.

Business – Conference Centre

Our premises feature multipurpose halls, classrooms, and council rooms of all sizes and purpose, as well as an event hall with a view to Ljubljana Castle. All of them are equipped with state-of-the-art and user-friendly equipment, and can be rented by the hour, day, week, or even month. The same goes for offices with all necessary infrastructure. ■

Chamber of Commerce and Industry of Slovenia

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3.

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DOMEL, D.O.O.

Domel Among the Five Most Innovative Companies in Slovenia

According to the Chamber of Commerce and Industry of Slovenia, the international high-tech company Domel are among the most innovative companies in Slovenia.

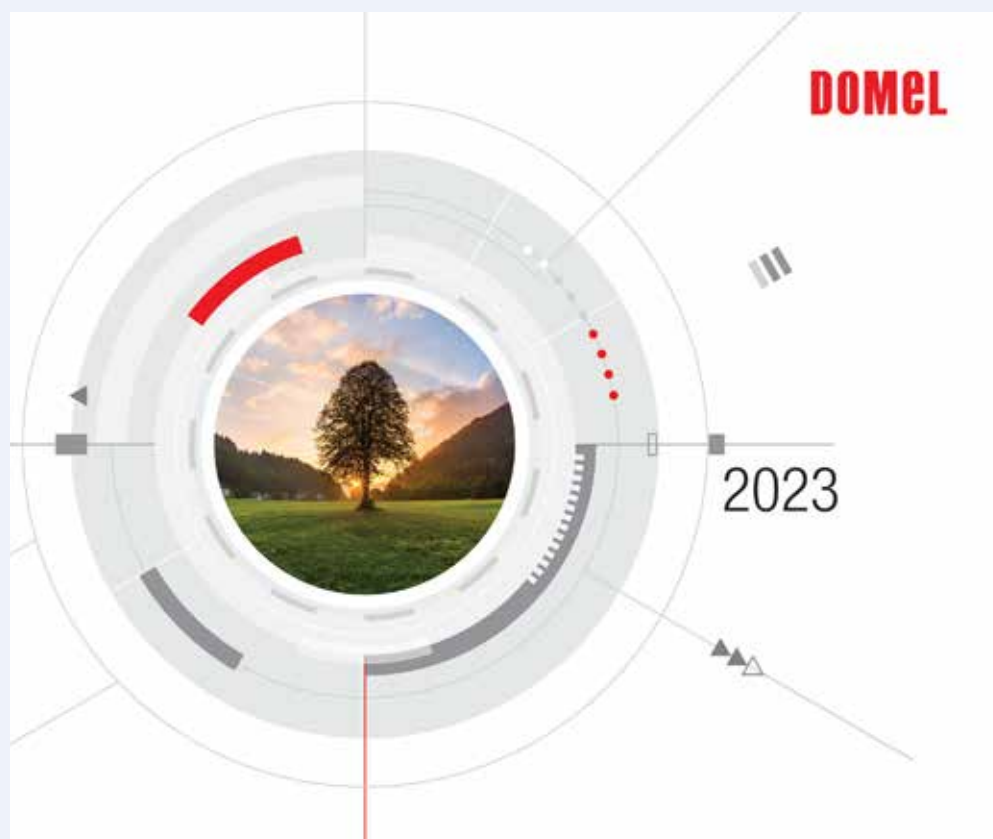
Domel are a global developmental supplier of electric motors whose core competencies are helping to shape global trends in development and technology. The varied range of sales programmes provide the company with stability. They create motors for household and industrial appliances, such as floor-care machines, gardening equipment and power tools, as well as for HVAC, healthcare and medicine, the alternative energy sector and the automotive industry. In recent years the product portfolio has moved from universal commutator motors to energy-saving electronically commutated electric motors.

Domel invest around 3 or 4% of their sales revenues in research and development every year. Continuous investment in development and technology enables them to maintain their leading position in the field of extremely high-energy-saving motors.

Domel encourage their employees to innovate and implement their innovations in a variety of ways, such as in-house and external education, and awards for

exceptional achievements and greater economic benefits. There are many positive effects, as these innovations result in new high-quality solutions, cost reductions, optimised business operations and improvements to working conditions.

The company, originally founded in Železniki, now has four manufacturing sites in Slovenia, one each in Serbia and China, and several representative offices around the world.



Domel, d.o.o.
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Strojgradnja Horvat d.o.o. is a family firm with more than 40 years of tradition and experience, which have given us a leading position on the markets for metals processing, the machining of materials, and the manufacture of metal structures and machines to order. Our partners are mostly manufacturers of machinery and industrial appliances across the EU, for whom we make various machine components.

