



**2014**



# Contents

	<b>Page</b>
<b>Preface</b>	3
<b>Total Survey</b>	7
<b>Reports of the Countries</b>	
Austria	15
Belgium	17
Czech Republic	20
Finland	21
France	23
Germany	29
Hungary	36
Italy	38
The Netherlands	42
Norway	43
Poland	45
Portugal	46
Slovenia	49
Spain	51
Switzerland	53
Turkey	55
United Kingdom	59
<b>Tables</b>	
Total Iron Castings, Ductile Iron Castings and Steel Castings	65
Iron Castings	71
Ductile Iron Castings	77
Steel Castings	87
Non-ferrous Metal Castings	93
Copper Alloy Castings	97
Light and Ultra-light Castings	101
Zinc	105
Other Alloy Castings	109
World Production	113
<b>Graphs</b>	117



## Preface

Once again, the CAEF - The European Foundry Association - Commission No. 7 has compiled a statistical annual entitled "The European Foundry Industry 2014" from national reports and statistical material gathered from its member countries. The main tables were supplemented by information from European foundry nations being non-members of CAEF as far as data has been available.

The publication thus presents an authentic statistical picture of the European foundry industry. All the same, data in some categories, particularly those regarding output values, have remained incomplete. Despite those inadequacies the Annual Report published by Commission No. 7 remains the most comprehensive EU-wide survey of our industry.

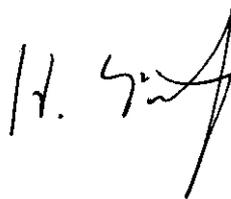
The Commission wishes to express its gratitude to all those CAEF member association representatives who helped in preparing these reports and figures.

Düsseldorf, August 2015

CAEF - The European Foundry Association



M. Schumacher  
Secretary General



H. Lickfett  
Commission No. 7, Chairman



# **TOTAL SURVEY**



## The European Foundry Industry in 2014

### The Economy and the Casting Customer Industries

#### The Macro-economic Situation

Global growth has picked up in the course of 2014. After slow growth in the first half of the year, global output accelerated in the third quarter and continued to show robust growth in the fourth quarter. The expansion is, however, still uneven. In recent months, economic growth in the advanced economies has been robust in the United States and in the United Kingdom. At the same time, the euro area economy continued to flirt with stagnation, and inflation slowed further in response to the persistently large economic slack. Japan even slipped into another recession as output did not recover from the strong decline experienced in the second quarter in the wake of the VAT increase. Growth in the emerging economies picked up somewhat late, although the underlying growth momentum is still modest.

#### Forecast

Country	Weighting (1)	Gross Domestic Product (2)		Consumer Prices (2)		Unemployment Rate (2)	
		Growth Rate in%		Growth Rate in%		In%	
		2015	2016	2015	2016	2015	2016
Austria	2.2	0.9	1.6	1.1	1.5	5.1	5.0
Belgium	2.6	1.3	1.5	0.1	0.9	8.4	8.2
Croatia	0,3	0.5	1.0	-0.9	0.9	17.3	16.9
Czech Republic	1.0	2.5	2.7	-0.1	1.3	6.1	5.7
Denmark	1.7	1.6	2.0	0.8	1.6	6.2	5.5
Finland	1.3	0.8	1.4	0.6	1.6	8.7	8.5
France	14.7	1.2	1.5	0.1	0.8	10.1	9.9
Germany	20.0	1.6	1.7	0.2	1.3	4.9	4.8
Hungary	0.7	2.7	2.3	0.0	2.3	7.6	7.4
Italy	10.9	0.5	1.1	0.0	0.8	12.6	12.3
Lithuania	0.2	2.8	3.2	-0.3	2.0	10.6	10.5
The Netherlands	4.5	1.6	1.6	-0.1	0.9	7.2	7.0
Norway	2.1	1.0	1.5	2.3	2.2	3.8	3.9
Poland	2.7	3.5	3.5	-0.8	1.2	8.0	7.7
Portugal	1.2	1.6	1.5	0.6	1.3	13.1	12.6
Slovenia	0.2	2.1	1.9	-0.4	0.7	9.0	8.3
Spain	7.4	2.5	2.0	-0.7	0.1	22.6	21.1
Sweden	2.8	2.7	2.8	0.2	1.1	7.7	7.6
Switzerland	3.0	0.8	1.2	-1.2	-0.4	3.4	3.6
Turkey	4.2	3.1	3.6	6.6	6.5	11.4	11.6
United Kingdom	16.4	2.7	2.3	0.1	1.7	5.4	5.4
CAEF	<b>100.0</b>	<b>0.1</b>	<b>1.3</b>	<b>2.1</b>	<b>1.9</b>		

(1) Source: Worldbank GDP 2014, (2) Source: IMF

### The Economic Situation in the Major Casting Customer Industries

#### Vehicle Industry

Growth on the US market speeded up greatly as the year drew to a close. The December sales volume of around 1.5 million light vehicles (passenger cars and light trucks) showed a year-on-year rise of nearly 11 per cent. This means that the market volume for the entire year 2014 expanded by 6 per cent to a good 16.4 million units, equalling the value before the crisis. Since 2009 (10.4 million light vehicles) the US market has grown continuously – by a total of 58 per cent.

## TOTAL SURVEY

---

The passenger car market in China developed extremely dynamically. The figure for 2014 as a whole was nearly 13 per cent higher than that for 2013, as sales of new vehicles reached 18.4 million units.

Over the year as a whole the market volume in Japan was 3 per cent up on 2013, because anticipation of the VAT increase in April 2014 pushed sales up in the first quarter.

Sales in India amounted for 2014 to around 2.6 million vehicles, which was nearly 1 per cent above the previous year's level.

For Russia the sales volume showed a year-on-year rise of 2 per cent. A total of 2.5 million light vehicles were sold during the year 2014 (-10 per cent).

In Brazil, new registrations of light vehicles increased by a good 5 per cent in December, rising to 354,000 units. However, this figure includes pre-buy effects triggered by the rise in the IPI sales tax scheduled for 2015. The Brazilian market finished the year 2014 with 7 per cent contraction and totalled 3.3 million newly registered vehicles.

### New Passenger Car Registrations/Sales

	January-December 2014	
	Units	Change 14/13 in%
Europe (EU28+EFTA)*	13 006 500	+5.4
European Union (EU-28)*	12 550 800	+5.7
W. Europe (EU15+EFTA)	12 113 200	+4.8
New EU Countries (EU13)*	893 200	+14.2
Russia**	2 491 400	-10.3
USA**	16 435 300	+5.8
Japan	4 699 600	+3.0
Brazil**	3 333 400	-6.9
India	2 570 500	+0.7
China	18 368 900	12.8

\* without Malta

\*\* Light Vehicles

### Mechanical Engineering Industry

In a globally uncertain environment, the turnover in the world's mechanical engineering industry grew by five percent to a new record high of estimated 2,330 billion Euros. The top-ten countries account for almost two trillion Euros.

Asia has been the most important region for mechanical engineering in terms of production since 2009. Despite rather sluggish growth in 2014, China continued to expand its unique position in global mechanical engineering by 8 percent to 826 billion Euros, which currently accounts for 35 percent of the world's mechanical engineering turnover. In Japan, South Korea, Singapore and Taiwan, mechanical engineering turnover also developed above average. The development in India disappointed once again. India slipped out of the top ten to the 13th place in world ranking in 2014.

Europe accounts for about 30 percent of the global turnover in machinery. Due to the rather feeble economic situation in the Eurozone and the negative developments in trade with and within Russia, the European mechanical engineering industry grew below average by only 1 percent. Germany, however, posted an increase of 3 percent - which corresponds to a turnover volume of 249 billion Euros and thus remains number three in the world's mechanical engineering industry after China and the USA. German mechanical engineers have been holding a market share of almost 11 percent virtually constantly for the past three years. Notably, Germany is the only country among European manufacturing nations that was able to post substantial increases in turnover compared with the record year 2008. Among the big players in terms of turnover are: Germany (number 3) and Italy (5) as well as France (7) and the United Kingdom (8).

After several years of gradual decline, America's share reached 17 percent in 2014. Over the previous year, mechanical engineering developed positively in the US. Growth in turnover amounted to 8 percent. With Brazil another country of the American continent ranks among the top ten, though Brazil's turnover dropped by eleven percent.

### **Steel industry**

World crude steel production reached 1,662 million tonnes (Mt) for the year 2014, up by 1.2% compared to 2013. In 2014, the Middle East, the smallest region for crude steel production had the most robust growth. Crude steel production in the EU (28), North America and Asia grew modestly in 2014 compared to 2013, while in the C.I.S. and South America it decreased.

Annual production for Asia was 1,132.3 Mt of crude steel in 2014, an increase of 1.4% compared to 2013. China's\* crude steel production in 2014 reached 822.7 Mt, an increase of 0.9% on 2013. China's share of world crude steel production decreased from 49.7% in 2013 to 49.5% in 2013. Japan produced 110.7 Mt in 2014, a 0.1% increase from 2013. South Korea's crude steel production was 71.0 Mt, an increase of 7.5% compared to 2013.

The EU recorded an increase of 1.7% compared to 2013, producing 169.2 Mt of crude steel in 2014. Germany produced 42.9 Mt of crude steel in 2014, up by 0.7% over 2013. Italy produced 23.7 Mt in 2014, a -1.4% decrease over 2013. France's crude steel production in 2014 was 16.1 Mt, an increase of 2.9%. Spain produced 14.2 Mt of crude steel in 2013, a decrease of -0.6% compared to 2013.

In 2014, crude steel production in North America was 121.2 Mt, an increase of 2.0% on 2013. The US produced 88.3 Mt of crude steel, up by 1.7% compared to 2013.

