



REPUBLIC of CROATIA
Ministry of Economy and
Sustainable Development



Invest in Croatia Manufacturing sector



Mechanics
Robotics
Electronic and Optical Products

Invest in Croatia

Manufacturing Sector

Mechatronics

Robotics

Electronic and Optical Products

August 2021



REPUBLIC of CROATIA
Ministry of Economy and
Sustainable Development

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This publication gives general information on Croatia's investment climate and the potential in mechatronics and robotics, as well as the manufacturing of electronic and optical products in Croatia. These sectors are expected to be drivers of future growth and development because of R&D activities, innovation and added value.

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1. About Croatia



In July 2020, Croatia was admitted into the European Exchange Rate Mechanism (ERM II), a preparatory phase for euro adoption which is expected to enhance further economic growth. The Croatian Kuna observes a central rate of 7.53450 to the euro with a standard fluctuation band of $\pm 15\%$.

Capital
Zagreb

Population
4,047 million

Official language
Croatian

Land area
56,594 km²

Time zone
GMT +1

Climate
Continental and Mediterranean

Currency
Kuna (HRK)

1.1 Country factsheet

Croatia is situated in the very heart of Europe, at the crossroads of Central and Southeast Europe. With the Adriatic Sea in the west and the Danube River in the east, the country's unique geographical location offers access to global markets.

The country is organised into 21 territorial and administrative units (20 counties and the City of Zagreb, the capital, and economic and political centre). A rich history, diverse culture, safe environment and modern infrastructure make Croatia a desirable place for business and living.

2013

Croatia became a member of the European Union.

2009

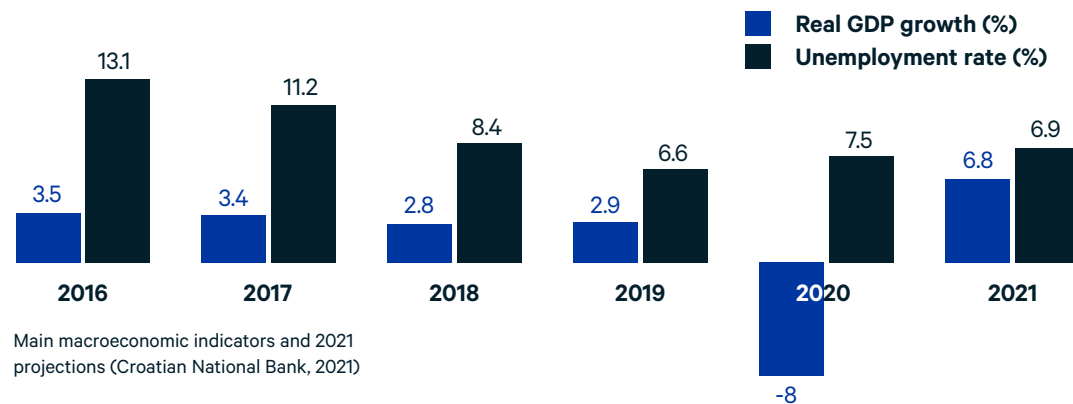
Croatia became a full member of the NATO Alliance.

2000

Croatia became a member of the World Trade Organization.

1.2 Economic stability

Croatia's GDP picked up robustly in the first quarter of 2021 (5.8% q-o-q), continuing the strong performance from the second half of 2020. On an annual basis, real GDP is forecast to grow by 6.8% in 2021 and 4.4% in 2022, largely due to positive high-frequency indicators concerning consumption, construction, industry and tourism prospects.



Main macroeconomic indicators and 2021 projections (Croatian National Bank, 2021)

In 2020, over EUR 24 billion worth of goods and services were imported into Croatia from all around the world, and EUR 20 billion worth of goods and services were exported. In all, the manufacturing sector accounts for 85% of exports, and approximately 91% of imports.

Trade of goods and services
(million EUR, 2020)

Import
24,130

Export
20,563

The most important trading partner of Croatia is the European Union (80% of imports and 70% of exports). The majority of exports to countries outside the European Union are to CEFTA countries, as well as to countries in Asia and the Americas.

**BBB-
Croatia's credit
ranking in 2021**

**Double
taxation
avoidance with
66 countries**

1.3 Country competitiveness

The World Bank published the 17th edition of its Doing Business Report 2020 comparing 190 world economies. Croatia is ranked in the top third after having made significant steps to jump 14 positions when compared to its ranking in the 2015 Report.

**Ease of doing business
(Ranking; 2015 - 2020)**

65 → 51

Key area of improvement in 2019:

Starting a business

Starting a business has been made easier because the request to reserve a company name and obtaining director signatures for company registration was abolished, and the minimum starting capital requirement was reduced.

Dealing with construction permits

Dealing with construction permits is less costly with the reduction of water contribution fees for the construction of warehouses.

Registering property

Croatia made it easier to transfer property by decreasing the real estate transfer tax and by reducing the time to register property title transfers.

In the WB Doing Business Report, Croatia is the best-ranked country in the *Trading across borders* category. Croatia is also identified as a country with the highest level of regulatory performance under the section *Time to comply with a VAT refund*.

1 / 190

In 2019, the World Economic Forum published the 38th edition of its Global Competitiveness Report analysing 141 countries. Croatia is recognized as a country with the largest improvement in the overall rankings in Europe compared to the 2018 Report.

Areas in which Croatia has made significant improvements are infrastructure and macroeconomic stability (Ranking: 2015 – 2019):

