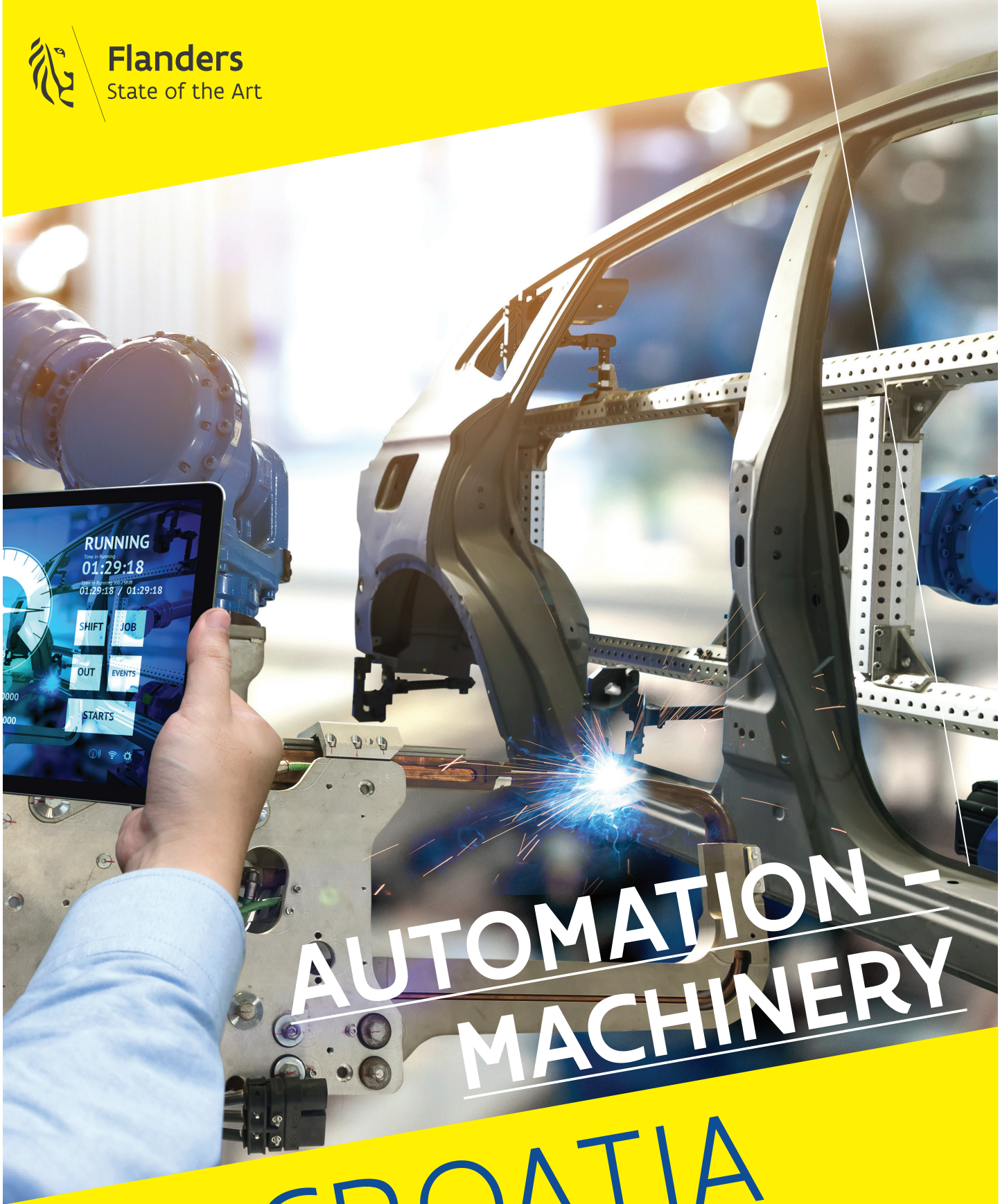




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AUTOMATION - MACHINERY

IN CROATIA

FLANDERS INVESTMENT & TRADE MARKET SURVEY

AUTOMATION

Machinery in Croatia

Report



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Introduction

With an area of 56 594 km², the Republic of Croatia is a Central European and Mediterranean country, culturally and historically linked to Central and Eastern Europe, with a good geostrategic position. It borders with Slovenia, Hungary, Serbia, Montenegro and Bosnia-Herzegovina. Moreover, Croatia has a marine border with Italy. The capital city is Zagreb, which is a political, administrative academic and economic centre and a city of culture and arts.

During the 20th century, Croatia was part of Yugoslavia, ruled under the communist system, i.e. having state-owned companies. Croatia became an independent state in 1991 when a democratic, multi-party political system was adopted and political/economic reforms were implemented.

In 2011 the estimated population was 4,284,889 million inhabitants with an average density of 75.8 inhabitants per km².

Croatia became a member of the European Union on the 1st of July 2013.