### **Construction Industry**

At international level, data about cyclic developments in the building industry are provided mainly by the Euroconstruct group. Expanded from a core group to include almost all Western European countries (the European Union and EFTA) and a number of Eastern European states (EU-Accession countries) it represents the European region.

Residential construction output for the EC countries increased by nearly 1 percent in 2014 (in real terms), breaking the negative trend 2012/2013. Euroconstruct expect investments in residential buildings to increase 2015-2017 with growing dynamic. Non-residential and civil engineering booked a plus in 2014 of roundabout 1%. This should be seen in the light of the fact that 2010-2013 the investments shrank by 20%.

### **The Foundry Industry**

In 2014, the iron, steel and malleable foundries of the CAEF member states produced 11.5 m tons of castings. Compared to the year before, this corresponds to a 0.5% decrease in production weight. The six countries that dominate the industry in terms of weight, namely Germany, France, Turkey, Italy, Spain and Poland, account for 84.9% of the production of ferrous metal castings. The production was up in Austria, Belgium, Croatia, Denmark, Hungary, Portugal, Slovenia, Spain, Turkey and the United Kingdom. Germany was able to nearly hold the 2013 level. All other CAEF member countries registered a smaller production volume.

In 2014, non-ferrous metal foundries in the CAEF member states booked a production increase of 5.5% to 3.8 m tons. In the countries that dominate the production of non-ferrous metal castings, namely Germany and Italy, the output was up for Germany by 10.4% and by 4.3% for Italy. Together, these two countries account for 52.4% of the total volume of non-ferrous metal castings produced in the CAEF member states. In the reporting year of 2014 only Finland and Sweden booked negative growth rates.

## TOTAL SURVEY

---

The number of employees in iron, steel and malleable foundries increased in Austria, Germany, Italy, Portugal and Slovenia. Croatia could hold the number stable. In all other CAEF member countries employment was down compared to 2013.

In 2013 the non-ferrous metal sector was dominated by positive employment trends in Austria, Germany, Italy, Portugal and Slovenia. Employment was stable in Croatia. All other countries logged a negative development.

In the ferrous sector no new foundries were established. This is calculated for every country as a whole. In some cases closed foundries stand beside green field installations. In Austria, Croatia, Finland, Hungary, Italy and Slovenia the number of foundries was stable. In all other countries foundries were closed.

In the non-ferrous metal sector a stable number of foundries was reported in Croatia, Finland, Germany, Italy, Spain and the United Kingdom. For Belgium, France, Norway, Poland, Slovenia and Turkey a decreasing number of plants were logged. Despite closures in some countries new installations were ready to run.

The share of cast iron with lamellar graphite in the output total of iron, steel and malleable castings was down from 53% in 2013 to nearly 51% in 2014. Correspondingly, the share of ductile cast iron (incl. malleable castings) was up from 39% to 41%. The steel sector could hold his share in the total output with roundabout 8%.

The production of castings made of non-ferrous metal alloys is still dominated by light metals. The share was unchanged 88%. Furthermore, the share of copper alloys holds the level of 6%. Therefore not surprising the share of components made of zinc alloys was 5%.

From the data available it appears that the export quota of the iron, steel and malleable foundries increased from 44% last year to nearly 48% in 2014. Calculation base is the foreign trade report of eleven member countries. Germany is still the country that dominates the export trade in castings with a volume of nearly 1.6 m tons (-0.3%). The second place in volume, the fifth year in a row, was logged for Turkey: Turkey reported an export volume of 757 000 tons (+7.8%). France had to deal with an increase of roughly 12% (647 000 tons) followed by Spain with a volume of 576 000 tons (+1.8%).

If we consider only those CAEF member states with current figures for the previous year, the value of the iron, steel and malleable castings produced increased by 0.4%, in doing so the weight of castings was up by 2.0%. This reflects the enormous price pressure at the market despite positive growth.

From the data that was available for a year-on-year comparison, it appears that in the non-ferrous metal sector the value of production increased by 5.2% whereas the weight of castings produced was 5.9% higher. These figures are underlining the positive development of the non-ferrous production as a whole driven by the recovery at the automotive market.

## The Situation in the Casting Material Sectors

### Iron

At 5.7 m tons, the output of the CAEF member states was down by 3.2% (without figures from Lithuania, the Netherlands and Sweden). A positive growth rate was logged for Denmark, Germany, Italy, Portugal, Slovenia, Spain, Turkey and the United Kingdom. As ever, the data available for the cast-iron sector is too sketchy to allow determining the overall value of production. The output of components made of cast iron with lamellar graphite is largely destined for the motor vehicle and mechanical engineering industries. For the motor vehicle industry, the highest absorption rates were reported from Portugal (81%), Germany (68%), France (47%) and Turkey (39%) respectively. This is the same ranking as the last three years. For the mechanical engineering industry the highest shares in the output were posted for 2014 by Italy (48%), Finland (43%) and Turkey (31%). Hungary has by tradition with more than 75% the highest share but figures for 2014 were not available yet.

## **Ductile Cast Iron**

The producers of ductile cast iron (cast iron with spheroidal graphite and malleable cast iron) reported an increase of output by 3.4% to 4.7 m tons. Once again, this calculation excludes data from Sweden. The output of components made of cast iron with spheroidal graphite was up by 3.5% to roughly 4.7 m tons. At the same time, production of malleable castings increased by 1.9% (62 000 tons).

Belgium, Croatia, Denmark, France, Hungary, Italy, Portugal, Spain, Turkey and the United Kingdom had registered a growing production volume for ductile cast iron. For Poland the estimated data gave the signal that the production was stable. The other countries had to manage production losses.

Cast iron with spheroidal graphite traditionally dominates the ductile cast iron sector with an unchanged share of 99%. Correspondingly, malleable iron as a niche product holds a share of no more than approximately 1%. Nodular iron components are mainly produced in Germany, France, Turkey, Spain and Italy. Besides, Germany, Poland, Turkey and Spain dominate the production of malleable castings.

As ever, components for the motor vehicle and mechanical engineering industries predominate in the production of ductile castings, with the building industry following in third place among the customer industries. If analysing the shares of motor vehicle castings in those countries for which data are available, one sees that the highest shares are reported from Portugal at 90%, Hungary at 61% (2013), Turkey at 50% and the United Kingdom at 49%. The mechanical engineering industry holds the highest shares in output in Finland (62%), Italy at 53% and Hungary at 39% (2013). Unfortunately, it is impossible to present the share of the building industry.

In this context, it should be noted that malleable casting statistics have lost some of their meaning because in some states it is impossible to break down the figures for the ductile cast-iron sector.

## **Steel**

The output of steel castings decreased by 1.1% to 903 000 tons in 2014 (without figures for Austria). Germany, the leading producer logged a production volume 0.3% lower than the year before. For Turkey, unchanged the second in line, the production was up by 3.7%. For Belgium, France, Italy, Slovenia and Spain were increasing data reported.

In those member countries for which data for a year-on-year comparison was available, the value of the output of steel casting components increased by 4.9%, while its weight grew by 2.3%.

The number of persons employed in steel foundries was up in Belgium and Finland. Unchanged figures were reported from Croatia. In all other countries the employment decreased.

## **Non-ferrous metal castings**

The output of non-ferrous metal casting components in the CAEF member countries was up by 5.7% to 3.8 m tons. As before, the non-ferrous metal sector is dominated by Germany, Italy, Poland, France and Turkey. The first three countries hold a share of 62% in the production total, one percent point more than a year before. In Denmark, Finland and Sweden a decreasing production volume was logged. The estimated figures for Poland are standing for an unchanged production volume. All other countries had registered positive growth rates.

Traditionally, the production of non-ferrous metal castings is dominated by light metals, with the motor vehicle industry as the foremost customer. In the year covered by this report, the output of light metal castings (aluminium and magnesium) increased by 7.0% compared to 2013, reaching more than 3.3 m tons (without figures from Sweden). Together, Germany and Italy, the two major producers, account

## TOTAL SURVEY

---

for 52% of the light-metal castings. The production for these leading countries was up by 12.7% for Germany respectively by 4.0% for Italy. A negative development was reported by Denmark and Finland. Among the light metal alloys, magnesium plays a subordinate role in terms of output weight. Germany is the major producer with 14 900 tons followed by Italy (7 000 tons) and the United Kingdom (3 400 tons). For Austria no data for 2014 were available. The year before the production of magnesium castings hold a level of more than 5 000 tons.

The second most important material category in the non-ferrous metal sector is that of copper and its alloys. Because of the missing data of some countries it is difficult to estimate the real market volume. The production level is likely to be more than 240,000t. For countries with registered production for 2013 and 2014 the level was up by 6.1%. The reported volume in 2014 reached a level of more than 238 000 tons. Production decreased only in Finland, Hungary, Spain, Switzerland and the United Kingdom. Production was stable for Poland (estimated). The other countries reported a positive growth in production.

The output of zinc castings was up by 11.5% with a volume of 202 000 tons (without figures from Sweden). Italy and Germany and Turkey are the major producers, together holding a share of nearly 73% in output total. Positive growth rates were reported for Finland, Germany, Hungary and the United Kingdom. An unchanged production was reported for Croatia and Poland (estimated). The other countries logged positive growth rates.

The statistical data available for the category of 'other non-ferrous metal alloys' are fragmentary. In addition, some countries include copper and zinc in this category because there is no facility for segregating these. Therefore, it is impossible to analyse this category more extensively.