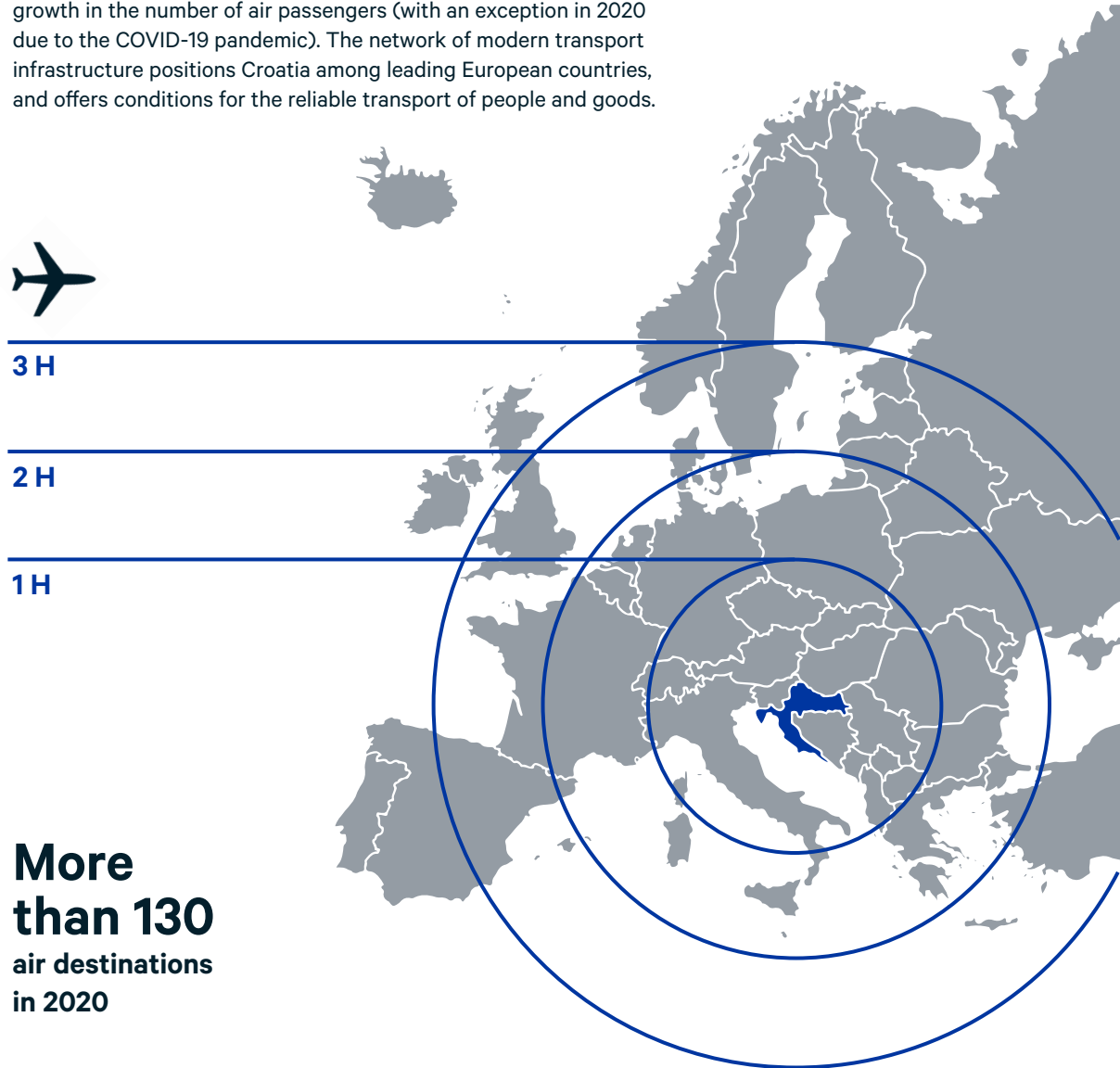
Infrastructure 46 → 32

Macroeconomic stability 107 → 43

Global competitiveness index 4.0 77 → 63

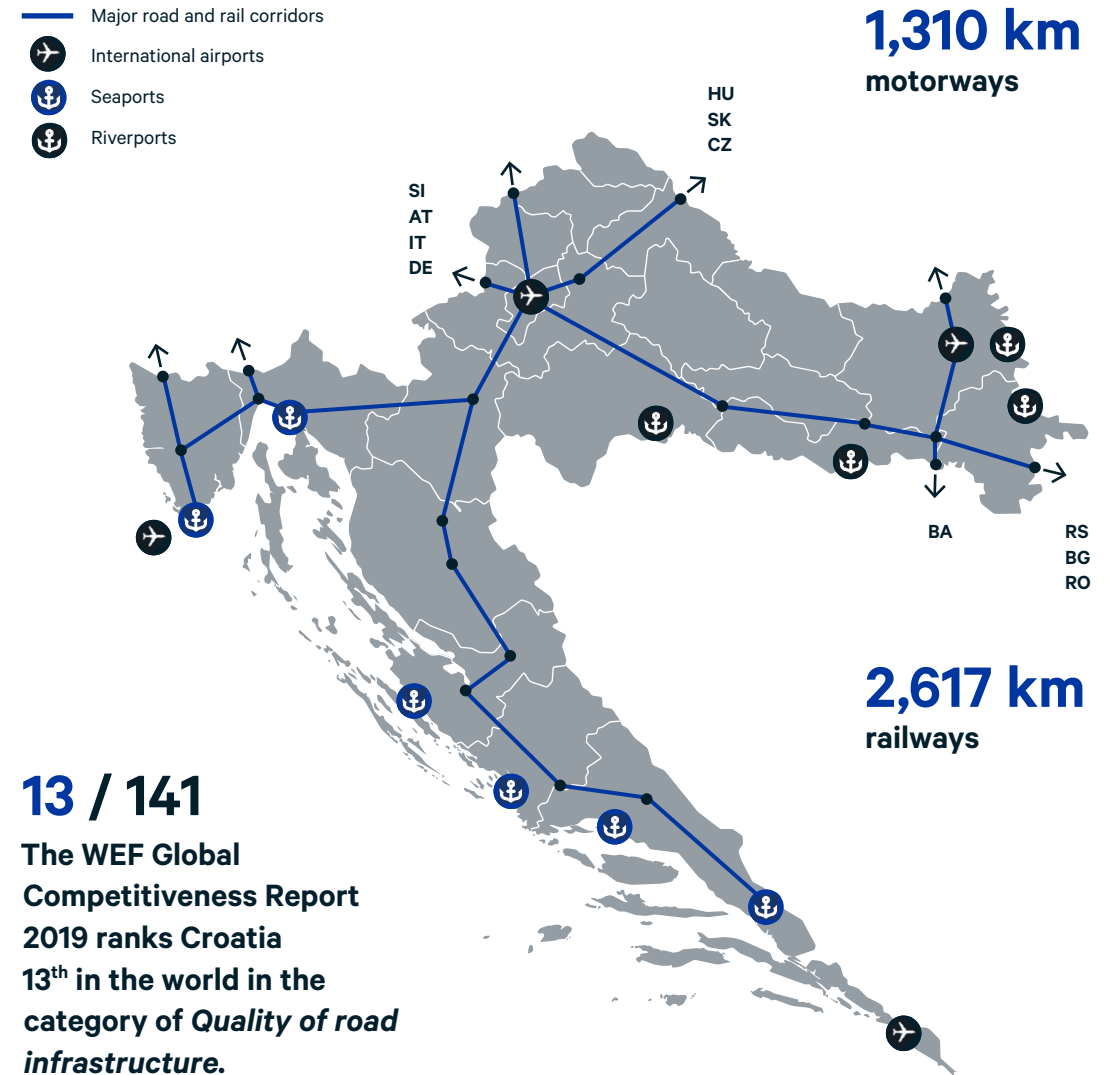
1.4 Developed infrastructure

Situated in the heart of Europe, Croatia is strategically located less than three hours by plane from all major European Capitals. As a result of significant investments in airport infrastructure, over the past few years, Croatia has experienced constant average annual growth in the number of air passengers (with an exception in 2020 due to the COVID-19 pandemic). The network of modern transport infrastructure positions Croatia among leading European countries, and offers conditions for the reliable transport of people and goods.



The motorway network in Croatia is among the best in Europe. Three PAN-EUROPEAN international corridors pass through Croatia, making it an essential European and international transport route.

- 9** International airports
- 6** Seaports
- 4** River ports



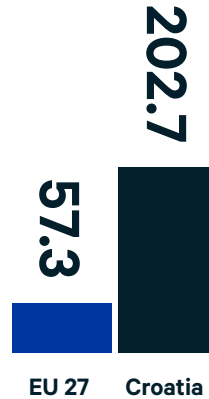
1.5 Human capital

As shown below, Croatia's human capital offers the most important qualities for market competitiveness and employability, meaning that the country has a skilled, multilingual and highly productive workforce.

Real labour productivity per person employed (index: 2020)

Measuring real labour productivity offers a clear picture of productivity developments that have taken place in the economy. Croatia is constantly above the EU average.

Real labour productivity per person employed (Eurostat, 2021)



English proficiency (ranking: 2020)

Based on research in the 10th edition of Education First, Croatia was ranked 13th place (among 100 countries) for proficiency in English, thus as a country with high proficiency. Moreover, the ranking trend shows that Croatia has improved by four places since 2018.