General figures

Area	56,594 km ²
Population	4,464,844 (July 2015 est.)
Capital	Zagreb
Population in Zagreb	779.000 inhabitants
Language	Croatian
Currency	Croatian Kuna (HRK)
Government	Parliamentary Democracy
President	Kolinda Grabar-Kitarović was elected for a five-year term in February 2015

Economy

Economic Index	CROATIA
Human Development Index (IDH)	0,818 (2014)
GDP growth rate in 2016	+2.7 (real, Q1 2016)
GDP per capita (nominal, 2014)	\$13,493
GDP per capita (PPP, 2015)	\$21,169
GDP (Composition by sector)	
- Agriculture	4,5%
- Industry	26,6%
- Services	68,9%

Inflation Rate	-0,8% (September 2015)
Average Monthly Salary (gross)	7,735 HRK/\$ 1190 (February 2016)
Average Monthly Salary (NET)	5,652 HRK/\$ 870 (February 2016)
Unemployment Rate	15,9% (April 2016)
Exports	\$14.04 billion (2014 est.)
Imports	\$22.90 billion (2014 est.)
Global Competitiveness Index	4.13
Main Commercial Partners	Italy Bosnia and Herzegovina Germany Slovenia Serbia
Currency	Kuna (HRK)
Average Exchange Rate/Euro	7,50 HRK
Average Exchange Rate/Dollar	6,7 HRK

Table 1: Economic Indicators of Croatia

The economy of Croatia is service-based with the tertiary sector accounting for 70% of total gross domestic product (GDP). After the collapse of socialism, Croatia went through a process of transition to a market-based economy in the 1990s, but its economy suffered badly during the Croatian War of Independence. After the war the economy began to improve: until the financial crisis of 2007–08 the Croatian economy grew at 4-5% annually, incomes doubled, and economic and social opportunities dramatically improved.

Croatia joined the World Trade Organization in 2000, NATO in 2009 and became a member of the European Union on 1 July 2013. The Croatian economy was badly affected by the financial crisis which, together with slow progress of economic reforms, resulted in six years of recession and a cumulative decline in GDP of 12,5%. Croatia formally emerged from the recession as from the end of 2014.

The industrial sector, with exports of over € 1 billion annually, is dominated by shipbuilding which accounts for over 10% of exported goods. Food processing and chemical industry also account for significant portions of industrial output and exports. The industrial sector represents 27% of Croatia's total economic output while agriculture represents 6%. The industrial sector is responsible for 25% of Croatia's GDP, with agriculture, forestry and fishing accounting for the remaining 5% of Croatian GDP.

Tourism is traditionally a notable source of income, particularly during the summer months, but also more recently during the winter months as well, due to an increase in popularity of snow sports such as skiing. With over 14 million tourists annually, tourism generates revenue to an excess

of € 8 billion. Croatia is ranked among the top 20 most popular tourist destinations in the world, and was voted world's top tourism destination in 2005 by Lonely Planet.

Economic growth has been hurt by the global financial crisis. Immediately after the crisis it seemed that Croatia did not suffer serious consequences like some other countries. However, in 2009, the crisis gained momentum and the decline in GDP growth, at a slower pace, continued during 2010. In 2011 the GDP stagnated as the growth rate was zero. Since the global crisis hit the country, the unemployment rate has been steadily increasing, resulting in the loss of more than 100,000 jobs. While unemployment was down to 9.6% in late 2007, in January 2014 it peaked at 22.4%. In 2010 the Gini coefficient was 0,32. In September 2012, Fitch ratings agency unexpectedly improved Croatia's economic outlook from negative to stable, reaffirming Croatia's current BBB rating. The slow pace of privatization of state-owned businesses and an overreliance on tourism have also been a drag on the economy.

Croatia joined the European Union on 1 July 2013 as the 28th member state. The Croatian economy is heavily interdependent on other principal economies of Europe, and any negative trends in these larger EU economies also have a negative impact on Croatia. Italy, Germany and Slovenia are Croatia's most important trade partners. In spite of the rather slow post-recession recovery, in terms of income per capita it is still ahead of some European Union member states such as Bulgaria, and Romania. In terms of average monthly wage, Croatia is ahead of 9 EU members (Czech Republic, Estonia, Slovakia, Latvia, Poland, Hungary, Lithuania, Romania, and Bulgaria).

The annual average unemployment rate in 2014 was 17.3% and Croatia has the third highest unemployment rate in the European Union, after Greece (26.5%), and Spain (24%). Of particular concern is the heavily backlogged judiciary system, combined with inefficient public administration, especially regarding the issues of land ownership and corruption in the public sector. Unemployment is regionally uneven: it is very high in Eastern and Southern parts of the country, nearing 20% in some areas, while relatively low in the North-West and in larger cities, where it is between 3 and 7%. In 2015 external debt rose by 2.7 billion euros since the end of 2014 and is now around € 49.3 billion.

Trade plays a major role in Croatian economic output. Croatia's currency is the Kuna, which was implemented in 1994 and has remained stable since.

European Economic Forecast Spring 2016				
Forecasts for Croatia	2014	2015	2016	2017
GDP growth (% , yoy)	-0,4	1,6	1,8	2,1
Inflation (% , yoy)	0,2	-0,3	-0,6	0,7
Unemployment (%)	17,3	16,3	15,5	14,7
Public budget balance (% of GDP)	-5,5	-3,2	-2,7	-2,3
Gross public debt (% of GDP)	86,5	86,7	87,6	87,3
Current account balance (% of GDP)	1,1	5,1	4,4	4,0
Full forecasts for Croatia			3 May 2016 European Commission Institutional Papers 25 2016	