Source: IFW Kiel, ifo Munich, Worldbank, IMF, ACEA, VDA, VDMA, Eurofer, Worldsteel, CAEF

## **REPORTS OF THE COUNTRIES**



## General economic situation

Currently the global economy shows a hesitant recovery; until 2016 this trend should gain some momentum. There are still huge differences between the countries. The US shows a solid development and US-American growth expectations are twice those of the EU-28. But also in the Eurozone recovery strengthened in the second half of 2014, benefiting from the devaluation of the euro and the expected foreign trade stimuli. Emerging countries show significantly higher growth rates than industrialized countries, still their performance is below average by historical standards.

Forecasts are still risky and due to recent political tensions (Ukraine, Iraq) uncertainty has even increased. Possible risks are due to turbulences in the financial markets and an unexpectedly weak growth in countries and regions.

The economic trend could benefit, however, from expansive monetary policies, the devaluation of the euro and the significant fall in crude oil price. The "Juncker package" might also have a slightly positive impact.

The Austrian economy nearly stagnated in 2014 with 0.3% and lost its growth edge over the Eurozone and the EU-28. According to the forecast of the European Commission, Austria in 2015 and 2016 will only rank in the bottom one third of the EU-28 for its growth expectations. The WIFO (Austrian Institute for Economic Research) anticipates for 2015 a similar trend as in 2014 and projects a growth of 0,5%. Recently, growth expectations for 2016 were revised slightly upwards to 1.3%.

Since 2012 the Austrian economy has shown a marked weakness of the investment climate. Notwithstanding an already extended phase of investment restraint the investment trend will remain weak. This is reflected also by the Business Barometer of the WKO (Austrian Economic Chambers), the largest survey of Austrian trade and industry. The companies' reluctance to invest is owed to a mix of muted order intake and negative business climate. This investment backlog, especially for new investments, carries the danger that the companies in Austria will be unable to benefit fully from an economic upturn because of insufficient investments during the last few years.

Domestic exports also show a weaker trend than during previous years. Due to the speedup of global economic growth Austrian exports should grow faster again in the current year and probably also in 2016. The devaluation of the euro improves the price competitiveness vis-à-vis third countries. In the wake of an accelerated growth, imports are likely to increase, too, for which reason no positive contribution to economic growth is to be expected from foreign trade as a whole.

Despite weak growth expectations the Austrian economy is labour intensive. In 2015 the number of employees will increase by 0.8%. Employment is mainly driven by the service sector; at the same time the working hours show a downward trend. Total increase in employment is, however, insufficient to reduce the unemployment rate.

Domestic consumption will hardly provide any significant impetus for growth. The purchase power will probably benefit from the slowdown in price increases. The announced tax reform will contribute additional stimuli in 2016.

Price pressure should remain low. Inflation is clearly below 2% in 2015 but will approach again the 2% target of the ECB in 2016. Inflation in Austria is above the Eurozone average, deflation is considered rather unlikely for Austria.

Due to the predicted business trend and the expected economic policies no balanced budget (acc. to Maastricht definition) will be possible until 2016.

## Situation of the foundry industry

The total production in 2014 amounts to 317,954 t (+0.4% over 2013). Total sales of the sector increased by 5.7% with regard to 2013 to a volume of 1.41 million €.

In 2014, the total production of iron castings dropped -2.8% to 166,042 t, with sales increasing by 3.2% to nearly 479 million €.

The production of ductile cast iron achieved a volume of 108,397 t, i.e. a decline of -7.3% over 2013.

Steel castings increased by 29.4% with regard to 2013, with a production volume of 16,936 t.

Grey castings dropped -0.1% compared to 2013 and obtained a production volume of 40,709 t.

Non-iron castings registered an increase of the production volume by 4.1% and of sales by 7.1%.

## **Employment**

Employment has hardly changed in 2014. The branch provided employment to more than 7,000 persons; the number of apprentices dropped by -5.5%.

## **Incoming orders**

As already has been commented in the past, the basic trend in the Austrian foundry industry is uneven and remains unchanged. Supplies for the automotive sector show a positive order situation and production volume. New product groups and model series obtain particularly positive results. The trend is satisfactory, also thanks to new technologies.

In contrast, the complete segments for the energy sector, mechanical engineering and construction material show a negative trend. Both order intake and production have to be considered negative or at least challenging in these fields.

## **Investment plans**

Especially in the automotive industry new product series were launched and consequently investments in new production lines had to be made.

Our companies are working steadily on rationalization and efficiency enhancement projects which require investments. The Energy Efficiency Act and necessary economy measures should also generate a certain amount of investment. The general level of investments remains unchanged.

## **Personnel cost**

The collective wage agreement establishes an increase of 2.1% of actual wages and salaries.

## **Supply of raw materials and energy**

Raw material prices have shown a lateral trend in the second half of the year 2014.

The energy price index also registered a lateral trend until September of 2014 and declined from that moment till December.

In 2014, industrial electricity prices fell (survey of Energy-Control Austria) in all categories.

## **Cost development**

Our survey revealed an average cost increase of 1.52% for the whole branch.

\* \* \* \* \*

## General economic situation

Belgium's economy is forecasted to grow by 1,1 % in 2015, close to the 2014 performance (1%). The activity should get some support from falling oil prices and rising external demand. Later on, competitiveness-enhancing measures are expected to benefit Belgian companies and boost employment and investment.

Several factors will have opposite influence on the household's consumption. On the one hand, lower oil prices and low inflation in general are increasing the purchasing power. Expected improvement on the labor market will also have a positive effect, directly, through an increase in income and indirectly, through its impact on consumer confidence. On the other hand, low inflation also translates into lower wage growth, all the more as the government decided to temporarily suspend automatic wage indexation to improve competitiveness. Furthermore, consumer confidence is still relatively low at the beginning of the year. Consumption is then expected to grow by 1,0% in 2015, comparable to last year.

Outlook for investments is improving as a result of rising utilization of existing capacity, better profit margins, easing of financing conditions by the banks, and the Investment Plan for Europe. However their impact won't be fully felt before 2016. For 2015 investment of enterprises are expected to grow by 2,9%, a little faster than in 2014 (2,4%).

Export performances are expected to be supported by strengthening external demand as economic activity is accelerating in Europe. Later on, cost competitiveness should also improve from slower wage growth and reductions in social charges. In 2015, export growth is forecasted to be 3,5% (after 3,1% in 2014).

### Inflation

Inflation fell back to zero at the end of 2014 on the back of retreating energy prices (and also as a consequence of lower VAT on electricity). As the downward pressure from energy items gradually fades, the trend is expected to turn to a slow uptick in the second half of 2015. Overall, the general price level would rise by just 0,1% in 2015.

### Labour market

With respect to the labour market, a slow-paced improvement is projected, in line with subdued economic activity. An acceleration of job creation in the private sector is expected to be partially offset by reductions in public employment. Overall, the unemployment rate is estimated to fall from a ten-year peak of 8,5% in 2014 to 8,3% in 2015 and 8,1% next year.

## The situation in the major casting customer industries

	2011/2010	2012/2011	2013/2012	2014/2013	2015/2014p
Mechanical engineering	13,1%	-1,0%	-4,7%	-1,8%	1,5%
Products for construction	17,0%	-8,7%	3,0%	-0,9%	-0,5%
Automotive	11,8%	-5,9%	-7,1%	0,8%	-13%

Last year, the production of mechanical engineering decreased by about 1,8%. This fall was mainly due to the weak demand for the production of the sector, linked to business investment in Europe. The decision by few major enterprises to decrease or stop their production in Belgium also negatively affected the activity. A limited improvement is expected this year. First macro-economic expectations are better, and business investment should accelerate gradually. However this should remain relatively limited in 2015 and the impact of restructuring of enterprises in 2014 will be felt in 2015.

Therefrom, and based on a survey among Agoria members, we expect the activity of Belgian mechanical engineering to increase by 1,5%.

In the sector, products for construction, the limited drop of activity in 2014 (-0,9%), is expected to go on in 2015. However, this is mostly the outcome of the scale down of a major enterprise rather than due to the general business climate. The situation of the building sector in Belgium and Europe is slowly improving, but, as for other activities, the magnitude of this evolution will still be limited in 2015.

In the automotive sector, demand for passengers cars and commercial vehicles in Europe is picking up for almost one year. However it remains low compared to their level before the crisis. Furthermore, in Belgium the evolution in 2015 is determined by the close-down, end 2014, of the biggest assembly plant in the country. As a consequence, activity will fall sharply this year. A drop of the production by 13% is expected.

## **Developments in the foundry industry**

Production of the Belgian foundry industry settled just above 107.000 tons in 2014, recording an increase of 3,5% compared with 2013.

The quarterly profile of activity shows that it is in the 1<sup>st</sup> and 3<sup>rd</sup> quarter of the year that this development took place. During the first 3 months of 2014, the sector recorded a production of close to 31.000 tons. This is the highest level since the first quarter 2010. The 2<sup>nd</sup> quarter was slightly negative, but during the last 3 months of the year the production has been decreasing strongly (-13,4%). It is partly a compensation after a strong 3<sup>rd</sup> quarter and while the market is stagnating. The social movements that took place in Belgium in November and December also played a negative role.

### **Steel castings**

With 35.488 tons, the production of steel casting reached its highest level since the crisis. It also recorded a growth of 16,7% compared with 2013. However this performance is the result of a strong increase in only 2 plants, while most other (smaller) producers recorded a further decrease of their production.

Quarterly evolution shows that the production increased until the 3<sup>rd</sup> quarter 2014, with even an almost doubling of the production in this quarter, before losing ground during the last part of the year.

### **Iron castings**

Iron casting stays by far the biggest sub-sector of the Belgian foundry industry. In 2014, its total production reached 69.694 tons. While it is 1,9% lower than in 2013, it is still the second highest level since 2008. Approximately 1/3 of the plants show an increase in production.