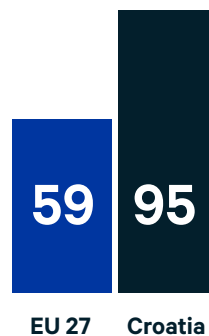


EF English Proficiency Index (Education First, 2020)

Proportion of students that learn two or more foreign languages (%; 2019)

In 2019, 95% of Croatian students in general upper secondary education learned two or more languages, whereas the EU average is 59.3%. Almost all (99.6%) students at this level were studying English as a foreign language, followed by German (63.7%) and Italian (22.2%).

Foreign language learning in the EU (Eurostat, 2021)



1.6 Quality of life

Croatia has preserved its environment and beautiful natural resources with over 400 protected areas covering around 9% of its territory. The country has two predominant climatic zones (Continental and Mediterranean), and a spectacular coastline.

Croatia ranks highly among 140 countries in terms of safety and quality of life according to the World Economic Forum's Travel and Tourism Competitiveness Report from 2019:

14th
in environmental sustainability

20th
in natural resources

22nd
in health and hygiene

23rd
in natural and cultural resources

According to the Sustainable Development Report 2021, Croatia ranks 14th among 165 countries in the Sustainable Development Goals Index.

14 / 165



2. Manufacturing sector

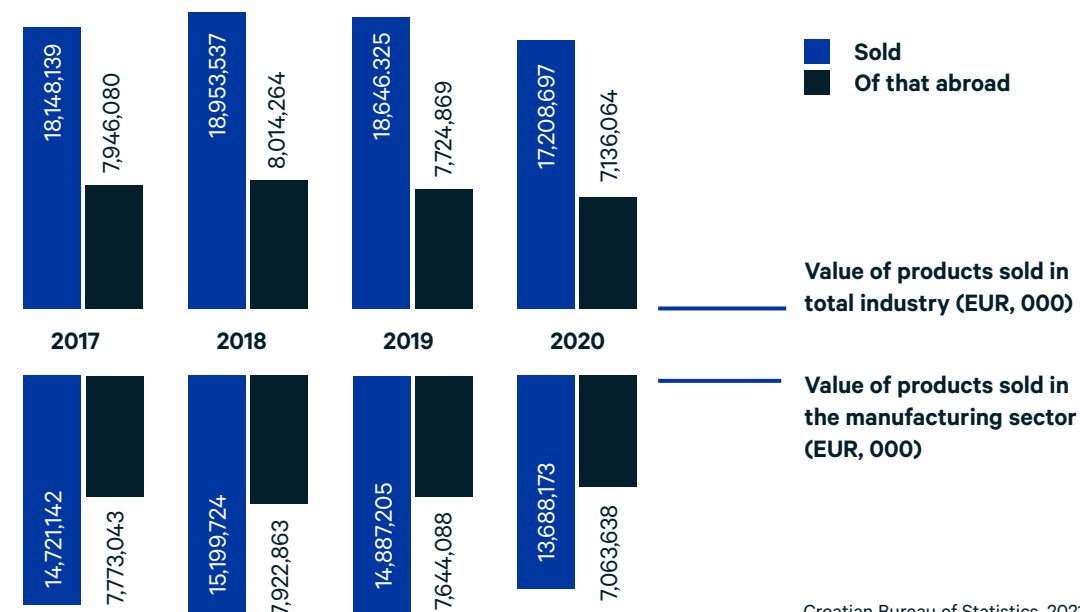
2.1 Manufacturing sector overview

Croatia's manufacturing industry plays an important role in the development and growth of the country's economy. Over 41.5% of the total value of all manufactured products is sold abroad, which in turn contributes positively to the country's balance of trade. As the largest industry sector in Croatia by total value of products sold on domestic and foreign markets, manufacturing accounted for 80% of all industrial activity in 2020.

Mechatronics, robotics, and the electronic and optical products manufacturing sectors are among those with the best prospects in Croatia, and are characterized by high growth potential. Businesses operating in these sectors focus on introducing new technologies, the professional development of human capital, manufacturing high-quality products and environmentally friendly manufacturing processes.

The diversity of production lines, innovation, the educated and trained human capital, along with a commitment to success, means that mechatronics, robotics and electronic and optical products are business opportunities with good prospects in Croatia.

Value and investments

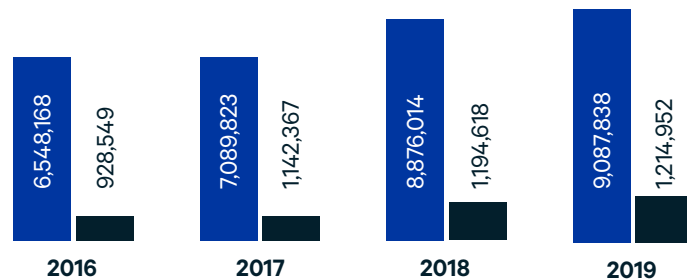


Gross investments are an indicator of a country's stability and industry potential. Total gross investments in new and existing fixed assets are steadily increasing in all industries and in the manufacturing sector, confirming that Croatia offers a positive investment environment with excellent industrial potential.

Comparison of gross investments in new and existing fixed assets in total industry and manufacturing (EUR, 000)

■ All industries
■ Manufacturing sector

Croatian Bureau of Statistics, 2020



Persons in employment

Around 230,000 persons are employed in the manufacturing sector. The largest proportions of workers are employed in the following manufacturing activities: food products (18%), fabricated metal products (13%), and wood products (except furniture) (7%).



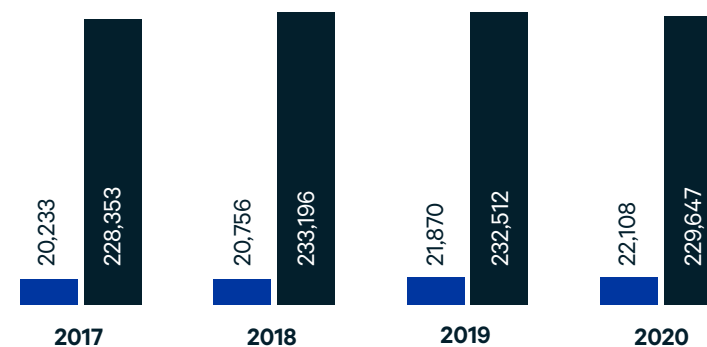
Proportion of persons employed in manufacturing by manufacturing activities (% , 2020)

Croatian Bureau of Statistics, 2020

Number of entrepreneurs and employed persons in the manufacturing sector

■ Entrepreneurs
■ Employed persons

Croatian Bureau of Statistics, FINA, 2021



In 2020, the average gross salary in the manufacturing sector in Croatia was

1,119.47 EUR

Average personnel costs, (thousand EUR per employee)



Wage adjusted labour productivity, (percentage)



Eurostat, 2021 for 2018

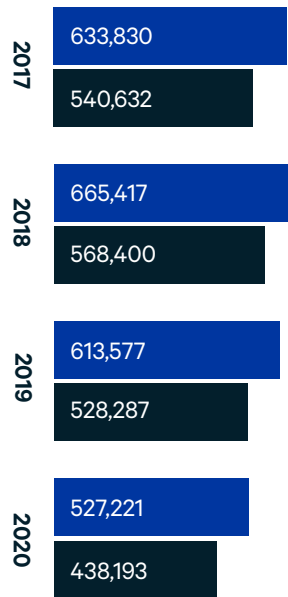
2.1.1. Mechatronics and robotics sector

Mechatronics is a complex sector that involves the efficient interplay between mechanics, robotics, electronics and IT. Mechatronics is present in various sectors such as automotive engineering, machine tool building, the electrical, medical and electronics industries, environmental technology, and others.