Source: http://ec.europa.eu/economy_finance/eu/countries/croatia_en.htm

Croatian industrial automation overview

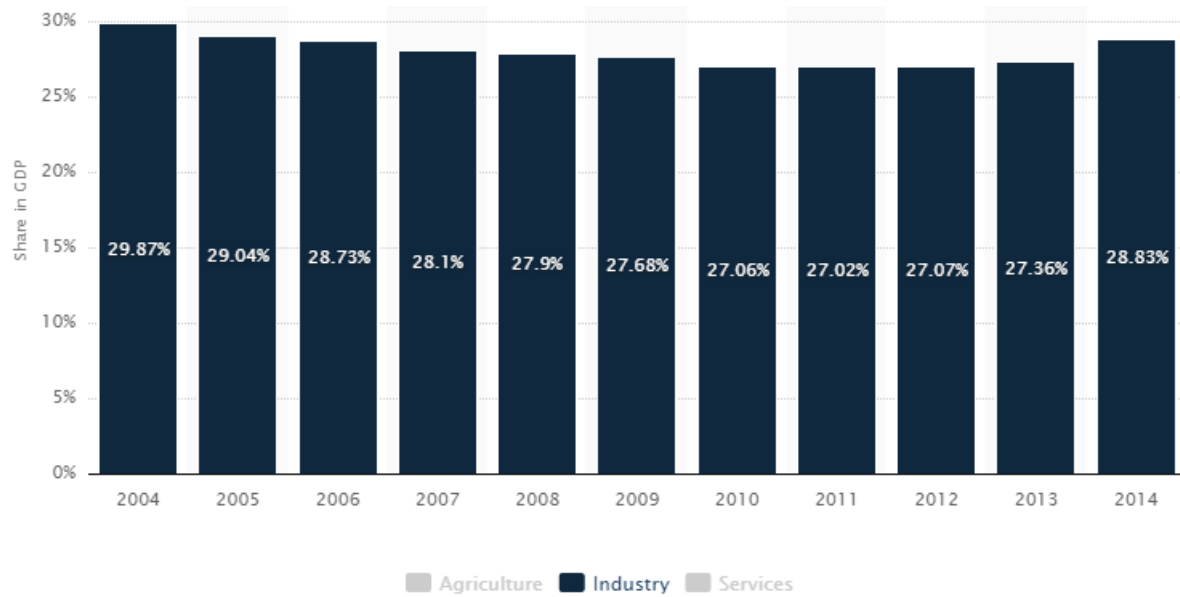
The Croatian industrial sector is intensively changing and the effects of the full scale and strategically thought out restructuring of this sector are evident in many areas, from privatization to the strengthening of exports to Western markets, development of new products and innovations to existing products and manufacturing processes, to increasing the level and standardization of quality, satisfying environmental protection conditions, reaching cost effectiveness, etc.

Between 2009 and 2012 real GDP decreased by 11%, private consumption by 35%, investments by 11%, and industrial production by 16%. In 2013 GDP decreased by approximately 1.0% and industrial production decreased by 2.0%

Industrial Production in Croatia increased 4.10% in June of 2016 over the same month in the previous year. Industrial Production in Croatia averaged 1.15% from 1999 until 2016, reaching an all-time high of 11.40% in March of 2007 and a record low of -12.40% in June of 2009.

Such economic performance is partly the result of a deterioration in trade conditions and of weak demand during the crisis. It could also be due to insufficient privatisation and labour market flexibility before 2012. Large-scale privatisation was completed only in the run-up to joining the EU in July 2013, mainly in the shipbuilding, railway, mail, telecommunication and energy sectors. Weak external demand in the euro area did not help recovery. This particularly affected the machinery and electrical engineering, pharmaceutical and chemical and food manufacturing sectors.

Industrial and electrical machinery goods account for around 17,8% of Croatia's total exports, and around 18% of share in Croatia's GDP.



Source: <http://www.statista.com/statistics/348751/share-of-economic-sectors-in-the-gdp-in-croatia/>

The future of Croatian industry lies in the challenge of accessing new markets, introducing modern technologies and new products, as well as forming joint ventures and strategic partnerships with foreign companies. A skilled labour force and highly educated experts in engineering and computer technology supported through technology centres at the technical schools within Croatian Universities represent a good foundation for foreign investments in advanced technologies.

Labour force

WORKING AGE POPULATION, BY ACTIVITY AND SEX

	'000					
	X. – XII. 2014.	I. – III. 2015.	IV. – VI. 2015.	VII. – IX. 2015.	X. – XII. 2015.	I. – III. 2016.
Total						
Working age population (15+)	3 613	3 612	3 601	3 600	3 597	3 595
Labour force	1 899	1 883	1 896	1 927	1 888	1 836
Persons in employment	1 552	1 543	1 602	1 629	1 584	1 554
Unemployed persons	347	340	295	297	304	282
Inactive population	1 714	1 728	1 705	1 673	1 710	1 759
%						
Activity rate	52,6	52,1	52,7	53,5	52,5	51,1
Employment/population ratio	43,0	42,7	44,5	45,3	44,0	43,2
Unemployment rate	18,3	18,1	15,5	15,4	16,1	15,4
Unemployment rate (15 - 64)	18,5	18,3	15,8	15,6	16,3	15,6
Men						
Working age population (15+)	1 725	1 724	1 718	1 718	1 717	1 716
Labour force	1 027	1 014	1 015	1 029	1 010	985
Persons in employment	841	831	859	881	860	830
Unemployed persons	186	183	157	148	150	155
Inactive population	697	710	703	689	707	731
%						
Activity rate	59,6	58,8	59,1	59,9	58,8	57,4
Employment/population ratio	48,8	48,2	50,0	51,3	50,1	48,4
Unemployment rate	18,1	18,1	15,4	14,4	14,8	15,8
Unemployment rate (15 - 64)	18,4	18,4	15,7	14,5	15,0	16,0
Women						
Working age population (15+)	1 888	1 887	1 883	1 882	1 881	1 880
Labour force	872	869	881	898	878	851
Persons in employment	711	712	743	749	724	724
Unemployed persons	161	157	138	150	154	127
Inactive population	1 016	1 018	1 002	984	1 003	1 028
%						
Activity rate	46,2	46,1	46,8	47,7	46,7	45,3
Employment/population ratio	37,6	37,8	39,5	39,8	38,5	38,5
Unemployment rate	18,5	18,1	15,7	16,7	17,6	14,9
Unemployment rate (15 - 64)	18,6	18,3	15,9	16,9	17,8	15,1