On a quarterly basis, the production recorded a positive evolution only in the first 3 months of the year. The trend turned negative from the 2<sup>nd</sup> quarter on and the last part of the year was the most unfavourable, with a drop of 14,1% compared with the 4<sup>th</sup> quarter 2013.

### **Non-ferrous castings**

For a second year, the production in the non-ferrous casting has been increasing (+6,5%). Its level is now approaching 1.900 tons, the highest since 2009.

Quarterly figures are positive for the whole year, except the 2<sup>nd</sup> quarter. The 1<sup>st</sup> and the last quarter were particularly strong with increases of 25,0% and 15,7%.

## **Cost development**

### **Energy**

#### **Electricity**

According to Eurostat statistics, during the 1<sup>st</sup> half of 2014, electricity market price for industrial users decreased more in Belgium than in the EU. Prices before taxes are lower than in the EU (15%) and in the euro area (19%).

**Gas**

Market prices for industrial consumer of natural gas also decreased more in Belgium in the 1st half of 2014. Prices before tax are 20% lower than the EU and 2% lower than in the euro area.

**Raw materials**

On average for the whole year, steel prices (in euro) doubled in 2014 compared with 2013. Prices reached their lowest level in the middle of 2013, before increasing strongly between Augustus and December. During the 1st half of 2014, quotations were more stable, but still positively oriented. During the 3rd and 4th quarters, the trend accelerated again and steel prices increased strongly. In December 2014, steel prices in euro were at their highest level since august 2011. During the first month of this year, the trend reversed rapidly and prices went down by 30% between December and April. They are now at practically the same level as in April 2014.

For a majority of non-ferrous metals, average prices in 2014 were lower than in 2013. However, most quotations stabilized during the year, before starting to increase again. In the last quarter of 2014, the prices of most metals were higher than in the last 3 month of 2013. In the first months of 2015, most prices in euro were still oriented upwards. In April, only prices of nickel and antimony were lower than one year ago. For silver the difference was limited to 6%, for the other non-ferrous metal, it was between 15% (copper) and 38% (zinc).

**Wages**

In July 2014, wages in the foundry industry, as in the other sectors of the technology industry, increased by 1,4% as automatic adaption to the increase in cost of living (indexation).

For 2015, due to the temporary suspension of automatic indexation the increase will be limited to 0,19%. As a result of the ongoing cap on real growth, there won't be other wage increase in 2015.

**Outlook**

For the coming months, signals from business surveys have been improving. However, given the low starting point at the beginning of 2015, the actual impact on production may still be limited.

The assessment of received orders has clearly improved in recent months. The number of foundries regarding their orders as being "lower than normal for the period of the year" is however still close to 50%. This is more than during the first half of 2014. The demand to the enterprises of the sector is improving but is still considered as unsatisfactory by a majority of firms.

The evolution of capacity utilization is more encouraging. In April 2015, it was assessed at 80,75%. This is a sharp increase compared to January, and also the highest level since July 2011. If confirmed in the next surveys, this means that foundries may start to invest again soon.

Average secured duration of activity also increased recently. After a low level of 1,8 months in the second semester of 2014, it reached 2,4 months in March. This is still limited compared to the level on the period 2007-2014, but, together with the higher capacity utilization, this is showing that the improvement of the orders is having an impact on the production.

At the beginning of 2015, enterprises are expecting no change in their selling-prices for the next 3 months.

\*\*\*\*\*

## Foundry production

Values given in the table result from investigations of the Czech Bureau of Statistics and investigations made by the Association of Foundries of the Czech Republic.

	2007	2008	2009	2010	2011	2012	2013	expected for 2015
<b>Malleable cast iron</b>	5,427	9,734	4,068	3,145	6,951	4,307	3,722	3,500
<b>GJS</b>	49,990	73,218	60,106	52,412	67,025	58,058	53,193	55,000
<b>GJL</b>	256,566	255,054	203,238	153,344	197,666	179,394	169,456	160,000
<b>Steel</b>	116,106	97,863	97,366	57,888	94,013	94,929	76,380	75,000
<b>Fe metals total</b>	<b>428,089</b>	<b>435,869</b>	<b>364,778</b>	<b>266,789</b>	<b>365,655</b>	<b>336,688</b>	<b>302,751</b>	<b>293,500</b>
<b>Light metals</b>	101,862	69,982	52,896	65,369	80,049	77,457	88,125	90,000
<b>Other non-ferrous metals</b>	5,131	7,195	5,498	12,227	14,241	14,506	17,482	18,000
<b>Non-ferrous metals total</b>	<b>106,993</b>	<b>77,177</b>	<b>58,394</b>	<b>77,596</b>	<b>94,290</b>	<b>91,963</b>	<b>105,607</b>	<b>108,000</b>
<b>Total</b>	<b>535,082</b>	<b>513,046</b>	<b>423,172</b>	<b>344,385</b>	<b>459,945</b>	<b>428,651</b>	<b>408,358</b>	<b>401,500</b>

After historical minimum of casting production in the Czech Republic in 2010 the total production in volume of about 400 thousand tons can be expected in next period.

Even in 2014 the orders continue to slightly drop mainly for GJL castings. Total production can be expected in amount of about 300 thousand tons/year.

Demands for Al alloys castings continue to grow and namely for the automobile industry. They are the die castings of constructional platforms of automobile bodies (doors, wheel arches pillars). It can be expected that historical value of 100 thousand tons/year will be exceeded again. This amount is strengthened by the growing interest in Cu alloys castings. The given graphs are presented in a value expression:

The accurate values for 2014 have not been published by the Czech Bureau of Statistics yet but it can be expected that the production was approximately the same as in previous year. The drop of about 5 % will be in case of ferrous metals, especially of GJL. On the other hand the growing interest can be expected in case of non-ferrous metals castings, in particular in die cast Al alloys. The reason is mass introduction of weight savings in the automobile industry. Manufacture of automobile bodies, axle elements and driving units increasingly inclines towards aluminium alloys. Other non-ferrous metals – copper castings for electrical engineering industry – will continue to show slight growth of the production volume (up to 5 %).

No important changes in the production volumes can be expected in 2015. The trend of the material structure demands from previous years 2013 and 2014 will be preserved. It means a slow growth of Al castings within the range of about 3–5 %. In case of ferrous castings a further slow drop of production of GJL by about 5–7 % can be expected. Progressive methods of mould production (3DE print) are introduced in the small-lot production. The drop of the production of Fe metals should be compensated by higher demands for GJS castings; the growth by about 3–5 % is expected. But the pressure on the price of GJS castings will be a negative influence.

\* \* \* \* \*

## **The Finnish Technology Industry as a whole**

The turnover of companies in the technology industries in Finland totaled EUR 66.5 billion in 2014. This represents a growth of some two per cent from the previous year. The growth was mainly driven by the game, steel production and vehicle industries. In 2008, prior to the financial crisis, the Finnish technology industry's turnover was EUR 85.7 billion. Technology industry companies received slightly increased levels of new orders between October and December 2014 from the previous year. However, they did not quite reach the level recorded in the previous quarter. Order books have strengthened, due in particular to the ship orders received in the previous quarter. The reduction in calls for tenders towards the end of the year and the slight reduction in January indicate that the market situation remains uncertain. At the end of December, the value of order books was up 16 per cent from the corresponding period last year, and slightly above the value reported at the end of September. Judging from order trends in recent months, the turnover of technology industry companies is expected to be slightly higher in early 2015 than in the corresponding period last year.

In 2014, the number of personnel employed by Finnish technology industry companies decreased by three per cent, or almost 10,000 employees. On average, the industry employed 276,000 people in 2014. Personnel numbers continued to shrink towards the end of the year. In 2008, the industry employed a total of 326,000 people in Finland. Despite the reductions, technology industry companies recruited a total of 20,000 new employees last year. Some companies were increasing their personnel, while others were hiring new employees due to retirements and employee turnover.

## **Mechanical Engineering in Finland**

The turnover of mechanical engineering companies (machinery, metal products and vehicles) in Finland was EUR 27.2 billion in 2014, remaining unchanged year-on-year. In 2008, prior to the financial crisis, the Finnish mechanical engineering accumulated a total turnover of EUR 33.3 billion. Both new orders and order books reached higher levels between October and December than in the corresponding period year earlier. However, new orders did not quite reach the level recorded in the previous quarter. Order books have strengthened in particular due to the ship orders received in the previous quarter. Nevertheless, there are major differences between individual companies. The mechanical engineering companies that took part in the Federation of Finnish Technology Industries' survey of order books reported that the monetary value of new orders between October and December was 24 per cent higher than in the corresponding period in 2013, but 20 per cent lower than in the preceding quarter. At the end of December, the value of order books was 28 per cent higher than in the corresponding period year earlier, and slightly above the value reported at the end of September.

Judging from order trends in recent months, the turnover of mechanical engineering companies in early 2015 is expected to be slightly higher than the corresponding period last year. The number of mechanical engineering personnel in Finland dropped by 6,500 people, or five per cent, last year. On average, the industry employed 118,900 people in 2014. Personnel numbers continued to shrink towards the end of the year. In 2008, the industry employed a total of 150,100 people in Finland.

## **Metals Industry in Finland**

The turnover of metals industry companies (steel products, nonferrous metals, castings, metallic mineral mining) in Finland was approximately EUR 9.4 billion in 2013. This represents a decline of eight per cent from the previous year. In 2007, prior to the financial crisis, the corresponding turnover was EUR 12.7 billion. The production of steel products, non-ferrous metals, castings and metallic minerals last year slightly surpassed the level of 2012. Steel production increased, while the production of non-ferrous metals, castings and metallic minerals shrank. In comparison to 2012, global steel production grew by four per cent last year. In December, production was six per cent higher than one year previously. Steel production grew by six per cent in Asia last year, while it fell by two per cent in the European Union. A similar decline of two per cent was seen in North America. China, by far the largest producer, accounted for 48 per cent of global steel production in December.