Robotics, as an interdisciplinary sector of engineering and science, is complementary to mechatronics. Elements of robotics can be found in most high-tech components, which enables its wide application and use.

Value of sold and exported machines and equipment (EUR, 000)

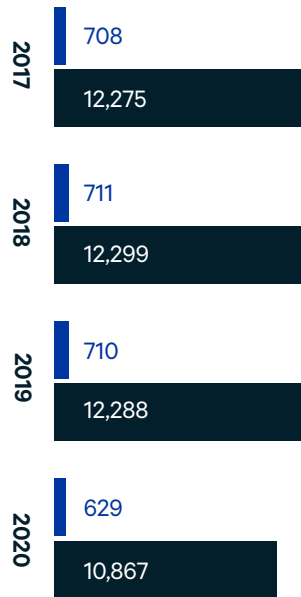
■ Sold
■ Of that abroad



Croatian Bureau of Statistics, 2021

Number of entrepreneurs and employed persons producing machines and equipment

■ Entrepreneurs
■ Employed persons



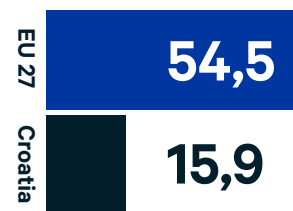
Croatian Bureau of Statistics, FINA, 2021

The mechatronics and robotics sectors in Croatia are continuously expanding and advancing. The value of their sold machinery and equipment is increasing, as well as their presence in foreign markets.

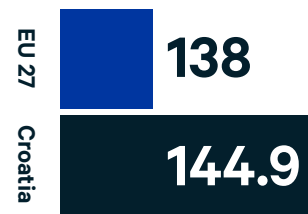
In 2020, in the manufacture of machinery and equipment in Croatia, the average gross salary was

1,231 EUR

Average personnel costs, (thousand EUR per employee)



Wage adjusted labour productivity, (percentage)



Eurostat, 2021 for 2018

2.1.2. Electronic and optical products manufacturing

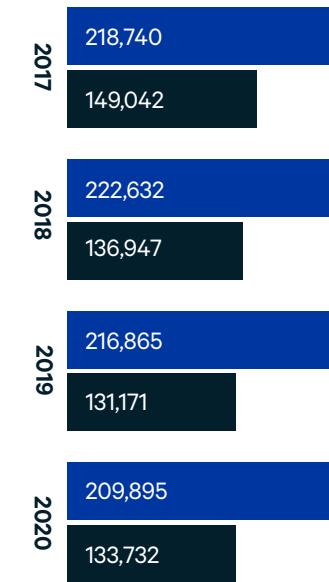
The manufacturing of electronic and optical products is one of Croatia's high-tech activities. The industry includes the production and assembly of electronic products for personal, specialized and military purposes, which in turn are used in other industrial activities.

The electronic and optical products manufacturing sector is characterized by short product life cycles, strong global demand, and a relatively strong emphasis on research and development. In response to market demand over the last six years, Croatia has been investing significant EU funds in this sector, through grants and various financial instruments, that enable companies to be more agile and responsive to market fluctuations.

In 2020, more than 60% of manufactured products in the computers, electronic and optical products sectors were exported to foreign markets.

Value of sold and exported computers and electronic and optical products (EUR, 000)

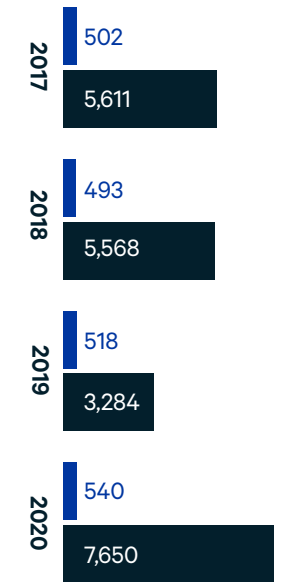
■ Sold
■ Of that abroad



Croatian Bureau of Statistics, 2021

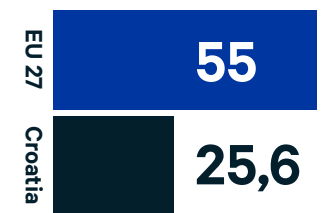
Number of entrepreneurs and employed persons producing electronic and optical products

■ Entrepreneurs
■ Employed persons



Croatian Bureau of Statistics, FINA, 2021

Average personnel costs, (thousand EUR per employee)



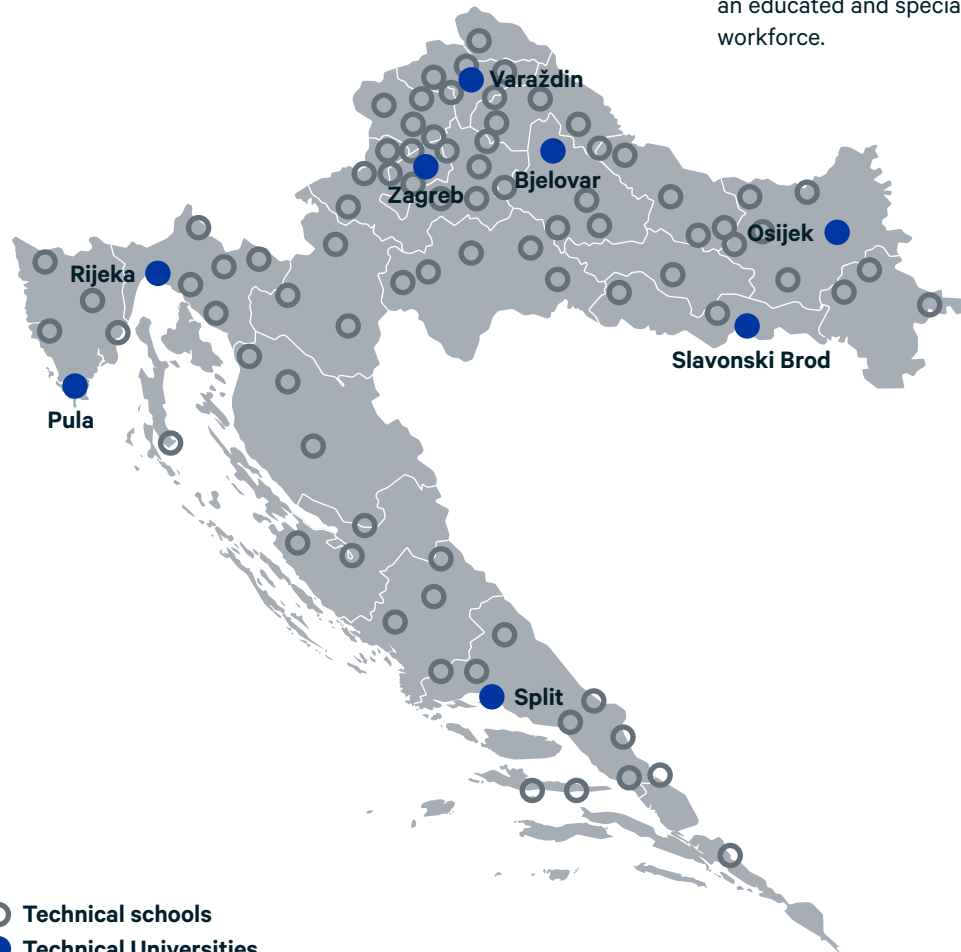
Eurostat, 2021 for 2018

2.2 Sources of qualified human capital

Croatia is increasing investments in human capital and work specialisation to continuously meet market demand.