50+ employees

More than 7,000 m² of commercial floorspace

More than 50 machine sets

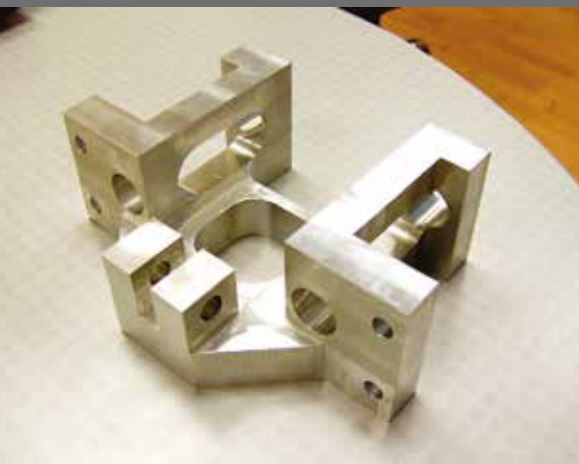
All our processes comply with the ISO 9001:2015 standard.
We also hold ISO 3834-2 and EN 1090-2 certification for welding.

FROM IDEA TO PRODUCT:

We take care of the entire project process for the client, from the idea, to final delivery of the product, taking account of the client's specific needs and wishes. Each product tackled by our team of experts is precisely tailored to the client's specific requirements.

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- 3 x Trumpf bending machines up to 3000 mm
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- 8 x CNC lathe up to Fi 1600 mm
- 1 x CNC lathe (5 axial lathe/grinders up to Fi 460)
- MIG/MAG welding
- TIG welding
- Robot MIG/MAG welding
- Powder coating (4 x 2 x 2 m)
- Wet lacquering (7 x 3 x 2.5 m)
- Deburring tools
- Assembly



Strojgradnja Horvat d. o. o., Na prehodu 32, 2000 Maribor, Slovenia

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BEST IN MANUFACTURING

140 of the Largest Companies Generating 87% of Manufacturing Exports

The 80 fastest-growing export firms have seen their exports increase by 209% in the last five years.

Darja Močnik, Analytical Department, Chamber of Commerce and Industry of Slovenia

In addition to EUR 3.1 billion in domestic sales, the **140 largest exporters (groups and companies) in the manufacturing sector** generated EUR 20.8 billion in exports in 2021, which accounted for 41% of Slovenia's total exports or 82% of its manufacturing exports. Trade and energy are also important export sectors, as are logistics and tourism (exporting transport services and travel packages). However, they are not included in this analysis because the focus is primarily on industries that produce and export goods. Four companies or groups (the latter means an ownership link between two or more companies) generated over EUR 1 billion in exports. The first produces electrical appliances, the next two groups (by consolidated balance sheet) produce generic drugs, and the third is a car manufacturer. A further 42 companies generate over EUR 100 million in exports.

The 140 largest exporters employ 120,000 people.

The average export orientation of the 140 largest exporters is high: they generate an average of 87% of their sales on international markets (median value 92%). Over a third of exporters generate

most of their sales (more than 95%) on foreign markets.

Value added among the largest exporters is EUR 68,000 per employee.

In 2021 the 140 largest exporters employed 120,000 people (measured per hours worked), or 63% of Slovenia's total manufacturing workforce in employment. One company had over 10,000 employees, two had between 5,000 and 6,000 employees, and 27 had between 1,000 and 4,000 employees. The average number of employees working for the 140 largest exporters was 860 (median figure of 440). Labour productivity varies greatly between the manufacturing exporters, depending largely on the gross margin, the company's vertical or horizontal integration, and the specific industry's labour intensity. The mean labour productivity value among Slovenia's 140 largest exporters was EUR 53,000. Low productivity was also a feature of companies that had a portion of their production and employees in former Yugoslav countries, where the generated value added per employee was generally lower (as were the production costs). Over EUR 100,000 in value added per employee was recorded by 14% of all exporting companies, while this figure was between EUR

50,000 and 100,000 at 46% of all exporting companies.

Fastest-growing exporters are generating an average of EUR 97 million in exports.