**INDICES OF INDUSTRIAL PERSONS EMPLOYED AND INDUSTRIAL LABOUR PRODUCTIVITY,
TOTAL AND ACCORDING TO NKD 2007. SECTIONS AND DIVISIONS, 2014**

	Zaposlene osobe Persons employed	Proizvodnost rada Labour productivity	
Ukupno industrija ¹⁾	98,3	103,0	Total industry ¹⁾
B Rudarstvo i vađenje	95,2	98,3	B Mining and quarrying
06 Vađenje sirove nafte i prirodnog plina	98,3	95,9	06 Extraction of crude petroleum and natural gas
08 Ostalo rudarstvo i vađenje	97,4	90,1	08 Other mining and quarrying
09 Pomoćne uslužne djelatnosti u rudarstvu	89,5	105,4	09 Mining support service activities
C Prerađivačka industrija	98,6	104,6	C Manufacturing
10 Proizvodnja prehrambenih proizvoda	96,9	105,4	10 Manufacture of food products
11 Proizvodnja pića	97,9	99,0	11 Manufacture of beverages
12 Proizvodnja duhanskih proizvoda	85,6	99,9	12 Manufacture of tobacco products
13 Proizvodnja tekstila	105,3	90,1	13 Manufacture of textiles
14 Proizvodnja odjeće	100,9	113,5	14 Manufacture of wearing apparel
15 Proizvodnja kože i srodnih proizvoda	107,4	107,9	15 Manufacture of leather and related products
16 Prerada drva i proizvoda od drva i pluta, osim namještaja; proizvodnja proizvoda od slame i pletarskih materijala	98,9	104,0	16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
17 Proizvodnja papira i proizvoda od papira	96,7	107,1	17 Manufacture of paper and paper products
18 Tiskanje i umnožavanje snimljenih zapisa	98,6	111,4	18 Printing and reproduction of recorded media
19 Proizvodnja koks i rafiniranih naftnih proizvoda	97,3	89,1	19 Manufacture of coke and refined petroleum products
20 Proizvodnja kemikalija i kemijskih proizvoda	83,9	122,5	20 Manufacture of chemicals and chemical products
21 Proizvodnja osnovnih farmaceutskih proizvoda i farmaceutskih pripravaka	102,1	110,2	21 Manufacture of basic pharmaceutical products and pharmaceutical preparations
22 Proizvodnja proizvoda od gume i plastike	108,2	115,0	22 Manufacture of rubber and plastic products
23 Proizvodnja ostalih nemetalnih mineralnih proizvoda	97,0	103,9	23 Manufacture of other non-metallic mineral products
24 Proizvodnja metala	98,7	110,0	24 Manufacture of basic metals
25 Proizvodnja gotovih metalnih proizvoda, osim strojeva i opreme	101,2	93,0	25 Manufacture of fabricated metal products, except machinery and equipment
26 Proizvodnja računala te elektroničkih i optičkih proizvoda	100,4	107,3	26 Manufacture of computer, electronic and optical products
27 Proizvodnja električne opreme	98,2	112,4	27 Manufacture of electrical equipment
28 Proizvodnja strojeva i uređaja, d. n.	100,2	106,6	28 Manufacture of machinery and equipment n.e.c.
29 Proizvodnja motornih vozila, prikolica i poluprikolica	112,8	94,9	29 Manufacture of motor vehicles, trailers and semi-trailers
30 Proizvodnja ostalih prijevoznih sredstava	90,0	113,9	30 Manufacture of other transport equipment
31 Proizvodnja namještaja	102,8	104,6	31 Manufacture of furniture
32 Ostala prerađivačka industrija	101,3	86,6	32 Other manufacturing
33 Popravlak i instaliranje strojeva i opreme	93,4	107,5	33 Repair and installation of machinery and equipment
D Opskrba električnom energijom, plinom, parom i klimatizacija	96,0	98,8	D Electricity, gas, steam and air conditioning supply
35 Opskrba električnom energijom, plinom, parom i klimatizacija	96,0	98,8	35 Electricity, gas, steam and air conditioning supply

Manufacture of machinery, appliances and transport

Introduction

The manufacture of machinery and equipment is a long established tradition in the Republic of Croatia. The company Đuro Đaković was established on February 17, 1921 as the first factory manufacturing vehicles, machines and bridges in this part of Europe. In 1956 the Faculty of Mechanical Engineering and Naval Architecture in Zagreb was opened, as was the Faculty of Metallurgy in Sisak in 1960.

Automation

Automation, robotization, industrial automation or numerical control is the use of control systems such as computers in order to control industrial machinery and processes, with the intention to replace human operators. In the field of industrialization, this is the step after mechanization. While the machinery would provide people machines that could have helped them in the physical aspects of work, automation, in addition, reduces to a large extent the need for human sensory and mental abilities.

Automation plays an increasingly important role in the global economy and everyday experience. Engineers strive to combine automated devices with mathematical and organizational tools, in order to create complex systems for the growing field of applications and human activities. An increasing number of companies is using automation to solve the problems linked to labour and flexibility with the ultimate goal of reducing the labour cost while keeping a good flexibility and being efficient. Automation is, therefore, using machines in order to reduce the labour cost, while keeping a good quality and productivity.

Production

Industrial production in Croatia, until the recession, had an important place in the overall production. The most prominent forms were manufacturing and the petrochemical industry, and shipbuilding. Some companies were closed down in the process of transition, or were damaged in the war. This mostly applies to the textile, leather, metal and timber industries. There was also significant production in the construction and energy sectors. Some industries, however, still achieve positive results and are active in foreign trade. The most common export activities are related to the processing of oil products (11.8%), motor vehicles (11.2%), chemical products (8.3%), food production (8.1%), electrical equipment 7.8%), machinery (6.2%), finished metal products (6.1%), pharmaceutical products (4.8%), clothing (2.9%), and timber and wood products (3.4%).