Vocational secondary schools are a source of a highly qualified, motivated and multiskilled workforce for the mechatronics and robotics sectors, as well as the electronic and optical products manufacturing sectors.

There are 143 technical schools in the Republic of Croatia that provide education for jobs in the sectors covered by this publication. 12 of these are located within the so-called regional centres of competence, ensuring the availability of an educated and specialized workforce.



In 2020, there were 25,000 graduates (from vocational secondary schools), of which 33% graduated in the fields of engineering and manufacturing.

Number of graduates from vocational secondary schools (ISCO ED35, 2020)

Manufacturing and Processing

1,091

Engineering and Engineering Trades

7,192

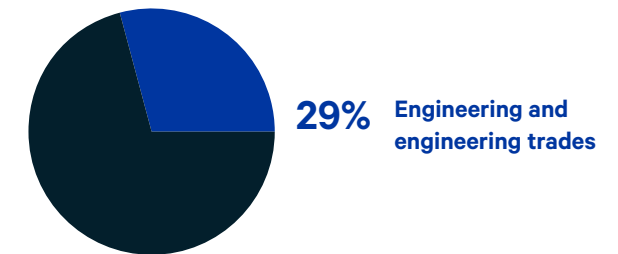
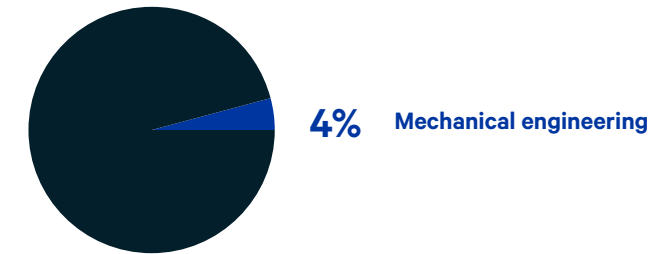
Total

25,000

Tertiary education takes place at universities and on professional study programmes. There are 119 institutions of higher education, accounting for 156,325 students, out of which 26.2% are enrolled in studies in the field of engineering.

Share of manufacturing and engineering graduates from all vocational secondary school graduates (% , 2020)

Croatian Bureau of Statistics, 2021



Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb (FSB)

One of the most respected technical faculties in Croatia is the Faculty of Mechanical Engineering and Naval Architecture at the University of Zagreb. Research and professional activities include achievements in well-established fields (engineering design, IC engines and motor vehicles, manufacturing

technologies, automation, industrial engineering, materials engineering etc.), and in the new and emerging fields of science and technology (computer engineering and simulations, mechatronics and robotics, embedded systems, medical engineering, nanotechnologies, military engineering, etc.).

Regional Centre of Excellence for Robotic Technology (CRTA), Zagreb

The Regional Centre of Excellence for Robotic Technology is part of the Faculty of Mechanical Engineering and Naval Architecture. With three new laboratories, a laboratory for autonomous systems, a laboratory for artificial intelligence, and a laboratory for medical robotics, the Regional Centre of Excellence for Robotic Technology is the reference centre for the research, development and implementation of robotic systems in Croatia. The activities of the Centre are focused on the research and development of advanced robotic applications in industry and medicine, where traditional automation and human labour need to be replaced by flexible, versatile and adaptive robotic systems.

Faculty of Electrical Engineering and Computing, University of Zagreb (FER)

One of the leading research and education institutions in Croatia in the fields of electrical engineering, computing and information and communication technologies. FER's researchers are highly competitive in the fields of artificial intelligence,

(smart and autonomous) robotics, augmented and virtual reality, machine learning, data science (big data), advanced components, biomedical engineering, telecommunications (5G), IoT, blockchain and cyber security.

FER conducts its scientific work via 35 research laboratories and five research centres. The Centre for Artificial Intelligence is the largest research centre in the area of artificial intelligence in Croatia, bringing together more than 100 researchers from 18 of FER's research laboratories. Some of the laboratories are: the Laboratory for Autonomous Systems and Mobile Robotics (LAMOR), the Laboratory for Robotics and Intelligent Control Systems (LARICS), and the Laboratory for Underwater Systems and Technologies (LABUST).

FER actively cooperates with more than 450 companies at the national and international level, such as Siemens, Ericsson, Nikola Tesla, Končar, Rimac Automobili, Gideon Brothers, Amazon, Google, Microsoft; and also with numerous SMEs and spin-offs. At this moment, around 250 research projects are being carried out at FER.

Innovation Centre Nikola Tesla (ICENT)

The Innovation Centre Nikola Tesla (ICENT), established by the Faculty of Electrical Engineering and Computing at the University of Zagreb, is a non-profit institution that conducts applied research and technology development as a basis for innovative solutions for products and services.

The Croatian Robotics Digital Innovation Hub (CROBOHUB), hosted within ICENT, helps Croatian companies to digitize their production and business through the efficient orchestration of various stakeholders in the robotic innovation ecosystem. CROBOHUB also has the role of connecting with investors, facilitating access to financing digital transformations, helping to connect users and suppliers of robotic innovations along the value chain, and fostering synergies between digital and other key technologies (such as biotechnology, advanced materials, etc.). Apart from Croatia, CROBOHUB is also recognized in the EU and is involved in several H2020 projects, which develop solutions based on digital technologies, especially for small and medium-sized companies. For example, ongoing projects include *Logistics for Manufacturing SMEs (L4MS)*, *Platform-enabled*

KITs of arTificial intelligence FOR an easy uptake by SMEs (KITT4SME), and *Network of Robotics DIHs for Agile Production (DIH²)*.

Istrian University of Applied Sciences

The Istrian University of Applied Sciences is a modern higher education institution that educates and mentors future engineers in various competitive areas. The undergraduate professional study of Mechatronics combines basic knowledge in mechanical engineering, electrical engineering, computer science, and robotics. The graduate professional study of Creative Management in Processes is based on knowledge and skills in the fields of management, entrepreneurship, organization, and informatics.

Istrian County Materials Research Centre - METRIS

Within the Istrian University of Applied Sciences operates the METRIS Research Centre, specialized in R&D projects, material quality control, expertise in the production of new or improvement in existing products, the development of technology, prototype and pilot development, scientific research, and innovation

development for SMEs. METRIS keeps the quality of its services at an outstanding level with sophisticated equipment and accreditations in accordance with EN ISO/IEC 17025

European laboratory standards. METRIS has become the regional authority in the fields of material, nanotechnology and advanced material research.

Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, University of Split (FESB)

FESB's fundamental activities are higher education, scientific research, developmental and professional work in scientific areas such as electrical engineering, mechanical engineering, naval architecture, and computing and basic technical sciences. The Faculty places a focus on scientific research with topics, programmes and research goals, such as the development of an innovative smart factory, advanced operations management and their application in the management of complex systems, modelling and optimisation of machining processes; etc.

Special projects are:

Advanced photovoltaic system (smart pv)

where the research is focused on photovoltaic systems with energy storage;

Computer vision and bio signal processing group

which encompasses the development and implementation of sensors and measuring systems for measuring anthropometric parameters, bioelectrical signals, advanced algorithms, bio-signal classification systems, advanced algorithms for the classification of unbalanced data, a system for the intelligent monitoring of visual behaviour, load-bearing sensors for monitoring respiratory system parameters, algorithms for intelligent vision control (mobile robots and aerial vehicles), data fusion algorithms, algorithms for image quality improvement (super-resolution), algorithms for 3D modelling and visualization;

Computer intelligence in recognition and support of human activities

which includes sports analysis, object detection and tracking, robotics, human-machine interaction, control and optimization, machine learning, biomechanics and GPGPU accelerated image processing.