The **80 fastest-growing manufacturing exporters (groups and companies)** were defined based on absolute criteria (over EUR 5 million in exports in 2016) and relative criteria (fastest growth in exports between 2016 and 2021). Thirty-five companies at least doubled their export earnings and the remaining 45 increased their exports by between 59% and 99%. Median export growth stood at 94%. In absolute export values, only one company recorded slightly less than EUR 2 billion in exports, with the median/mean value amounting to EUR 31 million for 80 companies. The mean export orientation of companies in this group amounted to 85%. Labour productivity varied greatly from company to company, with the mean value at the 80 fastest-growing exporters standing at EUR 55,000. The mean number of employees in the group of the fastest-growing exporters was 238, with the smallest exporter employing 32 people and the largest employing 3,512. ■

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CONTACT

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Business unit:

Potok pri Komendi 14, 1218 Komenda, Slovenia

Mobile: +38640632599

E-mail: info@izop.si

TOP EXPORTERS

140 Largest Exporters from Manufacturing Sector, 2021

Ranking	Name of company or group	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets in 2021	Value added per employee	Number of employees
1	Gorenje, d.o.o.	1,970.7	96.4	42,233	9,577
2	LEK GROUP	1,592.2	97.4	110,131	5,158
3	KRKA GROUP	1,472.9	94.1	80,266	11,582
4	REVOZ d.d.	1,182.9	97.6	57,348	2,092
5	SIJ GROUP	820.4	85.2	62,667	3,814
6	IMPOL 2001 GROUP	789.8	93.4	61,850	2,512
7	ADRIA MOBIL GROUP	595.9	96.6	85,053	1,941
8	KOLEKTOR HOLDING GROUP	494.7	54.7	47,533	5,797
9	BSH HIŠNI APARATI d.o.o. Nazarje	434.8	91.3	55,256	1,317
10	TAB GROUP	356.2	96.7	58,280	1,542
11	HELIOS GROUP	337.7	89.9	54,740	1,835
12	MAHLE Electric Drives Slovenija d.o.o.	323.7	96.0	48,437	1,865
13	LTH CASTINGS GROUP	292.5	99.5	45,023	3,065
14	H & R GROUP	285.3	92.5	66,193	1,883
15	TALUM GROUP	283.3	84.6	53,007	1,479
16	HELLA SATURNUS SLOVENIJA d.o.o.	259.0	97.8	46,544	1,767
17	PERUTNINA PTUJ GROUP	241.5	70.6	32,558	3,965
18	CARTHAGO d.o.o.	222.8	100.0	38,669	803
19	GOODYEAR SLOVENIJA, d.o.o.	206.5	83.3	51,422	1,646
20	UNIOR GROUP	205.2	85.6	36,178	2,700
21	AquafilSLO d.o.o.	196.4	99.6	47,952	851
22	CABLEX GROUP	191.9	94.5	20,823	3,298
23	odelo Slovenija d.o.o.	180.2	100.0	47,952	1,110
24	MM KOLIČEVO d.o.o.	176.3	90.2	111,443	405
25	CINKARNA Celje, d.d.	175.1	91.0	100,746	801
26	PALFINGER d.o.o.	169.1	98.5	52,473	783
27	DOMEL GROUP	159.0	86.6	46,709	1,371

Ranking	Name of company or group	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets in 2021	Value added per employee	Number of employees
28	ETI GROUP	149.7	92.4	36,003	1,636
29	AKRAPOVIČ GROUP	148.2	98.8	57,803	1,410
30	ADK d.o.o.	144.3	98.2	59,773	630
31	KNAUF INSULATION, d.o.o., Škofja Loka	139.2	85.1	104,167	494
32	CIMOS GROUP	136.8	92.0	20,310	2,123
33	PLASTA GROUP	138.6	66.1	47,512	1,107
34	DANFOSS TRATA, d.o.o.	135.9	92.3	105,875	524
35	ISKRA GROUP	127.3	66.8	45,621	1,131
36	TRIMO GROUP	122.7	88.6	82,879	417
37	ELRAD ELECTRONICS d.o.o.	120.1	90.1	60,761	545
38	TPV GROUP	116.6	70.2	43,173	970
39	GKN Driveline Slovenija, d.o.o.	109.6	97.3	45,581	369
40	PAPIRNICA VEVČE d.o.o.	108.8	97.6	82,610	28
41	Atlantic Droga Kolinska d.o.o.	108.7	62.1	88,274	496
42	TASTEPOINT GROUP	107.8	90.3	130,903	335