Metals industry companies employed roughly 15,900 people in Finland last year. This represents a decrease of 1,400 employees, or eight per cent, from 2012. In 2008, prior to the financial crisis, the industry employed 18,100 people in Finland.

## The Foundry Industry in Finland

### Foundry industry as a whole

In the year 2014 the total production of castings decreased in Finland. The production of iron and steel castings was 63.263 tons which is almost 10 % less compared to year 2013. Metal castings production was 7.057 tons, which is about 7 % less than the previous year. The value of the casting production of Finnish foundries was 268 m€, which was 7 % less compared to year 2013. The direct export of iron and steel castings was 35 % and of non-ferrous castings 27 %.

### Grey cast iron sector in Finland

Overview of the Finnish grey cast iron production, year 2014:

	2014	2013	%
• Number of GJL foundries	12	14	
• GJL production	17.198 t	19.291 t	- 11 %
• Value of the GJL production	31,87 m€	36,99 m€	- 14 %
• Export of GJL castings	5.479 t	5.681 t	- 4 %
• Employees in iron foundries	847	1074	- 21 %

### Ductile cast iron sector in Finland

Overview of the Finnish ductile cast iron production, year 2014:

	2014	2013	%
• Number of GJS foundries	11	11	
• GJS production	33.113 t	36.977 t	- 10 %
• Value of the GJS production	73,94 m€	82,05 m€	- 10 %
• Export of GJS castings	15.228 t	18.489 t	- 18 %
• Employees in iron foundries	847	1074	- 21 %

### Steel castings sector in Finland

Overview of the Finnish steel casting production, year 2014:

	2014	2013	%
• Number of steel foundries	7	9	
• Steel casting production	12.952 t	13.865 t	- 7 %
• Value of the GS production	85,32 m€	85,42 m€	0 %
• Export of GS castings	1.157 t	2.129 t	- 46 %
• Employees in GS foundries	581	528	+ 10 %

### Non-ferrous casting sector in Finland

Overview of the Finnish non-ferrous casting production, year 2014:

	2014	2013	%
• Number of non-ferrous foundries	16	16	
• non-ferrous production	7.057 t	7.570 t	- 7 %
• Value of the non-ferrous production	76,38 m€	83,50 m€	- 9 %
• Export of non-ferrous castings	1.871 t	1.780 t	+ 5 %
• Employees in non-ferrous foundries	447	450	0 %

\* \* \* \* \*

## Economy and casting customers industries

In 2014, French automotive industry production recovered, after two years of marked reduction (around -14% in 2103). So, the French production in volume increased by +8.8% compared to 2013. In the same time, the registrations increased in Europe, pulled essentially by Spain and the United-Kingdom.

PSA and Renault maintained their market shares thanks to new models (Clio, Captur, 308, C4, 2008) mainly produced in France. Moreover, the new plan of optimization signed between the French government and the French manufacturers in 2013 should improve the productivity and some flexibility in the automotive sector.

The 2015 year will be marked by the pursuit of the growth in the European market. The production is expected to expand by 1.5%.

For the vehicles >5t, the production in volume also increased in 2014, around by +10%.

In 2013, the application of the Euro 6 standards had pushed companies to anticipate their purchases at the end of the year 2012. The Renault Trucks production in France took advantage of the 2012 destocking and had recorded a drop by -5% in 2013.

In counterpart of the plan of optimization, the French manufacturers committed to produce 1.7 million of cars in France in 2016, increasing by +10% compared with 2014. This figure includes the production of the industrials partners of Renault in France (Fiat, Nissan Mercedes).

In spite of the good performance of its client sectors (automotive, rail and aeronautics sectors), the mechanical equipment increased by only +1.5% in 20014 compared to 2013. This light growth is mainly due to the deferred investment and the unfavourable situation of the building sector. The mechanical equipment should make progress in 2015. The mining, mineral, lifting and handling materials should stay at a steady level.

## Macroeconomic developments

After stagnating in the first half of 2014, economic activity picked up slightly over the summer. Real GDP growth is projected to continue at a slow pace in 2015 and gain slightly more momentum in 2016, rising by only 0.4% in 2014, 0.8% in 2015 and 1.5% in 2016. Improvements in the global environment, a favourable exchange rate, lower energy prices, and a significantly slower pace of fiscal consolidation will help growth. The benefits of on-going and announced structural reforms are sizeable but will be perceptible mostly over the medium term.

At the same time, manufacturing output decreased by -0.1% in 2014 (against more than -1.1% the previous year) and investment fell by -1.6%. French output is projected to average just short of +0.6% in 2015, thanks to household demand recovery. Investment should continue to fall, by -0.5% in 2015.

The exports of goods and services slowed down during this year, by 2.0% to compare with +2.4% the previous year. It is projected to stay stable in 2015. In the same time, private consumption increased by 0.3% in 2014. It's expected to increase significantly, by +1% next year.

The price inflation rise slowed down: the prices increases by only +0.6% in 2014, far below its level at the end of years 2011 and 2012. They should continue to decrease in 2015, mainly driven by the acceleration in energy prices reduction.

Budget deficit reduction over 2014-16 will be significantly less ambitious than originally planned, as the 3% of GDP deficit threshold will not be reached before 2017.

The slower pace of consolidation is justified by weaker growth than had been expected. Medium-term policy priorities are to significantly reduce, in relation to GDP, the high level of public spending, and to design and implement structural reforms to reduce complexity, lower administrative and regulatory burdens, and ease supply-side constraints on growth and competitiveness.

The unemployment rate rose in 2014, to reach around 9.8% of the population. At the end of December, France registered 3.5 million unemployed, reaching a record level. This rate should stay stable in 2015.

Like many other European countries, France faces serious key challenges in the job market. Productivity is relatively high but growing slowly, and the economy is held back by persistently high

unemployment and low participation of older workers. Reform priorities include tackling impediments to job creation, facilitating the return to work of unemployed and reducing labour market duality.

Facing a lack of visibility, the French foundry companies have broken their investment. Consequently, their profit margins have been affected by the raise of the public taxes and the difficulty of finding the necessary financial supports.

## **The situation in the main casting customer industries (see “Economy and casting customer industries”)**

### **Developments in the foundry industry**

In spite of the resurging activity during the first semester, the foundry sector globally registered a new decrease of its activity in 2014 compared to 2013:

- The total castings production fell by -1.1% (tonnage) – to be compared to -0.7% for the previous year
- The castings deliveries increased by +3.6% (in tonnage) and fell by -1.1% (in turnover)

However, the improvement of the automotive sector conjugated to the dynamism of the aeronautics industry kept the foundry activity at a broadly stable level in 2014.

Even if these global figures covered different evolutions according to the alloys and markets, the ferrous and non-ferrous castings evolution was between -2 and +2%.

If we excluded the pipes and manholes cover results, the ferrous castings sector recorded worse results than to the previous year: -6.8% in volume (after -6.4% in 2013).

Besides, the total production of the French foundry showed a drop in domestic market much more marked than the export market: the global exportations in volume increased by +11% in 2014, continuing to support the French foundry industry.

The strongest production increases have been registered:

- Among the ferrous alloys, by the pipes and manholes cover: +9.3%
- Among the non-ferrous alloys, by the super alloys castings: +6.8%

Like mast year, the +6.8% increase registered by super alloys is due to the very high performances of the aeronautic and aerospace industry, which pursued its growth, of +1.5% in volume this year. This sector should continue to grow in 2015, with orders books historically high and the start of new programs (A350). Projected growth for 2015 is +5%.

After a strong fall of its activity in 2012, the pipes and manholes covers sector continued to recover in 2014, thanks to the strong restart of exports, by +31.9% in volume (+29.8% last year).

On the contrary, the strongest production decreases have been registered:

- Among the ferrous alloys, by iron castings, with a breaking -10.9%.
- Among the non-ferrous alloys, by the other alloys castings (lead...): -3.6%.

As a whole, the ferrous and non-ferrous foundries produced around 1.729 Million tons of cast products against 1.748 Million tons in 2013. Even in 2013, they did not find however yet the levels before 2008 (2.4 million tons in 2008 and 2.5 the previous year). For the third consecutive year, the French foundry tonnage stayed under the level of 2 million tons.

The deliveries reached 1.5 million in tonnage and 4.68 billion Euros in value.

### **Employment situation**

No important change in the structure of the sector in 2014.

At the end of December, the number of employees in the French foundry industry continued to decrease, by -2.8% (after -5% in 2013) to reach around 31900 salaries. These figures take into account the closures of six foundry units and the staff cuts in most foundries, especially in those which work for the automotive sector (-5%) and in the steel castings sector (around -7%). In total, one closure has been registered in the ferrous castings sector and five in the non-ferrous.

For many managers, economic recovery is not there and in a short-term no positive evolution of their production is expected. For some which benefitted from an increased level of business, the consolidation of those sectors recovery is not as fast and strong as expected. Therefore, no one should be too optimistic, and long-term forecasts are difficult.

The French Foundry Industry registered 396 foundries in December 2014 (<10 persons included) against 402 units at the end of 2013.

### Investment plans

Facing a lack of visibility, the French foundry companies have broken their investment. The priority is essentially to optimize recent investments and to make environmental operations.

In 2014, some foundries continued to invest in extension of installations, mainly in the aluminium castings industry.

### Supply of raw materials and energy

Compared to the previous year, the prices of majority of raw materials decreased in 2014. They fell gradually throughout the year and this was true as much for the ferrous as for the non-ferrous alloys.