Source: <http://www.croatia.eu/article.php?lang=2&id=32>

**ANNUAL INDUSTRIAL PRODUCTION VOLUME INDICES TOTAL, ACCORDING TO MIGs 2009
AND ACCORDING TO NKD 2007. SECTIONS AND DIVISIONS**

2010. = 100

	2011.	2012.	2013.	2014.	
Ukupno industrija	98,8	93,3	91,6	92,7	<i>Total industry</i>
Prema GIG-u 2009.					<i>According to MIGs 2009.</i>
AI Intermedijarni proizvodi	95,4	86,3	84,8	87,7	<i>AI Intermediate goods</i>
AE Energija	91,3	87,8	91,7	86,0	<i>AE Energy</i>
BB Kapitalni proizvodi	111,4	102,0	91,3	91,7	<i>BB Capital goods</i>
CD Trajni proizvodi za široku potrošnju	94,8	89,3	88,1	91,9	<i>CD Consumer durables</i>
CN Netrajni proizvodi za široku potrošnju	100,7	98,8	96,3	99,2	<i>CN Consumer non-durables</i>
Prema područjima i odjeljcima NKD-a 2007.					<i>According to NKD 2007. sections and divisions</i>
B Rudarstvo i vađenje	95,1	80,5	78,3	73,3	<i>B Mining and quarrying</i>
06 Vađenje sirove nafte i prirodnog plina	91,5	78,0	74,4	70,2	<i>06 Extraction of crude petroleum and natural gas</i>
08 Ostalo rudarstvo i vađenje	104,3	80,8	93,4	82,0	<i>08 Other mining and quarrying</i>
09 Pomoćne uslužne djelatnosti u rudarstvu	94,4	85,0	78,3	73,9	<i>09 Mining support service activities</i>
C Prerađivačka industrija	99,9	94,6	90,8	93,6	<i>C Manufacturing</i>
10 Proizvodnja prehrambenih proizvoda	102,2	100,3	98,4	100,4	<i>10 Manufacture of food products</i>
11 Proizvodnja pića	106,4	102,1	99,9	96,8	<i>11 Manufacture of beverages</i>
12 Proizvodnja duhanskih proizvoda	87,5	85,8	75,3	64,3	<i>12 Manufacture of tobacco products</i>
13 Proizvodnja tekstila	88,9	81,3	84,9	80,6	<i>13 Manufacture of textiles</i>
14 Proizvodnja odjeće	105,1	91,1	82,0	94,0	<i>14 Manufacture of wearing apparel</i>
15 Proizvodnja kože i srodnih proizvoda	103,4	88,6	90,3	104,6	<i>15 Manufacture of leather and related products</i>
16 Prerada drva i proizvoda od drva i pluta, osim namještaja; proizvodnja proizvoda od slame i pletarskih materijala	101,1	86,1	82,9	85,3	<i>16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials</i>
17 Proizvodnja papira i proizvoda od papira	99,2	95,4	92,4	95,6	<i>17 Manufacture of paper and paper products</i>
18 Tiskanje i umnožavanje snimljenih zapisa	96,3	85,0	83,5	91,6	<i>18 Printing and reproduction of recorded media</i>
19 Proizvodnja kokska i rafiniranih naftnih proizvoda	82,7	88,0	81,4	70,6	<i>19 Manufacture of coke and refined petroleum products</i>
20 Proizvodnja kemikalija i kemijskih proizvoda	99,4	92,2	92,1	94,7	<i>20 Manufacture of chemicals and chemical products</i>
21 Proizvodnja osnovnih farmaceutskih proizvoda i farmaceutskih pripravaka	93,7	115,5	113,2	127,3	<i>21 Manufacture of basic pharmaceutical products and pharmaceutical preparations</i>
22 Proizvodnja proizvoda od gume i plastike	104,2	105,1	96,7	120,3	<i>22 Manufacture of rubber and plastic products</i>
23 Proizvodnja ostalih nemetalnih mineralnih proizvoda	97,4	90,6	89,4	90,1	<i>23 Manufacture of other non-metallic mineral products</i>
24 Proizvodnja metala	98,2	76,7	88,6	96,2	<i>24 Manufacture of basic metals</i>
25 Proizvodnja gotovih metalnih proizvoda, osim strojeva i opreme	101,6	100,4	104,0	97,9	<i>25 Manufacture of fabricated metal products, except machinery and equipment</i>
26 Proizvodnja računala te električnih i optičkih proizvoda	45,8	35,2	34,8	37,5	<i>26 Manufacture of computer, electronic and optical products</i>
27 Proizvodnja električne opreme	89,5	76,3	71,1	78,5	<i>27 Manufacture of electrical equipment</i>
28 Proizvodnja strojeva i uređaja, d. n.	130,3	92,1	92,0	98,2	<i>28 Manufacture of machinery and equipment n. e. c.</i>
29 Proizvodnja motornih vozila, prikolica i poluprikolica	101,8	103,4	103,9	111,2	<i>29 Manufacture of motor vehicles, trailers and semi-trailers</i>
30 Proizvodnja ostalih prijevoznih sredstava	102,6	99,6	54,8	56,2	<i>30 Manufacture of other transport equipment</i>
31 Proizvodnja namještaja	104,8	98,6	97,8	105,2	<i>31 Manufacture of furniture</i>
32 Ostala prerađivačka industrija	70,9	50,9	61,3	53,8	<i>32 Other manufacturing</i>
33 Popravak i instaliranje strojeva i opreme	112,8	109,3	110,0	110,4	<i>33 Repair and installation of machinery and equipment</i>
D Opskrba električnom energijom, plinom, parom i klimatizacija	93,0	91,1	100,8	95,5	<i>D Electricity, gas, steam and air conditioning supply</i>
35 Opskrba električnom energijom, plinom, parom i klimatizacija	93,0	91,1	100,8	95,5	<i>35 Electricity, gas, steam and air conditioning supply</i>