Faculty of Electrical Engineering, Computer Science and Information Technology, University of Osijek (FERIT)

A regional leader in the field of electrical engineering, computer science and communications technologies. One of the great comparative advantages of FERIT is its close cooperation with industry and its adaptability to the needs of the economic sector, taking into account, of course, technological trends that are yet to come. An excellent example of cooperation with the economic sector is the Graduate Study Programme in Automotive Computing and Communications that was launched in 2016. This study programme was developed in cooperation with six companies in the field of automotive engineering, and has also been carried out in English since the 2019-2020 academic year. Special projects are:

Research group for intelligent systems and robotics

The Research Group for Intelligent Systems and Robotics deals with research in the fields of artificial intelligence, robotics and process automation.

One of the fields in which the group has specific competencies is machine perception or computer vision with application in the field of robotics. A second field of research relates to the improvement of the supervisory control system by metric-based learning methods in artificial intelligence.

Research group for advanced industrial systems

The Research Group for Advanced Industrial Systems conducts research in the field of electrical machinery as executive subsystems and in the fields of power electronics and measurement as control subsystems, and integrates them into industrial plant research as fundamental in industrial production. Contemporary trends in ecology, as well as the increased efficiency and optimisation of complex systems, are covered by research into the application of numerical calculations, materials and industrial ecology, following the principles of Industry 4.0.

Research group for biomedical engineering

The activities of the Research Group for Biomedical Engineering can be divided into the following areas: microelectronics, biomedical electronics, wireless

communication systems, wireless power supply, energy harvesting systems, and the application of computer vision in robotics, medicine and agriculture.

University North

University North is one of the youngest and the fastest-growing higher education institutions in Croatia, which from the academic year 2021/2022 will offer a total of 30 study programmes, among which over 80% are in STEM fields. Graduates of the University North are very successful, which is largely because students, in addition to theory, acquire a good part of their knowledge through practice and practical learning from leading experts in real-world sectors and in science.

At University North, there are laboratories for robotics, pneumatics and hydraulics; a mechanical technology laboratory, a 3D design laboratory (3D scanning and printing), a laboratory for metrology and mechanical diagnostics, a laboratory for modelling and simulation, a laboratory for renewable energy, a laboratory for the basics of electrical engineering and measurements in electrical engineering, a laboratory for process instrumentation, the

automation of machines and devices, process monitoring and visualization, a laboratory for electrical motor drives, power electronics and electrical machines, and a construction engineering laboratory.

Zagreb University of Applied Sciences

The Zagreb University of Applied Sciences (TVZ) carries out a large number of undergraduate professional study programmes together with a large number of specialist graduate professional study programmes, in the fields of mechanical engineering, mechatronics, electrical engineering, civil engineering, IT, computer science, information security, digital forensics and digital economy.

Faculty of Engineering, University of Rijeka (RITEH)

A prominent higher education, scientific and research institution, offering programmes in mechanical engineering, naval architecture, electrical engineering and computer engineering. The Faculty actively cooperates with local and international companies, from all four major technical fields which are represented in the scope of the work.

University of Slavonski Brod

The University of Slavonski Brod offers numerous study programmes, among which are Mechanical Engineering, Product and Technology Development, Production Engineering, and additionally Robotics, and Computer Science and Informatics.

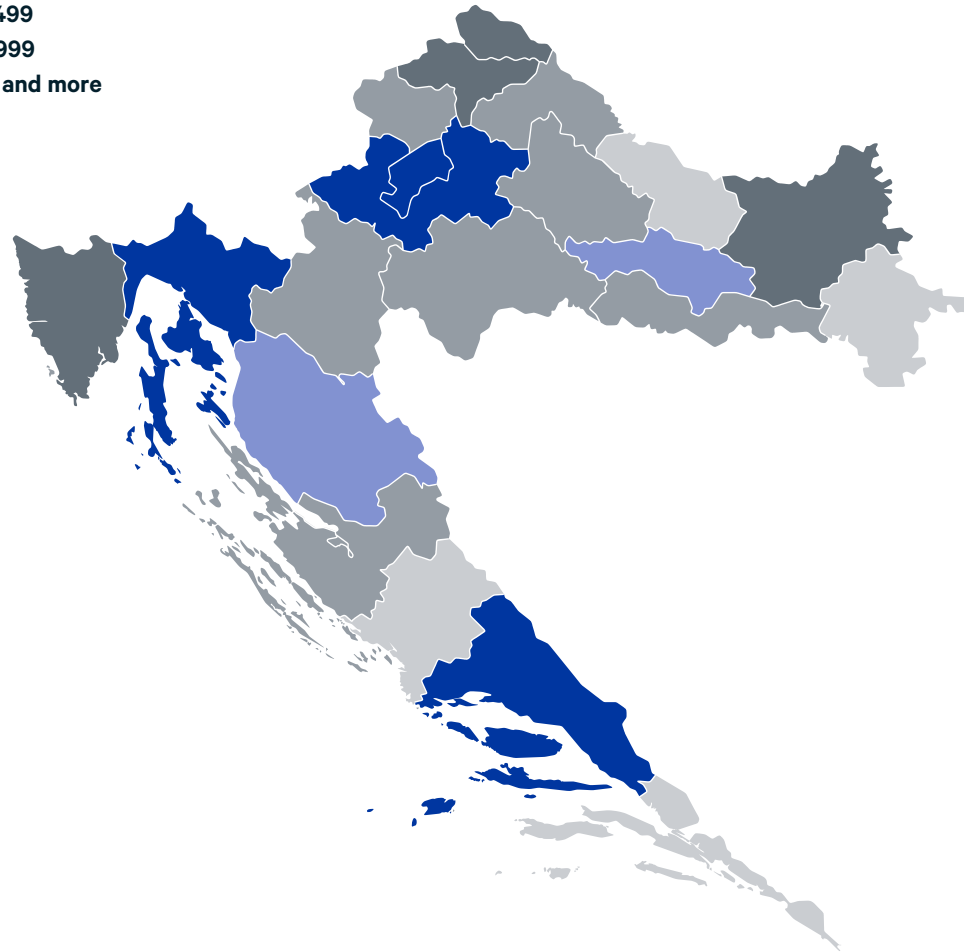
Bjelovar University of Applied Sciences

Bjelovar University of Applied Sciences provides undergraduate professional study programmes in Mechatronics and Computer Science. Its mission is to ensure high-quality education for its bachelors of Mechatronics Engineering and Computer Science, whose acquired competencies will make them competitive, and who meet the demands of industry in the region and beyond.

2.3 Success stories

Legal entities according to activity and NACE Rev.2 (2007) activity codes in Manufacturing

- to 199
- 200-349
- 350-499
- 500-999
- 1000 and more



Croatian Bureau of Statistics, 2021 for 2020

Some successful companies in these sectors:

Siemens Croatia

Siemens Croatia is part of the global Siemens Group. Siemens is the world's leading company in the field of automation, digitalization and electrification. As one of the largest manufacturers of cost-effective and energy-efficient technologies, Siemens is a leader in industry automation, infrastructure and industrial solutions, as well as providing energy distribution systems. Siemens has been present in Croatia for over 130 years, and thanks to its knowledge and experience in providing state-of-the-art technological solutions in markets around the world, Siemens Croatia is a valuable partner of the Croatian economy.