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Ranking	Name of company or group	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets in 2021	Value added per employee	Number of employees
43	ebm-papst Slovenija d.o.o.	107.0	98.6	34,944	439
44	ŠTORE STEEL d.o.o.	106.3	73.5	60,620	493
45	ISKRAEMECO GROUP	103.4	91.8	49,201	663
46	DON DON GROUP	102.9	78.7	19,188	2,057
47	FILC d.o.o.	93.2	91.7	101,281	379
48	ISKRA MEHANIZMI, d.o.o.	92.2	90.2	38,421	590
49	ARCONT d.d.	91.8	98.5	40,356	672
50	FOTONA d.o.o.	91.2	98.4	169,617	289
51	G4 GROUP	88.4	46.5	60,676	931
52	INCOM d.o.o.	88.1	93.1	54,496	583
53	JUB GROUP	88.1	69.1	50,344	755
54	ELAN GROUP	84.7	90.7	41,940	705
55	ALPOS METALURGIJA d.o.o.	83.5	87.8	327,451	67
56	Novem Car Interior Design d.o.o.	82.7	99.9	26,174	803
57	TKK d.o.o.	82.6	90.2	62,721	269

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Company Preis Sevnica d.o.o. was founded in 1996 by Austrian family company Jägersberger GmbH, which was present in field of steel constructions and mechanical engineering already for many years. Company grew from minor workshop, with 64 employees, to large company with more than 360 people working on this location. Main products were and remain large transformer tanks and transformer tanks for locomotives, which are produced according standards of Deutsche Bahn.



We are company with over 25 years tradition, working with wide range of methods and products in field of steel constructions using the most advanced technology. With recent investments in modernising and expanding production capacities we are one of the best equipped producers of this kind of constructions in Europe.



Ranking	Name of company or group	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets in 2021	Value added per employee	Number of employees
58	WEILER ABRASIVES GROUP	77.5	93.4	42,692	768
59	Paloma d.d.	77.4	85.5	23,819	437
60	STEKLARNA HRASTNIK GROUP	75.2	97.8	68,493	560
61	INOTHERM d.o.o.	75.1	92.7	111,824	306
62	INTERBLOCK GROUP	73.9	94.9	107,168	464
63	LJUBLJANSKE MLEKARNE d.o.o.	71.5	39.5	57,667	594
64	GORIČANE, d.d. Medvode	70.4	92.7	48,141	221
65	METAL-RADO SNEŽIČ GROUP	69.7	64.7	76,693	107
66	Trelleborg Slovenija, d.o.o.	67.3	79.6	70,592	503
67	SILIKO d.o.o.	66.5	85.4	51,304	553
68	FARMTECH d.o.o.	66.2	92.2	52,522	355
69	STARKOM d.o.o.	65.1	98.8	73,031	254
70	SILKEM PLUS GROUP	62.5	90.0	75,863	229
71	MELAMIN GROUP	59.0	88.0	85,680	220
72	MSIN GROUP	58.9	52.9	51,399	999



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Ranking	Name of company or group	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets in 2021	Value added per employee	Number of employees
73	Pivovarna Laško Union d.o.o.	57.2	34.5	118,010	543
74	LEDINEK ENGINEERING d.o.o.	56.6	98.9	100,733	226
75	LESONIT d.o.o.	55.5	95.0	88,280	145
76	EKWB d.o.o.	52.6	99.2	64,430	203
77	ITW Appliance Components d.o.o.	52.6	79.0	85,256	253
78	GEBERIT proizvodnja d.o.o.	52.5	99.3	70,530	317
79	SEVEN REFRACTORIES d.o.o.	52.5	97.9	97,769	97
80	BOXMARK LEATHER d.o.o.	51.9	99.5	29,411	556
81	TBP GROUP	51.9	91.7	26,704	877
82	SOGEFI FILTRATION d.o.o.	50.8	99.9	41,387	348
83	MDM GROUP	50.1	51.6	200,474	111
84	ETA d.o.o. Cerklje	50.1	97.6	30,255	803
85	JUTEKS d.o.o.	48.4	96.5	98,787	144
86	ISOKON, d.o.o., Slovenske Konjice	48.3	92.2	67,626	251

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Our references:

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The company are primarily involved in the construction, integration and maintenance of radio communications for professional use. This enables our customers to achieve the best results.

We install and measure mobile and stationary radio communication systems for our customers.