The price of ferrous metals decreased by -4% on average, except coke (-9%).

In the same time, the price of many commodities fell during 2014, especially during the last part of it.

The prices began to increase slightly in the first months of year 2015, in a context of the resurging activity.

The collapse of oil price should continue in 2015, but at a slower pace than the previous year. In fact, the petroleum price in February 2015 was on the upswing again (+22.5%) after seven consecutive months of decrease.

### Cost development and metallic input materials

Evolution of prices from 2013 to 2014 (year averages) in Euro

€	% (2014 average/ 2013 average)	% (2013 average/ 2012 average)
Foundry coke	-9%	-15%
Old scrap	-4.1%	-9%
New scrap	-4.4%	-10%
Pig iron	-3.5%	-7%

- Pig iron: Compared to 2013, the French pig iron index continued to decrease gradually by -3.5% on average. Over the three first months of 2015, the prices continued to fall slightly (around 417€ for iron castings and 425€ for nodular iron castings).

- Foundry coke: In 2014, the prices, which began to slow down slightly the previous year, continued to fall, by -9%. Over the first three months of 2015, the price of coke lost against 5% of its average level of 2014 to around 306€.

-Steel scraps: the scraps prices continued to decrease, by 4% since the beginning of the 2014 year compared to the same period of 2013. Since 2011, the drop in the price of scraps is the result of reduced demand in all major sectors using steel (automotive, building sector...).

## Payroll costs

The French wage cost in the foundry industries increased in 2013, by around +1.4%.

This evolution takes into account the growth of the inflation by 0.6% and the increase of the minimum legal wage (SMIC) by 1.1% in 2014.

On January 2014, the gross minimal legal wage by hour reached 9.53 € against 9.43 € last year.

The average working weekly time in the French foundry industry stayed around 36 hours.

## Energy

In 2014, electricity and gas prices (out of distribution and taxes) registered a light increase.

In 2015, the gas prices should remain stable compared to the previous year while the electricity prices should continue to increase.

Contrary to The United-States (shale gas effect), the European gas prices remain steady due to the crude oil prices to whom they are indexed in the long term.

## Outlook 2015

In 2015, the foundry activity should improve slightly, particularly in the non-ferrous castings sector.

The aluminium castings would continue to benefit from the high request of the German automotive manufacturers.

With regard to the 2015 foundry production statistics for France, the early indications from the last survey conducted in April by the French organization show that the overall level of business activity was up on average by 2% compared to the beginning of year 2014.

In the whole of 2015 year, the production in volume would increase by around +3% in volume and +2% in value, in a context of lower prices in energy.

## The situation in the materials sector

### Ferrous metals castings as a whole

The ferrous metals production (including hydraulic and building cast iron) decreased by -1.8% in volume compared to 2013.

While the shipments in volume increased by +4.3%, the shipments in value decreased by -1.7%.

In the same time, the exports increased strongly, by around +11.9% in tonnage and +5.3% in value.

As a whole, about 1.39 million tons of ferrous castings were produced in 2014 against 1.4 million tons last year.

The deliveries amounted to 1.23 million tons. Almost 53% of this tonnage was exported, mainly to the Europe area, particularly to Germany.

#### Evolution of production in volume from 2013 to 2014

	<b>% (2014/2013)</b>
Iron castings	-10.9%
Nodular iron castings	+0.3%
Steel castings	+2.0%
<b>Total Ferrous metal castings (Hydraulic and building sec.excl.)</b>	<b>-6.8%</b>
Hydraulic and building cast iron	+9.3%
<b>Total ferrous metal castings (Hydraulic and building sector included)</b>	<b>-1.8%</b>

### **Iron and spheroidal iron castings**

In spite of the resurging activity of the European automotive sector, the iron foundries activity in volume fell by -6.8%. The non-ferrous castings sector particularly suffered of the weak demand from the construction equipment and more generally from the mechanical sector in 2014. This was also true for the pump and agricultural machinery industry.

After a strong fall of its activity in 2012, the pipes and manholes covers sector continued to recover in 2014, thanks to the strong restart of exports, by +31.9% in volume (+29.8% last year).

Altogether, the foundries which exported took out there better than the others. There was just one closure during the year in the iron castings sector.

### **Steel castings**

#### *Reminder*

*After a historic increase of +43.5% in 2010, the steel castings activity recovered in 2011 its level of 2008, registering a new booming evolution, by +27.1% mainly supported by export (+31%). Unlike most of iron foundries, steel foundries not suffered the same level of decline in 2012 and almost all of the markets supplied by the sector stayed relatively buoyant.*

In contrast to 2013, the steel foundries registered a slightly increase of their production in 2014.

Steel foundries supplying the railway and shipbuilding industry still benefitted from an increasing level of business.

As a whole, steel castings production rose by +2% in volume and decreased by -4.3 % in value.

### **Non-ferrous metal castings**

Production of non-ferrous metal castings is still dominated by light metals (Aluminium and magnesium), most of the output being absorbed by the automotive industry. Zinc alloys form the second most important activity.

In contrast with the ferrous metal castings, the non-ferrous castings sector continued to increase in 2014: production in volume rose by +2.1%. The aluminium castings contributed heavily to this rise.

Also contributing to the increase, but to a lesser extent, zinc castings (+1.8%), copper castings (+1.4%).

Looking at the sector in more detail however, most of light alloys foundries benefitted in 2014 from the high demand from the European automotive sector. Moreover, German automotive manufacturers largely accounted for the 9.3% increase in export output of the aluminium castings industry. Generally, the foundries which exported took out there better than the others.

The super alloys castings activity supplying the high added value markets (medical, aircraft and aerospace industry) knew a further increase in 2014, by +6.8% in volume. Due to the decrease of raw materials prices, the deliveries in value fell by -5.4%.

Using 84% of super alloys, the investment casting sector rose by more than +8% in 2014, supported by the high demand of the aeronautic manufacturers.

# F R A N C E

---

Movements in production in volume from 2013 to 2014

	<b>% (2014/2013)</b>	<b>% (2013/2012)</b>
Copper castings	<b>+1.4%</b>	-0.4%
Aluminium castings	<b>+2.2%</b>	+2.2%
Zinc castings	<b>+1.8%</b>	-11.5%
Other metal castings (lead...)	<b>-3.6%</b>	+25.3%
Super alloys	<b>+6.8%</b>	+8%
<b>TOTAL</b>	<b>+2.1%</b>	+1.4%

\*\*\*\*\*

## The German Economy and the Casting Customer Industries

### Macroeconomic developments

On the whole, the German economy turned out to be stable on an annual average in 2014. The price-adjusted gross domestic product (GDP) was by 1.5% higher than in the previous year and was above the average of the last ten years of 1.2%. In the previous two years, the GDP grew much more moderately (by 0.1% in 2013 and by 0.4% in 2012). The economic situation had stabilised towards the end of 2014, following a dynamic start into the year and the subsequent period of weakness last summer.

On the use side of the gross domestic product, final consumption expenditure was the main driving force for German economic growth. Household final consumption expenditure rose a price-adjusted 1.1%, while government final consumption expenditure was up 1.0%. Capital formation increased, too. In the domestic territory, gross fixed capital formation in machinery and equipment by businesses and general government together was up 3.7% on a year earlier. Also, price-adjusted gross fixed capital formation in construction increased considerably by 3.4%. Gross fixed capital formation in other products – which includes expenditure on research and development since the major revision of national accounts of summer 2014 – was by 1.2% higher than a year earlier. Despite a continuing difficult external economic environment, German foreign trade was slightly more dynamic on an annual average in 2014. German exports of goods and services were up a price-adjusted 3.7% on 2013. However, imports rose almost as strongly (+3.3%). The balance of exports and imports thus made a relatively small contribution of +0.4 percentage points to GDP growth in 2014.

On the production side of the gross domestic product, almost all economic sectors contributed to the stimulation of the German economy. Especially in construction, a sharp 2.7% rise in economic performance was recorded for 2014, one of the reasons being the extremely mild weather in the winter months. Industry (excluding construction), which accounts for a good quarter of total gross value added, was markedly up, too (+1.1%). A largely positive development was also observed for the services sector. Total price-adjusted gross value added of all economic sectors rose 1.4% on the previous year.

The number of persons in employment reached a record level for the eighth consecutive year in 2014 (42.7 million). That was an increase of 371,000 people or 0.9% compared with 2013. Labour productivity (price-adjusted gross domestic product per hour worked by persons in employment) remained almost unchanged in 2014 on the previous year (+0.1%). When calculated per person in employment, it was up 0.6% on 2013.

At the end of the year, general government – comprising the central, state and local government and social security funds – recorded the second highest net lending since German unification. According to provisional calculations, it amounted to 11.9 billion euros. Central and local government and social security funds achieved a surplus, while state government recorded a slight net borrowing. When measured as a percentage of the gross domestic product at current prices, this is a +0.4% surplus ratio of general government. For the third consecutive year, general government showed a more than balanced budget according to the national accounting method.

Short term outlook (Results of the April 2014 Ifo Business Survey):

The Ifo Business Climate Index for German trade and industry rose to 108.6 points in April from 107.9 points last month. Assessments of the current business situation once again improved considerably. Optimistic assessments of the business outlook, however, were scaled back slightly. The upswing in the German economy continues.

In manufacturing the climate indicator rose for the sixth consecutive month. Manufacturers assessed their current business situation more favourably than last month, but expressed slightly less optimism about future business developments. Capacity utilisation edged downwards to 84.4 percent, putting it one percentage point above the long-term average.

In wholesaling the business climate indicator rose to its highest level in almost a year. This was due to far more optimistic business expectations. Very good assessments of the current business situation, by contrast, were scaled back somewhat. In retailing the business climate cooled down slightly. Assessments of the current business situation were less favourable. Retailers are also a little less confident about future business developments.