Gideon Brothers

The Croatian robotics and AI solutions company founded in 2017 specializes in the automation of material handling processes for logistics, manufacturing, and retail businesses. Gideon Brothers helps companies solve their most complex supply chain challenges: rising customer expectations, increased product variability, logistics volumes, a

growing variety of distribution channels, and labour shortages. Gideon's self-driving robots, built for unstructured, dynamic indoor and outdoor environments, are powered by proprietary spatial AI and 3D vision technology. Robots using Gideon Brothers' technology can automate complex workflows that, until now, have been considered impossible to automate efficiently. Their mobile robots work side-by-side with humans in the world's busiest warehouses and manufacturing plants. Although in its early stage, the company is already creating solutions for some of the world's leading and most demanding customers. They have been recognised with a Top Innovator award in the recent ABI Research Industrial Robotics for Material Handling Competitive Ranking

HSTec

HSTec stands for High-Speed Technique, describing their very first product line - high-speed motorized spindles. Since then, they have developed numerous customized spindles for CNC machine tools. As a result, the following tech solutions have been created: high-precision motorized grinding spindles with speeds of up to 90000 rpm, high-power milling spindles up to 100 kW, various types of

turning and drilling motorized spindles, motor spindles for dressing applications, robotic applications motor spindles, SMART spindles with real-time monitoring of bearing temperature, vibration and rotor speed, with an active balancing system, and with a spindle axial thermal growth compensation system. Advanced industrial automation is another solution/product line HSTec has to offer. Specialized machines for process automation, assembly, and quality inspection machines, tending robotic machines, hydraulically operated complex clamping devices, production process automation using industrial robots, 2D/3D machine vision. They are also able to offer excellent service for spindle repairs, redesign, and optimization of spindles of all other manufacturers.

INETEC

For thirty years INETEC has provided leading-edge technology and services in the nuclear, aerospace and healthcare industry. They have innovated robotics and software for non-destructive examination, with their products and services meeting the highest standards such as ISO 9001, ISO 14001, ISO 45001, ISO/IEC 17025 etc. INETEC operates globally and they are

proud to be a family business that is heavily investing in its standards and resources and rapidly expanding. They have collaborated on large-scale international projects that shape the future, such as ITER, DONES, NERO and others. They have gained international acclaim for developing technologies for nuclear power plant examination and repair, inspection and repair services, as well as various engineering studies that they conduct as their regular scope of activities. In doing so, INETEC is active in permanent programmes of research, development, design, construction and fabrication of equipment, tools, plugs and probes, including software and instruments for non-destructive examination. In 1991 INETEC established the INETEC NDE School and Training Centre with the purpose to train, educate, qualify and certify people in line with the requirements of SNT-TC-1A, CP-189 and the eddy current method (QDA) in accordance with EPRI Guidelines. Also, in cooperation with the International Atomic Energy Agency, they have taken part in projects, and educational and training programmes, in the field of nuclear power plants safety and reliability improvement.

DOK-ING

DOK-ING designs, produces and delivers high quality and combat-proven robotic systems for special purposes around the world. Experience gathered over more than 30 years of operational feedback is constantly being built into products. Today, there are about 400 various robotic systems of DOK-ING successfully deployed and operational in over 40 countries worldwide.

The DOK-ING business consists of producing products: military engineering, emergency response, underground mining, counterterrorism; services: development services: new products, existing products upgrade and optimisation; mine action services: mechanical demining and ground preparation, BAC, EOD, mechanical technical survey and clearance; and after-sales support: spare parts distribution, maintenance, supervision, training, life cycle extension.

ABB Croatia

ABB is a leading global technology company that encourages the transformation of society and industry to achieve a more productive and sustainable future. By connecting software to its

electrification, robotics, automation and motion portfolio, ABB pushes the boundaries of technology to drive performance to new levels. With a history of excellence stretching back more than 130 years, ABB's success is driven by about 105,000 talented employees in over 100 countries.

PIA Croatia

PIA Croatia is an intrinsic part of the PIA Group. The group has more than 50 years of experience and offers technically complex automated solutions. PIA Croatia offers a full range of services from mechanical and electrical design, machine assembly and commissioning, PLC programming and CNC machining.

Yazaki

Yazaki employs over 249,000 people worldwide in 45 countries and 143 locations. In Croatia, they are present in Zagreb with over 140 employees. Yazaki brings the current and next generation of automotive products to their customers by supplying electrical distribution systems, components, electronics, instrumentations and high voltage products.

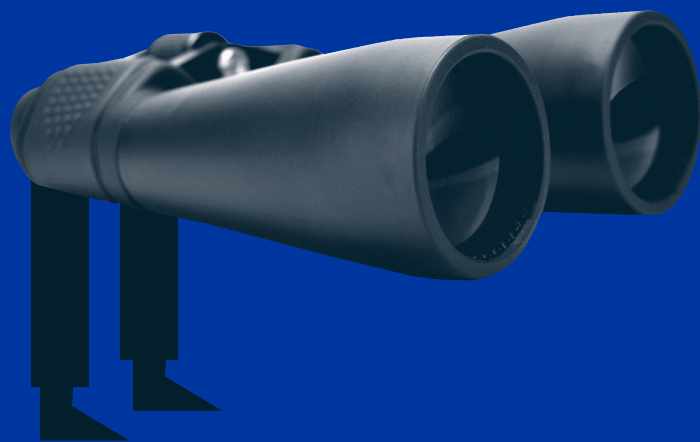
Končar

Core business areas of the KONČAR Group include energy, power engineering, traction vehicles and infrastructure, industry, digital solutions, renewable energy sources, research, development and innovations, laboratory testing and certification.

KONČAR's business activities rely on state-of-the-art manufacturing and strong social responsibility principles. All phases of their production cycle, delivery, installation and after-sales activities are aligned with the highest professional standards. In order to best respond to customer needs and the challenges of contemporary global markets, KONČAR has built a team of highly educated experts, while fostering a culture of lifelong learning and the upskilling of all employees. Research, development and innovation drive KONČAR's business, providing them with the expertise, competencies and technology required to carry out projects independently or with partners. Focused on digital transformation, they are setting the course for cyber security solutions.

SELK

SELK has been on the Croatian market for more than 40 years. SELK d.d. today operates as a sub-contractor for TDK Electronics GmbH & Co OG Deutschlandsberg, Austria and, in accordance with the requirements of the global market, manufactures a number of highly developed electronic components such as multilayer varistors, multilayer NTC thermistors, multilayer piezo actuators and PTC's.