Ranking	Name of company or group	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets in 2021	Value added per employee	Number of employees
87	KLS LJUBNO d.o.o.	47.2	93.7	122,480	252
88	SENSILAB d.o.o.	47.2	87.1	44,607	258
89	KOVIS d.o.o.	47.0	98.1	90,670	136
90	INTERSOCKS d.o.o., Kočevje	46.7	93.5	78,740	155
91	PIRNAR d.o.o.	46.1	89.7	72,918	125
92	TAJFUN GROUP	45.0	94.7	46,052	350
93	GREINER PACKAGING GROUP	44.5	99.0	29,084	446
94	Raycap d.o.o.	44.3	84.5	94,054	238
95	LIVAR, d.d.	44.0	80.2	31,851	575
96	SIBO G. d.o.o.	43.7	87.1	63,305	246
97	BOSCH REXROTH d.o.o.	42.7	99.2	52,576	248
98	DANI AFC d.o.o.	42.5	100.0	23,290	304
99	KOVINOPLASTIKA LOŽ GROUP	42.2	56.0	38,103	740
100	STEKLARNA ROGAŠKA d.o.o.	41.7	94.3	36,623	723



Electronics

In addition to a range of component elements for the automotive industry, the company makes casings and housings for electronics, a variety of custom-made aluminium and alloy heat sinks, together with cases for electronic equipment and amplifiers.

MALI-E-TIKO engineers elements of the most complex design, manufactured using multi-axis CNC milling machines.

Heavy-duty Equipment

MALI-E-TIKO manufactures elements and parts for road vehicles and construction equipment, heavy-duty machines, components for professional ironing systems and heating solutions, inox steel road and other signs, as well as a range of metal cabinets and storage systems.

MALI-E-TIKO's metal processing services include milling and turning, as well as the welding of all types of materials (TIG, MIG and MAG welding). The company employs certified European welding engineers and holds EN ISO 3834-2 and EN 1090-2 certificates. In addition to sandblasting, MALI-E-TIKO's contractors also provide surface protection (galvanised coating), anodising, chromate coating, as well as powder and wet coating. Additional services encompass engraving, including laser engraving, and screen printing.

Product Development

The company collaborates with its clients in product development, employing 3D technology (PTC Creo, AutoCAD) for design, as well as the latest software for CNC programming. Among other services, MALI-E-TIKO provides laser cutting of steel, stainless steel and aluminium, as well as CNC punching and bending of materials using modern CNC machinery (Trumpf, Gasparini and LVD).

Partners in Germany, Austria and Italy

MALI-E-TIKO products supply its partners in Germany, Austria and Italy. Germany is the company's main market, where clients include ANNAX GmbH, BOMAG GmbH and Veit GmbH; in Austria – Swarco Futurit GmbH and Palfinger AG; and CAEN S.p.A. in Italy. Through a number of its Slovenian partners MALI-E-TIKO manufactures can be found in many parts of the world, including the Middle and Far East, South America, the UK, Hong Kong and Japan.

The companies MALI-E-TIKO works with are leaders in their respective fields. Moreover, their partners include them in current and future projects, thereby transferring know-how and engineering expertise.

MALI-E-TIKO

Professional Metal Products Since 1988

MALI-E-TIKO provides a wide range of products and services in the manufacture of elements and components from sheet metal for the needs of the electronics and automotive sectors, including parts for heavy machinery and equipment, which requires expert knowledge of metal processing and machining.

Holding ISO 9001:2015 certification, the Tržič-based MALI-E-TIKO manufactures components for, amongst others, the electronics and car industries, as well as elements for commercial vehicles and construction equipment.

Ranking	Name of company or group	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets in 2021	Value added per employee	Number of employees
101	FENOLIT d.d.	41.6	78.8	92,326	93
102	BRINOX GROUP	41.6	75.1	80,779	270
103	PERSPEKTIVA GROUP	41.5	15.6	44,992	1,526
104	GRAMMER AUTOMOTIVE SLOVENIJA d.o.o.	41.5	100.0	32,665	239
105	LITOSTROJ POWER GROUP	41.1	69.1	26,658	376
106	SALONIT GROUP	40.9	41.7	105,047	354
107	BIA SEPARATIONS d.o.o.	40.3	69.8	306,949	145
108	SUMIDA SLOVENIJA, d.o.o.	40.1	99.6	31,756	437
109	RLS d.o.o.	39.6	95.5	112,243	232
110	Poclain Hydraulics d.o.o.	39.1	95.9	41,709	278
111	VIP VIRANT, d.o.o.	39.0	98.8	44,277	159
112	HENKEL MARIBOR d.o.o.	39.0	98.6	48,159	493
113	ISKRATEL GROUP	38.5	39.1	40,559	811
114	BELIMED d.o.o.	38.2	93.2	46,953	239