The business climate index in construction rose this month after six consecutive decreases. Contractors are markedly more satisfied with their current business situation. The short-term business outlook also brightened somewhat.

## **The situation in the major casting customer industries**

In 2014 3.04 million new passenger cars were registered in Germany, which was a rise of 3 per cent. Incoming orders from Germany rose slightly towards the end of the year. An increase of over 2 per cent in December put total growth for 2014 at 5 per cent.

The number of passenger cars exported throughout 2014 amounted to 4.3 million (+2 per cent). In the year 2014 the total number of orders from foreign customers rose by 7 per cent.

The result for the year 2014 as a whole was positive: 5.62 million units rolled off German production lines in 2014 – up by more than 3 per cent. Production in Germany is expected to grow by 2% (calculated in units) in 2015.

More than 319 900 commercial vehicles were registered in 2014 at the German domestic market, a plus of 4.8%. Sales of Trucks up to 6 tons were up by 7.1% (227 800 units). The sales of trucks with more than 16 tons were down by 11.5% with nearly 36 900 units.

In the German mechanical and systems engineering industry, production increased in 2014 by almost 1%, adjusted for inflation. At the same time the total order volume was up by 2% in the reported year 2014. Production is expected to grow by 2% in real terms in 2015.

In 2014, the output of crude steel in Germany was registered with a volume of 39.2 %, 3.0% more than 2013. World steel forecasts for Germany in 2015 a plus of 1.5% (39.8 m. tonnes).

After four good years the residential building sector once again grew by more than 3.5% in 2014. Positive news from the Investments in civil engineering too: In 2014 the volume grew by 4.1%. But during the last two years the growth rates for civil engineering were in the red. Public investments in the building industry were unbroken the most dynamic part of building industry as a whole. In the year 2014 a plus of 3.6% was reported.

## **Developments in the foundry industry**

In 2014, Germany's iron, steel, and malleable foundries received orders for around 4.43 m. tonnes of castings. Compared to 2013, this marks an increase of 3.3%. Orders from the biggest customer industry, motor-vehicle engineering, were 5.7% higher than the year before (2.53 m. tonnes). At 1.13 m. tonnes, the volume of orders from the mechanical-engineering industry was down by 0.8% compared to the previous year. 762 400 tonnes of parts for miscellaneous applications were ordered, a level that is 2.1% higher than in the preceding year. We have to pay attention that there is a lack of definition between engineering and miscellaneous applications, e.g. electrical engineering.

Germany's foundries focused on non-ferrous components received an order volume of 1.15 m. tonnes. The demand was up by 5.8%. With approx. 77.2 of incoming orders the vehicle industry is dominating the non-ferrous sector. The demand grew by 8.5% (889 200 tonnes). The foundries related to mechanical engineering received orders with a volume of 7 900 tonnes (+9.9%). 254 100 tonnes of miscellaneous parts were ordered, a decrease of 2.7%.

In 2014, the weight of castings produced by Germany's iron, steel, and malleable foundries amounted to 4.11 m. tonnes. Compared to 2013 this corresponds to a 0.2% decrease. If we look at the two major customer industries, motor-vehicle and mechanical engineering, the output destined for the motor-

vehicle industry expanded by 0.8% to 2.29 m. tonnes, while that for the mechanical engineering sector decreased by 2.7% to 1.06 m. tonnes. The output of castings for miscellaneous purposes (including rolls, moulds and castings for buildings as well as pipes and fittings) reached a volume of 768 700 tonnes, 0.5% more than in the year before.

In 2014, 39% of the total sales volume was exported directly (ferrous castings). All in all, 1.61 m. tonnes were sold to customers abroad, representing an 0.5% increase. At the non-ferrous side the share of exports is significant lower (14-15%) because of the strong demand of domestic car manufacturers.

By the end of 2014, back orders equalled a weight of more than 1.86 m. tonnes of castings, 4.7% higher than at the end of 2013 (ferrous). The non-ferrous back orders had a volume of nearly 333 300 tonnes (-7.3%).

Capacity utilisation in the iron, steel, and malleable foundry industry amounted to 81.9% in 2014 in comparison to 2012 this means an upturn of 0.9 percentage points. Capacity utilisation in the non-ferrous industry improved driven by castings for the automotive industry. The companies logged a rate of 83.3% in 2014 In comparison to 2013 this is an increase of nearly 2 percentage points.

### **The employment situation**

As of December 31, 2014, Germany's foundries (ferrous and non-ferrous) employed about 78 800 persons, 1.7% more than at the end of 2013 (survey cut-off at <50 employees per company). This figure corresponds with the number of foundries.

At the end of 2014, 595 foundries (ferrous and non-ferrous) were operating in Germany.

### **Investment plans**

In 2013, €520 m. was invested by Germany's foundries. The investments were down by 9%. It is expected that investments grew by 5 % in 2014 but the official data are not available yet.

### **Supply of raw materials and energy**

It is characteristic of many raw materials and energy carriers that their supply is as price-insensitive as the demand for them. One might (almost) say that neither the quantities supplied nor the quantities demanded depend on price. This stands out particularly clearly in the case of scrap, a raw material that is very important to our industry.

No one actually 'produces' scrap. Rather, scrap is a 'necessary evil' that is left over from other industrial activities. In fact, companies in the metalworking industry even endeavour to keep the quantities generated to a minimum, no matter what the price.

On the other hand, we have a demand that is almost without substitution alternatives. If 25t are needed, they will be bought, 'cost it what it may'.

If, given these conditions, it is the price that is supposed to balance supply and demand, wide fluctuations are inevitable. Even tiny changes in the quantities supplied or demanded may cause prices to increase or decrease steeply. Moreover, ups and downs are regularly exaggerated by speculation.

There is one more point to make about the year 2014: measured by the standard of prices that were common only a few years ago, and also by the standard of economic framework conditions, prices are (still) very high at present. What is more, there are many cases where fundamental reasons are never given for either their level or their development. Against this background, forecasts are once again very hard to make at the moment. A (marked) increase in price is to be expected only in the case of a sustained revival of the (global) economy. At present, however, the chances of that are remote.

## **Cost developments**

As in the preceding years, developments in the cost of production took widely different courses in 2014. The influence of raw-material price developments was as great as before. Although prices tended to go down here and there, foundries were once again confronted by major fluctuations. At the same time, it was those foundries whose production is labour-intensive which again had to cope with the biggest cost increases in 2014.

If, leaving aside the cost of raw materials, we consider manufacturing costs alone we find that they rose by less than 1.0% in 2014.

## **Metallic input materials**

Because of the steep price increases of recent years, metallic input materials have by now reached a share of about 25% in the total cost of production in many cases, ranking second after payroll costs. This being so, reliable records of past developments and forecasts for the future are very helpful in planning, controlling and pricing.

However, the unusually wide price fluctuations on the raw-material markets are frustrating all attempts to plan even a few months ahead. Moreover, foundries have nothing with which to 'cushion' these powerful fluctuations which consequently have to be factored into the price of castings as soon as possible by way of material price tags.

The fact that an increase in raw-material prices of no more than 10% causes the total cost of production to go up by about 2.5% shows why it is necessary to calculate raw-material costs separately on a day-to-day basis. In many cases, such an increase would by itself completely wipe out the often meagre profit margins in our sector.

Raw-material prices are subject to marked cyclical fluctuations. As far as the current cycle is concerned, prices apparently reached their zenith in 2011. Since then, they have been inclined to go down, with occasionally wide fluctuations in between. In particular, this holds true for pig iron and foundry steel scrap, whose prices declined by around 5% in 2014. Other raw materials, such as aluminium and nickel, logged increasing prices early in the year, followed by a decline from the summer months onwards. The price of copper went down from the beginning of the year until March, after which it rose until July, remaining since then at the level which it had at the turn of the year. That prices did not decline more steeply towards the end of 2014 is due to the c. 10% devaluation of the euro against the dollar.

Exactly how price levels will develop in 2015 crucially depends on the path taken by the global economy. In this context, it is important to note that a sustained and/or renewed price increase may be expected only if an economic upswing should occur. Should this not happen, we may expect constant or even declining prices in 2015.

## **Payroll costs**

In recent years, uncommonly steep increases in the prices of raw materials and energy have caused the share of payroll costs in the total cost of production to decline. However, as their share in the cost of production still amounts to almost 30%, their significance for our industry is as overwhelming as ever. Any change will influence the total cost of production significantly and immediately.

There are many factors affecting payroll costs, among which collective agreements deserve particular mention because they specify yearly changes in pay rates and collectively-agreed non-wage labour costs. Non-wage labour costs that are prescribed by law constitute another important factor (social insurance contributions). Yet further factors that influence the development of payroll costs (per hour or per capita) include working time lost due to sickness, the number of public holidays, overtime and shift bonuses, and other (voluntary) benefits funded by employers.

As far as 2014 is concerned, social insurance contributions remained constant. The only change in payroll costs is due to a 2.2% pay rate increase which came into effect on May 1. If we consider benchmarks (meaning if we compare costs in January and December), the increase in payroll costs is identical with that of 2014.

The collective agreement of 2013 terminated on 31-12-2014. In February 2015, the following was agreed for the period between 1-1-2015 and 31-3-2016:

For the period from January to March, a one-off payment of 150 euros. If we assume that the average wage earner in our industry is paid 2,600 euros, this one-off payment is equivalent to an increase in payroll costs of 0.5%.

A pay increase of 3.4% is scheduled for April 1.

Thus, the agreements concluded between trade unions and employers alone will cause payroll costs to go up by 3.9% in 2015.