3. Locations ready for investment

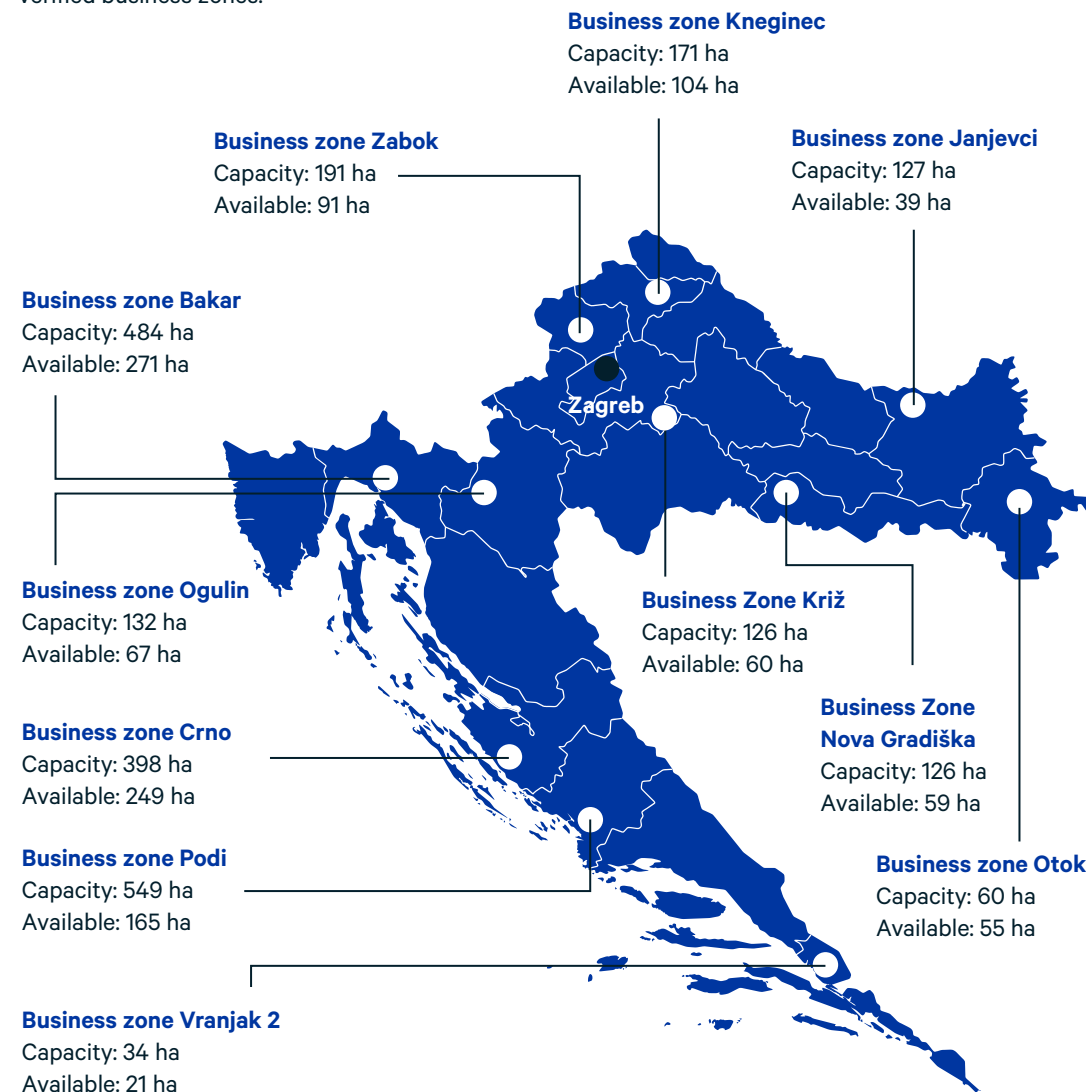
Business zones provide complete integrated infrastructure and enable entrepreneurial activities to be carried out under standardized conditions in the one location.

In Croatia, there are more than

288

verified business zones.

Some of the biggest zones in terms of capacity are shown on the map below.



4. Incentives and financing



4.1 Investment incentives

To increase foreign direct investment (FDI) and economic competitiveness, Croatia is continuously pursuing activities to improve the legislative framework. Significant reforms have been implemented and administrative procedures optimized. Likewise, Croatia offers competitive investment incentives in line with the Investment Promotion Act.

Grants for the capital cost of investments up to EUR 1,000,000

Grants for R&D up to EUR 500,000

Employment incentives up to EUR 18,000 for every new employee.

Grants for training costs covering up to 70% of employee training costs.

Tax incentives up to 100% deduction or suspension of profit tax rates for up to 10 years.

Minimum investment EUR 50,000 in fixed assets with the creation of at least three new jobs for microenterprises.

EUR 150,000 in fixed assets with the creation of at least five new jobs for small, medium and large enterprises.

EUR 50,000 in fixed assets with the creation of at least 10 new jobs in centres for the development of ICT systems and software.

EUR 500,000 for projects that invest in modernization and increase the company's business process productivity.

In addition to national measures, EU grants play a vital role in stimulating entrepreneurial activities as well as encouraging innovations and new product development, which will also be facilitated by the new EU Multiannual Financial Framework (2021 – 2027).

4.2 Access to financing

The Croatian Agency for SMEs, Innovations and Investments (HAMAG-BICRO) supports the development of small and medium-sized enterprises, improves innovation processes and encourages investments. <https://hamagbicro.hr/>

Guarantees

ESIF guarantees

ESIF Individual guarantees

Minimum guarantee amount - EUR 150,000.00

Maximum guarantee amount - EUR 1,000,000.00 (for working capital) or EUR 10,000,000.00 (for investments)

Maximum guarantee rate - 80% of the loan principal amount

ESIF Limited portfolio guarantee

Maximum guarantee amount - EUR 150,000.00

Maximum guarantee rate - 80% of the loan principal amount

National guarantees

Plus programme

Maximum guarantee amount - EUR 1,000,000.00 (for working capital) or EUR 2,000,000.00 (for investments) or up to 50% of the loan-refinancing principal.

Loans

ESIF Loans

Small loans for investments

The loan amount ranges from EUR 25,000.01 to EUR 50,000.00 with a variable interest rate of 0.1% to 0.5%, depending on the investment location.

Micro Loans for Investment

The loan amount ranges from EUR 1,000.00 to EUR 25,000.00 with a variable interest rate of 0.1% to 0.5%, depending on the investment location.

Micro Loans for Working Capital

The loan amount ranges from EUR 1,000.00 to EUR 25,000.00 with a variable interest rate of 0.5% to 1.0%, depending on the investment location.

The Croatian Bank for Reconstruction and Development (HBOR) plays the role of a development and export bank established with the aim of financing the reconstruction and development of the Croatian economy. <https://www.hbor.hr/>

Loans

Private sector investment

The maximum funding is up to 75% of the estimated value of the investment (excluding VAT). Interest rates range from a fixed 1% to a fixed 3% per annum with a repayment period of up to 17 years, grace period included.

EU projects

The maximum funding is up to 75% of the estimated value of the investment. Interest rates range from a fixed 1.70% to a fixed 1.90% per annum with a repayment period of up to 17 years, grace period included.

ESIF growth and expansion

The loan is financed by ESIF and commercial banks in a 50:50 ratio and can amount to up to EUR 3 million or, in the case of the tourism sector, up to EUR 10 million. The interest rate is 0% on the principal amount of the loan from the ESIF funds, while the principal amount of the loan from the funds of commercial banks is charged in accordance with the decision of the commercial bank. Loans are approved with a repayment

period of up to 17 years, grace period included. No customary banking fees are charged.

Private equity funds

CROGIP

The Croatian Growth Investment Programme (CROGIP) is a EUR 80 million equity investment programme launched in January 2019. EIF and HBOR have each contributed EUR 40 million to the programme, which is expected to provide a catalyst for additional private-sector investments in funds and companies.

FRC2

FRC2 Croatia Partners SCSp is a venture capital fund financed partly from ESIF Financial Instruments through cooperation with the European Investment Fund.



5. Institutional support

The Ministry of Economy and Sustainable Development is a central point for investors in the Republic of Croatia. It offers support in implementing investment projects in the following ways:

Offers all necessary information on investments in Croatia, such as analyses of the business climate and investment framework, investment opportunities (projects, business zones), investments incentives and the like;

Professional and customised assistance throughout all stages of the investment process,

Organises visits to investments sites and arranges meetings with public and private bodies,

Promotes Croatia as a business and investment destination through specific seminars and conferences on investment opportunities in Croatia, promotional materials and cooperation with partner institutions in both domestic and international markets.

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Disclaimer:

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