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Ranking	Name of company or group	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets in 2021	Value added per employee	Number of employees
115	MLM d.d.	37.5	89.0	28,120	379
116	TOMPLAST, d.o.o.	37.0	69.8	48,649	315
117	PIŠEK - VITLI KRPAN, d.o.o.	36.4	82.9	75,453	246
118	Walstead Leykam tiskarna d.o.o.	36.3	86.0	57,894	101
119	YASKAWA Europe Robotics d.o.o.	36.2	99.8	75,465	105
120	PLASTIKA SKAZA d.o.o.	36.1	93.3	41,738	260
121	KOLPA GROUP	35.4	65.8	31,517	627
122	POLYCOM Škofja Loka d.o.o.	34.9	84.9	51,836	281
123	PREDILNICA LITIJA HOLDING GROUP	34.5	96.5	36,997	320
124	NIKO, d.o.o., Železniki	34.4	91.3	50,865	261
125	PLANIKA TURNIŠČE d.o.o.	34.2	97.2	32,799	219
126	METREL DUS GROUP	34.0	70.3	57,174	505
127	BISOL GROUP	33.5	87.3	50,083	165
128	SIP GROUP	33.4	80.3	62,272	252
129	ALPINA GROUP	33.4	71.1	14,716	1,187
130	MAKSIM GROUP	33.4	69.1	61,123	323
131	FLUIDMASTER d.o.o.	32.2	92.2	53,159	182
132	REM d.o.o.	32.2	75.6	59,480	201
133	ISKRA ISD GROUP	31.8	61.4	52,195	523
134	ATOTECH SLOVENIJA d.d.	31.7	91.6	85,400	78
135	GOSTOL-GOPAN d.o.o. Nova Gorica	31.5	97.6	47,729	193
136	Trelleborg Wheel Systems Moto, d.o.o.	31.2	94.5	79,359	148
137	ADRIA DOM d.o.o.	31.1	92.8	51,329	260
138	ADRIA TEHNIKA, d.o.o.	30.9	98.6	54,579	215
139	ADLES d.o.o.	30.7	96.0	612,838	11
140	WILLY STADLER d.o.o.	30.3	98.1	75,289	164

Data source: audited and consolidated annual reports for companies/groups for 2021, AJPEŠ, database

Criteria: ranking by net sales revenues generated on foreign markets in 2021. Companies and groups that are parts of larger groups were excluded. We also excluded certain holding companies that do not represent the real economy. Retail and energy companies, engineering, telecommunications and transport companies were also excluded.



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80 Fastest Growing Manufacturing Exporters (2021/2016)

Ranking	Name of company or group	Growth index of net sales revenue on foreign markets (2021/2016)	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets	Value added per employee	Number of employees 2021
1	SENSILAB d.o.o.	799.6	47.2	87.1	44,607	258
2	TEGOMETALL OPREMA TRGOVIN. d.o.o.	425.2	26.5	90.6	36,668	126
3	EKWB d.o.o.	267.5	52.6	99.2	64,430	203
4	ATHOS Elektrosistemi d.o.o.	258.3	27.7	56.8	44,218	193
5	EUREL d.o.o.	217.0	20.6	57.4	28,747	376
6	Raycap d.o.o.	213.6	44.3	84.5	94,054	238
7	Albaugh TKI d.o.o.	212.8	20.8	42.1	64,564	110
8	Gorenje. d.o.o.	209.6	1,970.7	96.4	40,606	3,512
9	SIJ RAVNE SYSTEMS d.o.o.	189.4	29.2	65.5	36,380	473
10	ZLATARNA CELJE GROUP	173.3	14.3	15.8	54,513	350
11	TOMPLAST. d.o.o.	167.0	37.0	69.8	48,649	315
12	ISKRA GROUP	165.3	127.3	66.8	45,621	1,131
13	LITOSTROJ POWER GROUP	158.4	41.1	69.1	26,658	376
14	MELTAL RADO SNEŽIČ GROUP	155.2	69.7	64.7	76,693	107
15	SYSTEMAIR d.o.o.	148.5	17.2	65.3	54,802	162
16	OMEGA AIR d.o.o. Ljubljana	144.9	28.7	80.6	43,416	325
17	INCOM d.o.o.	141.1	88.1	93.1	54,496	583
18	RLS d.o.o.	139.6	39.6	95.5	112,243	232
19	FARMTECH d.o.o.	134.7	66.2	92.2	52,522	355
20	PIRNAR d.o.o.	131.4	46.1	89.7	72,918	125
21	G4 GROUP	128.5	88.4	46.5	60,676	931
22	FOTONA d.o.o.	126.3	91.2	98.4	169,617	289
23	Gabrijel Aluminium d.o.o.	116.8	11.5	76.3	72,135	130
24	PALFINGER d.o.o.	116.4	169.1	98.5	52,473	783
25	LIV SYSTEMS d.o.o.	115.4	21.5	88.9	45,898	143
26	LEDINEK ENGINEERING d.o.o.	114.4	56.6	98.9	100,733	226
27	BIOPROD d.o.o.	109.8	25.7	100.0	27,908	168