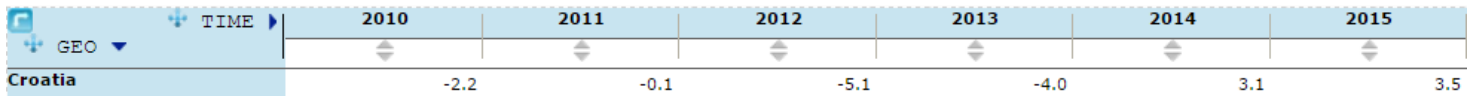
CROATIA INDUSTRIAL PRODUCTION



Croatia Business	Last	Previous	Highest	Lowest	Unit
Industrial Production	4.10	1.60	11.40	-12.40	percent
Industrial Production Mom	0.20	-1.40	9.20	-8.00	percent
Manufacturing Production	2.50	7.40	14.80	-14.90	percent
Changes in Inventories	4693.00	451.00	7566.00	-9026.00	HRK Million
Car Registrations	6136.00	5996.00	6136.00	1462.00	Cars
Business Confidence	2.50	2.90	6.50	-28.60	
Competitiveness Index	4.07	4.12	4.22	4.03	Points
Competitiveness Rank	77.00	77.00	81.00	56.00	
Ease of Doing Business	40.00	39.00	110.00	39.00	
Electricity Production	909.00	979.00	1647.00	513.00	Gigawatt-hour
Corruption Index	51.00	48.00	51.00	27.00	Points
Corruption Rank	50.00	61.00	74.00	47.00	
Mining Production	0.90	3.30	37.00	-31.70	percent
Steel Production	0.01	0.00	23.00	0.00	Thousand Tonnes

	Index of production (%)					Domestic output price index (%)				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
EU-28	6.8	3.1	-2.1	-0.5	1.1	3.1	6.1	2.8	0.0	-1.5
Euro area (EA-19)	7.3	3.4	-2.4	-0.7	0.8	2.7	5.7	2.8	-0.2	-1.5
Belgium	11.1	4.1	-2.1	0.9	1.0	5.4	8.1	3.5	0.6	-4.6
Bulgaria	2.1	5.9	-0.2	-0.1	1.7	7.1	8.6	5.3	-1.3	-0.9
Czech Republic	8.2	5.9	-0.8	0.1	5.0	1.3	5.5	2.1	0.8	-0.8
Denmark	2.0	1.9	0.1	0.4	0.8	6.4	7.8	2.5	2.2	-2.3
Germany	10.9	7.2	-0.3	0.2	1.3	1.5	5.1	1.7	0.0	-0.9
Estonia	22.9	19.7	1.5	4.2	2.4	1.7	4.6	3.4	9.9	-2.3
Ireland	7.5	-0.4	-1.5	-2.2	20.9	1.5	6.5	3.1	1.5	-0.3
Greece	-6.1	-5.8	-2.1	-3.2	-2.0	6.1	7.4	4.9	-0.7	-0.8
Spain	0.8	-1.7	-6.9	-1.7	1.3	3.7	6.9	3.8	0.6	-1.3
France	5.0	2.4	-2.6	-0.7	-1.1	2.7	5.4	2.8	0.3	-1.3
Croatia	-1.6	-1.2	-5.3	-2.0	1.3	4.3	6.4	7.0	0.4	-2.7

Production in industry – annual data



Unit of measure - Percentage change compared to same period in previous year

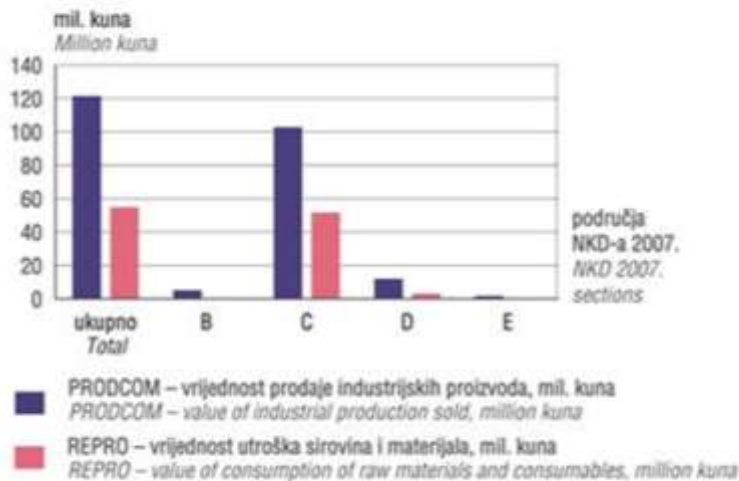
Source: Eurostat

The Gross Domestic Product (GDP) of Croatia was worth € 43,36 billion in 2015. GDP from manufacturing was € 1,27 billion, meaning the share of machine production in Croatia's GDP was 2,93%.

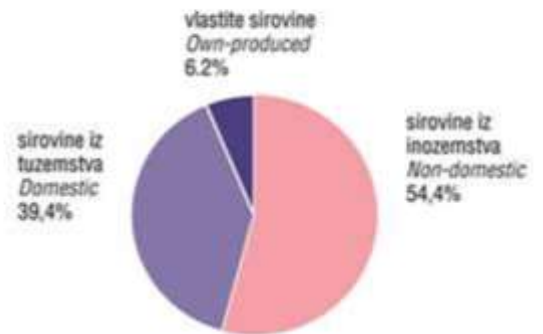
Long-term planning concerning automation should include the encouragement of investment into higher technologies, methods of production providing greater added value and knowledge commercialization.

The association in clusters will create a foundation for co-operation with foreign manufacturers of machines and appliances based on supply subcontracts, which would also enable penetration in foreign markets. The starting point for these initiatives are manufacturers' associations within the Croatian Chamber of Economy, especially the Shipbuilding Industries Affiliation and the Affiliation of Manufacturers of Parts and Accessories for the Automobile Industry.

COMPARISON OF VALUES OF CONSUMED RAW MATERIALS AND CONSUMABLES AS INPUTS AND INDUSTRIAL PRODUCTS SOLD, 2014



STRUCTURE OF VALUE OF CONSUMED RAW MATERIALS AND CONSUMABLES, BY ORIGIN, 2014



KoREMA

KoREMA, the Croatian Society for Communication, Computing, Electronics, Measurement and Control, is a non-governmental and non-profit organisation founded in 1992. It evolved from JUREMA, Society for Measurement, Control and Automation, and ETAN, Society for Electronics, Telecommunications, Automatics and Nuclear Technology, both societies acted in the Republic of Croatia and former Yugoslavia for 40 years.

KoREMA has offices in Split, Rijeka and Osijek and is member of the IFAC - International Federation of Automatic Control (<http://www.ifac-control.org>).

The purpose of KoREMA is:

- to promote science as well as to stimulate creativity in the area of communications, computer science, electronics, measurement, automatic control and other relevant areas of specialization;
- to participate in the creation and realization of technological development for the Republic of Croatia, by making available its broad technical expertise;
- to closely follow the development of new technologies and help in application of these;
- to provide a framework for collaboration between education and industry;
- to organize professional meetings (symposia, seminars, conferences, workshops, exhibitions, and other scientific and professional gatherings related to present problems of the profession);
- to publish and assist with the publication of proceedings, books, and other printed materials in order to spread the achievements of the profession;
- to improve collaboration with similar societies in Croatia, and national or international societies abroad;
- to exercise other activities which are within the scope of interest of KoREMA.

MIPRO

The Croatian Society for Information and Communication Technology, Electronics and Microelectronics (MIPRO) is a non-profit organization whose main mission is to cooperate with local governments and administrations for the accomplishment of economic goals, protection and forwarding of ecological, national, social and professional interests and goals.

Basic goals and tasks of MIPRO are:

- interdisciplinary consideration and solution of economic, informational, cultural, educational, technical, scientific and other problems inherent to microprocessors, microelectronics, electronics and their application in informational and production process systems,
- protection and forwarding of ecological, national, social and professional interests and goals,
- cooperation with local government and administration for the accomplishment of economic and other goals,
- additional and special education of members and others,
- publication and promotion of informational technologies,
- cooperation with other relative societies,
- organisation of the International MIPRO Convention and other conventions.

Membership:

All competent persons working in the fields promoted by MIPRO society or registered organisations interested in the activity of MIPRO, can become members. Members of MIPRO can be:

- individual member,
- registered collective member.

ENHEMS-Buildings

The global trend of rising energy prices puts buildings into focus, as the technical systems are responsible for 40% of energy consumed by mankind. Major research endeavours are performed globally in different technical areas which can contribute to buildings' energy-efficiency. ICT has a prominent role in this as it enables the incorporation of different technological solutions into a unique system adaptable to the buildings itself and different modes of its use.

The development of new services, increase in network capacity and other global trends in the ICT sector inevitably lead to the continuing increase in energy consumption, especially electricity.

The action **Enhancement of Research, Development and Technology Transfer Capacities in Energy Management Systems for Buildings (ENHEMS-Buildings)** aimed to fill the gap in the Croatian ICT base within the area of all-inclusive energy-efficient control of comfort in buildings, and unlocks the

development possibilities for own competitive solutions. In order to accomplish that, ENHEMS-Buildings joined contributions in optimal and predictive control, meteorology, open building automation systems and telecommunication systems. That is accomplished through cooperation of the action partners and associates – University of Zagreb Faculty of Electrical Engineering and Computing (FER, the applicant), Meteorological and Hydrological Service, Elma Kurtalj Ltd. and Hrvatski Telekom d.d.. The project was co-financed by the European Union through the European Regional Development Fund.

The project resulted in an electricity consumption growth reduction by 2% in 2012 compared to 2011, and a significant 5% drop in consumption in 2014 (compared to 2013).

Source: http://www.enhems-buildings.fer.hr/_news/60052/ENHEMS-Buildings-HT.pdf

Regulations

Tax System

Entrepreneurial freedom and a free market are the foundations of the Croatian economy. The Republic of Croatia guarantees the same legal position in the market to all entrepreneurs, both domestic and foreign. The Republic of Croatia also guarantees foreign investors that they can take the profits and invested capital out of the country at any time. The Croatian tax system is comparable to the tax systems of EU member countries and is based on a number of direct and indirect taxes.

Croatia honours all double taxation agreements made between former Yugoslavia and other countries and has itself concluded numerous agreements on the avoidance of double taxation.