Ranking	Name of company or group	Growth index of net sales revenue on foreign markets (2021/2016)	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets	Value added per employee	Number of employees 2021
28	TEHNOS d.o.o. Žalec	109.1	20.3	84.3	77,162	119
29	WILLY STADLER d.o.o.	108.4	30.3	98.1	75,289	164
30	PIŠEK - VITLI KRPAN. d.o.o.	107.8	36.4	82.9	75,453	246
31	ILMEST d.o.o. Nova Gorica	101.9	27.5	99.4	30,662	169
32	KOVIS-LIVARNA d.o.o.	101.8	21.7	66.5	43,467	246
33	Pivovarna Laško Union d.o.o.	101.6	57.2	34.5	118,010	543
34	Olma d.o.o.	100.6	11.4	41.4	96,329	45
35	TESNILA GK d.o.o.	100.4	12.1	79.4	56,761	129
36	ADRIA TEHNIKA. d.o.o.	98.6	30.9	98.6	54,579	215
37	ROLETARSTVO MEDLE d.o.o.	98.1	12.3	37.8	64,893	168
38	PIPISTREL d.o.o.	97.5	27.9	95.7	101,490	94
39	SILIKO d.o.o.	97.0	66.5	85.4	51,304	553
40	EHO d.o.o.	95.5	22.4	87.4	92,486	88
41	GOSTOL-GOPAN d.o.o. Nova Gorica	92.8	31.5	97.6	47,729	193
42	RONDAL d.o.o.	92.3	32.7	96.9	68,754	64
43	METALNA SENOVO d.o.o.	91.1	19.8	79.2	41,023	138
44	POLYCOM Škofja Loka d.o.o.	90.1	34.9	84.9	51,836	281
45	ISTRABENZ PLINI GROUP	87.8	13.9	14.0	69,948	371
46	PLASTA GROUP	87.7	138.6	66.1	47,512	1,107
47	CLEANGRAD d.o.o.	87.3	18.1	98.1	44,173	187
48	METREL d.d.	86.9	27.6	95.6	70,368	237

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Ranking	Name of company or group	Growth index of net sales revenue on foreign markets (2021/2016)	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets	Value added per employee	Number of employees 2021
49	FIBRAN d.o.o.	86.1	25.0	79.7	135,865	68
50	TKK d.o.o.	84.3	82.6	90.2	62,721	269
51	ISOKON. d.o.o.. Slovenske Konjice	82.7	48.3	92.2	67,626	251
52	ADRIA MOBIL GROUP	82.2	595.9	96.6	85,053	1,941
53	TEM Čatež. d.o.o.	82.1	13.1	63.7	78,401	151
54	TAJFUN PLANINA GROUP	81.6	45.0	94.7	46,052	350
55	ROSENBAUER. d.o.o.	80.4	16.0	62.6	51,434	144
56	DON DON GROUP	79.6	102.9	78.7	19,188	2,057
57	ORO MET d.o.o.	77.1	16.9	72.1	65,574	86
58	IMPOL d.o.o.	75.8	813.3	81.6	1,119,473	32
59	MAHLE Electric Drives Slovenija d.o.o.	74.0	323.7	96.0	48,437	1,865
60	FLORJANČIČ TISK d.o.o.	72.9	9.6	67.0	48,101	85
61	Sandoz d.d.	72.9	370.9	99.9	52,259	749
62	STAMPAL SB d.o.o.	69.5	17.2	98.8	62,791	71
63	FRAGMAT GROUP	68.1	16.7	29.6	30,623	438
64	TASTEPOINT GROUP	67.8	107.8	90.3	130,903	335
65	CETIS GROUP	67.3	36.5	46.6	54,118	626
66	TPV PRIKOLICE d.o.o.	66.2	17.6	87.1	48,611	98
67	STILLES d.o.o.	65.9	25.0	82.5	40,302	224
68	BSH HIŠNI APARATI d.o.o. Nazarje	65.4	434.8	91.3	55,256	1,317
69	ARMATURE d.o.o.	65.0	20.5	97.1	52,495	141

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Ranking	Name of company or group	Growth index of net sales revenue on foreign markets (2021/2016)	Net sales revenue on foreign markets, in million EUR	% of sales on foreign markets	Value added per employee	Number of employees 2021
70	LJUBLJANSKE MLEKARNE d.o.o.	64.1	71.5	39.5	57,667	594
71	INTECTIV d.o.o.	63.9	10.1	74.2	52,214	98
72	IMP PUMPS. d.o.o.	62.8	20.5	93.7	77,032	118
73	ŠTORE STEEL d.o.o.	62.4	106.3	73.5	60,620	493
74	IZOTERM PLAMA d.o.o.	62.3	10.1	76.4	51,551	68
75	AKRAPOVIČ GROUP	62.2	148.2	98.8	57,803	1,410
76	KNAUF INSULATION. d.o.o.. Škofja Loka	62.1	139.2	85.1	104,167	494
77	Varis Lendava d.o.o.	61.5	30.3	94.8	64,962	248
78	BELIMED d.o.o.	60.1	38.2	93.2	46,953	239
79	TDR LEGURE d.o.o.	59.3	14.9	96.7	74,550	49
80	SKUPINA ISKRA MEHANIZMI HOLDING	58.9	91.7	89.9	32,952	737

Data source: audited and consolidated annual reports for companies/groups for 2021. AJPES. database

Criteria: net sales revenues generated on foreign markets in 2016 above EUR 5 m. followed by ranking in the growth index 2021/2016. Companies and groups that are parts of larger groups were excluded. We also excluded certain holding companies that do not represent the real economy. Retail and energy companies. engineering. telecommunications and transport companies were also excluded.

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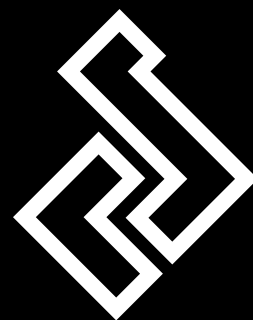
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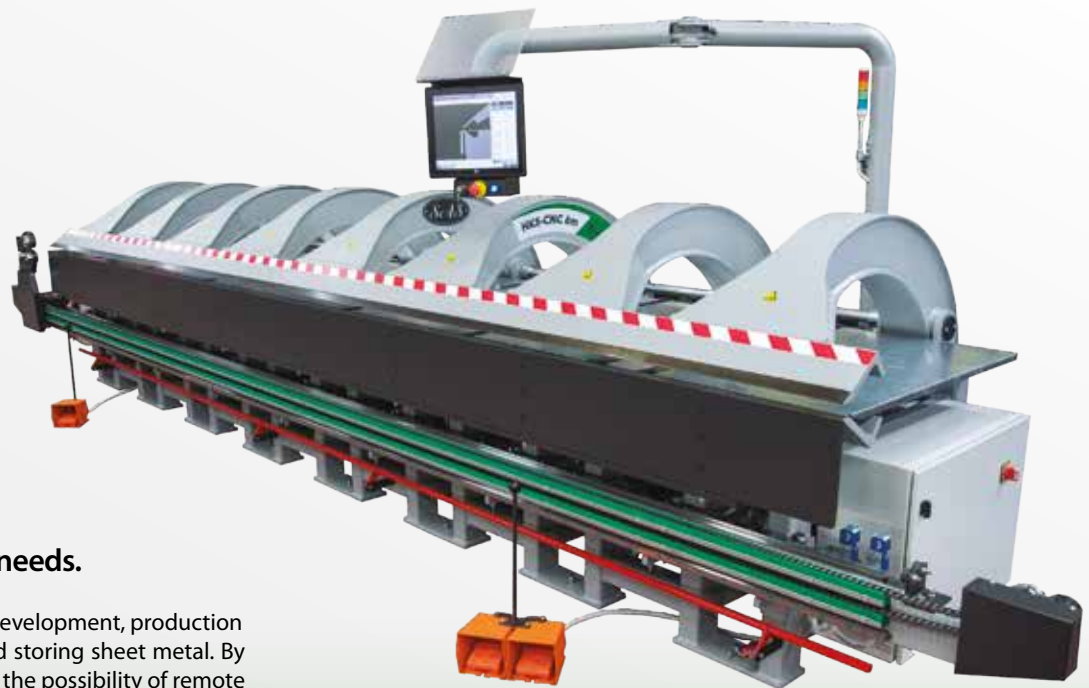
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