The current Croatian tax system includes the following taxes: corporate income tax, personal income tax, value-added tax, special taxes (excise duties) on certain products (oil and refined petroleum products, tobacco products, alcoholic beverages, non-alcoholic beverages, beer, coffee, automobiles and other motor vehicles, vessels and aircraft, luxury products), tax on automobile liability and comprehensive road vehicle insurance premiums, real estate transfer tax, levies on the organization of games of chance, county, municipal and town/city taxes as part of regional and local governments' revenues.

Most imported goods originating from the EU are exempt from customs duty. Industrial robots are classified by the 8479 TBR 00 and 50 are exempt from customs duties regardless of the country of origin, transporters of goods classified in the head CT and 8428 have different maximum rates of 5% (but if from the EU exempt from customs duties). Machines also have different rates.

For more information, please visit the tax administration website: <http://www.porezna-uprava.hr/en/>

Foreign trade

Trade of machinery and transport equipment, share of exports by member state (%)

geo \ time	2010	2011	2012	2013	2014	2015
BE:Belgium	2.7	3.0	3.1	2.9	2.7	2.5
BG:Bulgaria	0.1	0.1	0.1	0.2	0.2	0.2
CZ:Czech Republic	1.6	1.8	2.0	2.0	2.0	1.9
DK:Denmark	1.4	1.4	1.2	1.2	1.2	1.2
DE:Germany	37.4	37.5	37.9	37.7	38.3	38.4
EE:Estonia	0.1	0.2	0.2	0.2	0.1	0.1
IE:Ireland	0.8	0.7	0.7	0.7	0.7	1.0
EL:Greece	0.2	0.1	0.2	0.1	0.1	0.1
ES:Spain	3.1	3.4	3.3	3.9	3.6	3.7
FR:France	11.5	10.7	10.9	10.4	10.2	10.5
HR:Croatia	0.2	0.2	0.2	0.1	0.1	0.1

Trade of machinery and transport equipment, share of imports by member state (%)

geo \ time	2010	2011	2012	2013	2014	2015
BE:Belgium	4.2	4.8	4.6	4.6	4.7	4.6
BG:Bulgaria	0.2	0.2	0.3	0.3	0.3	0.3
CZ:Czech Republic	2.7	3.1	2.9	2.7	2.8	3.1
DK:Denmark	1.1	0.9	1.0	1.1	1.2	1.1
DE:Germany	24.1	24.1	23.1	22.4	22.0	21.5
EE:Estonia	0.1	0.2	0.2	0.2	0.2	0.1
IE:Ireland	1.3	1.2	1.3	1.8	2.1	1.7
EL:Greece	1.2	0.7	0.9	0.6	0.8	0.7
ES:Spain	3.9	3.6	3.4	3.3	3.5	3.7
FR:France	8.9	9.5	10.0	10.2	10.0	9.9
HR:Croatia	0.3	0.3	0.3	0.2	0.1	0.1

Source: <http://ec.europa.eu/eurostat>

Employment figures

About 39.700 employees work in the manufacture of machines, appliances and vehicles, computers, electronic and optical products. The introduction of new technologies and restructuring has

reduced that number. One of the most important activities is the further training of employees and increasing productivity, which will certainly raise the competitiveness of this branch.

Croatian specialists in all fields who have won recognition internationally are definitely our most valuable resource and provide a solid foundation for further development, for the introduction of new manufacturing methods and technological processes, and the development of new products. It should also be pointed out that the four machine engineering and three electrical engineering faculties in Croatia (colleges) annually produce some 1,000 graduates in the fields of engineering and information technology.

Supported by the technology centres of the engineering faculties at the Universities of Zagreb, Rijeka and Split, these experts have the opportunity to develop attractive, entrepreneurially focused manufacturing programs.

Fairs

Companies, which produce machines, appliances and vehicles, actively participate in many specialized fairs in Zagreb every year. The Croatian Chamber of Economy organizes national joint attendance of their members on both domestic and international fairs depending on the interest of their members.

Particular fairs about automation in Zagreb are BIAM or Energetics Zagreb. The BIAM fair is a great opportunity for companies to present their latest offers, the most modern technological achievements and technologies in the field of machine tools, welding and material protection to trade visitors and partners.

In the age of globalization, specialization and excellence are necessary for certain sectors because the manufacturing technology requires specialized subjects so as to enable specific projects to see the light of day.

The fair offers presentations of manufacturers, distributors, service providers, new machine tools, welding equipment and material protection technologies as well as of technological solutions and materials, components, applications, flexible solutions and technologies (especially from Croatia and the region) as partners to other manufacturers, service providers, decision makers in the field of product development and innovation, procurement of materials and systems in the process of creating products/services in higher stages of completion, investors etc. Trade fairs are unavoidable venues for intense business meetings of manufacturers, experts and business people in this field.

For more information about those fairs, please visit the website of the Zagreb fair centre: <http://www.zv.hr>

Associations

The Croatian Chamber of Economy includes the very active Association of machinery and appliances, motor vehicles, trailers and semi-trailers manufacturers. The basic role of the Association is to promote activities and operation and protect interests that Croatian manufacturers have both in Croatia and abroad.

Contact Information:

- Managing Director: Vladimir Wagner, DALIT-CORP d.d., 43500 DARUVAR, Stjepana Radića 46
- Deputy Managing Director: Vladimir Hristov, ADRIADIESEL d.d., 47000 KARLOVAC, Mala Švarča 155
- Executive Secretary: Gordana Ribarić, CCE- Industry Sector, 10000 ZAGREB, Draškovićeve 45

Some members of the Associations have shown their interests through these associations:

- Association of manufacturers of spare parts and car industry supplies
- Association of railway industry
- Association of manufacturers of means for special purposes
- Association of fire prevention equipment manufacturers
- Association of agriculture, forestry and food industry equipment manufacturers
- Association of maritime equipment manufacturers