Furthermore, there have been changes in the contributions to the statutory social insurance which, however, almost cancel each other out. Thus, an increase in the general nursing insurance contribution from 2.05 to 2.35% is confronted by a decline in the statutory pension insurance contribution from 18.9 to 18.7%. On balance, the burden on the employer will increase by 0.05%, so that we have to expect payroll costs to increase by 3.95% in 2015.

Given that payroll costs have a share of 30% in the total cost of production this means that an increase of 2.2% caused the total cost of production to go up by 0.66% in 2014. If we relate payroll costs with a share of about 40% to the cost of manufacturing (i.e. the total cost of production minus raw-material costs), we arrive at an increase of 0.88% in 2014.

If we assume that payroll costs will go up by 3.95% in 2015, this will lead to yet another increase in the cost of production of 1.19% and in the cost of manufacturing of 1.58%.

## Energy

Measured by the standard of the peak prices that had to be paid for energy carriers in the summer of 2008, some of the prices of 2014 must be rated as 'very high'. This holds particularly true for oil: in 2014, too, more than 100 \$/barrel had to be paid for crude oil far into the summer. Then again, prices dropped by half in the second half of the year. While this was partially compensated by the simultaneous devaluation of the euro against the US dollar, the prices paid for fuel oil in Germany were 25% lower by the end of the year than at the beginning.

While electricity as such became a little cheaper in the course of 2014, it is likely that, in effect, it grew even more expensive for many foundries because of levies and particularly the increase in the EEG reallocation charge from 5.227 to 6.24 Ct/kWh. At the end of the day, the increase probably amounts to c. 1.5%.

Some relief was obtained only in the case of gas and coke. The price of gas fell by 3% in the course of 2014, while coke could be bought about 5% more cheaply.

For 2015, we may assume that energy prices will remain constant. An increase could only be expected if the global economy should revive sustainably.

Which way energy costs as such are going to change crucially depends on the ratio at which the various energy carriers are employed. Very probably, the least relief will be obtained by those foundries that use electricity for melting and are subject to the EEG reallocation charge without limitation. Conversely, those that use coke for melting in a cupola furnace or oil as an energy carrier might even profit from a decline in energy costs of almost 10%.

The share of energy costs in the cost of manufacturing amounts to 13%. If we relate the changes in the energy costs to this, a 1.6% decline in energy costs in 2014 caused the manufacturing costs of

those foundries that use electricity for melting to go down by 0.2%. – Energy costs will very probably remain constant in 2015.

## **Outlook 2015**

In 2015, the cost of manufacturing may be expected to go up by 2.6%, mainly because of increases in collectively agreed pay rates. In foundries whose production is labour-intensive, costs will rise even more steeply.

Against the background of the uncertainties involved in forecasting future cyclical developments, it is as difficult as ever to prognosticate the development of raw-material and particularly energy prices. Moreover, there is no evidence to suggest that price fluctuations might become less intense. Consequently, it appears highly advisable to continue passing on changes in the cost of metallic input materials promptly to the customers by way of material price tags.

## **The Situation in the Material Sectors**

### **Iron**

Throughout 2014, production increased by 0.8% to 2.36 m. tonnes (2013 figures were revised!). The output of motor-vehicle components was up by 1.0% to more than 1.60 m. tonnes. The volume of casted parts for mechanical-engineering shrank by 0.8% to 517 800 tonnes. Other grey-iron components (including moulds and railway parts, fittings and components for the steel industry) reached an output volume of 235 800 tonnes (+3.5%).

Iron foundries received orders for 1.58 m. tonnes of castings from the motor-vehicle industry, a 2.7% increase. The demand of the mechanical-engineering industry reached a volume of 577 800 tonnes. This is the same level as one year before. Orders for parts for miscellaneous applications made of cast iron reached a volume of 241 000 tonnes, 2.1% more than in the preceding year.

At the end of December 2014, the order backlog amounted to 1.09 m. tonnes, 8.8% higher compared to the end of December 2013.

### **Spheroidal and malleable iron**

At 1.55 m. tonnes, the production of ductile iron castings was down by 1.3% compared to the year before. Producers of spheroidal-graphite iron castings logged a level of 1.52m. tonnes. Malleable iron foundries registered a volume of 30 500 tonnes. The output of motor-vehicle components was up by 0.2% to more than 672 600 tonnes. The volume of casted parts for mechanical-engineering shrank by 4.2% to 470 900 tonnes. Other components reached an output volume of 407 800 tonnes (-0.3%).

At the ductile sector the volume of incoming orders reached 1.84m. tonnes (+4.9%). Ductile iron foundries received orders for nearly 934 100 tonnes of castings from the motor-vehicle industry, a 11.2% increase. Down by 2.0% compared to the order volume received the year before, the demand of the mechanical-engineering industry reached a volume of 494 900 tonnes. Orders for parts for miscellaneous applications made of ductile cast iron reached a volume of 408 700 tonnes, 0.6% more than in the preceding year.

At the end of December 2014, the order backlog amounted to 691 000 tonnes, 0.5% less compared to the end of December 2013.

### **Steel**

Throughout 2014, production of steel castings was down by 3.4% (206 900 tonnes). The output of motor-vehicle components grew by 2.4% to 14 700 tonnes. The volume of casted parts for mechanical-engineering decreased by 6.9% to 67 100 tonnes. Other components reached an output

volume of 125 100 tonnes (-2.1%). The figures for automotive and engineering parts were revised for the last years!

At 188 100 tonnes, the volume of orders received by the producers of steel castings in 2014 was increasing by 3.9% compared to the year before.

Steel foundries received orders for 15 300 tonnes of castings from the motor-vehicle industry, a 9.1% increase. Up by 1.6% compared to the order volume received the year before, the demand of the mechanical-engineering industry reached a volume of 60 100 tonnes. Orders for parts for miscellaneous applications made of steel castings reached a volume of 112 700 tonnes, 4.5% more than in the preceding year.

At the end of December 2014, the order backlog amounted to more than 77 000 tonnes. The order cushion was 2.2% lower compared to the end of December 2013.

### **Non-ferrous Metal Castings**

In 2014 the production of aluminium castings was up by 12.2% (993 9002 tonnes). For the magnesium sector the production reached a level of more than 14 900 tonnes (-8.9%). The output of copper castings grew by 5.2%. The level was nearly 72 100 tonnes. 51 500 tonnes of zinc castings were produced, marking an decrease of 6.6% (some volumes from 2013 were revised!)

Aluminium foundries received orders for 990 500 tonnes (+5.9). More than 88% of the demand (871 900 tonnes) came from the vehicle industry. Up by 14.2% compared to the order volume received the year before, the demand of magnesium castings reached a volume of 20 800 tonnes. Orders for parts made of copper castings reached a volume of more than 85 900 tonnes, 6.7% higher as the year before.. Foundries producing casted parts from zinc logged an order level of 53 900 tonnes (+0.6%). As described some volumes from 2013 are revised!

Source: BDG, Stat. BA, VDA, VDMA, HDB, WV Stahl,

\* \* \* \* \*

## General Situation

Hungary grew at the fastest pace in eight years in 2014 as the economy expanded 3.6%, supported by strong fiscal and monetary stimulus and its improved ability to absorb funding from the European Union (EU). Following a moderation in Q3, the economy sped up slightly in the final quarter of the year primarily as the result of increasing exports and consumption. More recent indicators, however, send mixed signals about the state of the economy.

In 2014, the performance of the Hungarian economy was much better than anticipated by anyone. Nevertheless, in a forward looking perspective, it did not reach a trajectory that ensures sound catching-up by Central and Eastern European standards. The spectacularly favourable statistical figures of 2014 are attributed to temporary factors and/or unduly heavy sacrifices made in other fields. The extension of the model aiming at the roll back of the market economy and the increase of buy-outs of private companies by the government is continuing. The government faced sharp conflicts with the EU, the US, several social strata as well as domestic and foreign business groups. As a consequence of these factors, the performance of the Hungarian economy is predicted to weaken significantly in 2015 compared to 2014.

The ruling coalition lost its two-thirds majority in parliament.

### Main figures of the country

#### Strengths

- Generally stable parliamentary democracy
- Strong specialization for automobile industry
- Current account surpluses since 2010
- Low inflation

#### Weaknesses

- Deteriorating investment climate, as a consequence of unconventional economic policy measures since 2010
- Difficult relations with the IMF and the EU
- High public debt and large total external debt burden
- Exchange rate volatility (reflecting high vulnerability to domestic and external shocks)
- Banking sector remains vulnerable

The official GDP growth was 3.5%, the real GDP growth was 2,8%, the inflation was 0,3%; the unemployment rate was 8,2% in 2014.

GDP - composition by sector in 2014 were: agriculture = 3,4%; industry = 28% and services = 68.7%.

Public debt (general government gross debt as a % of GDP) was 79,1% in 2014.

## The Foundry sector

The tendencies of the Hungarian foundry industry showed small but already significant average growth of the different foundry sectors after the year of 2013 in 2014 too.

For the Hungarian foundries was 2014 a successful year. It is more or less visible that the Hungarian foundry sector by a significant growth will be a stronger and stronger supplier for the automobile and vehicle industry of EU – first of all in the sectors of aluminium, but iron and steel too. The two biggest iron foundries – WESCAST PLC and BUSCH Hungária Ltd - are increasing their capacities and double the Hungarian iron casting capabilities until 2018: estimated increasing some 20% (25.000 – 30.000 tons) is forecasted at the field of iron casting.

Also a strong growth is reliable in the steel casting sector too (12.000 – 13.000 tons) and the aluminium sector also (11.000 – 12.000 tons) – basis is 2014. The supplier companies at the sector increase their activities too. The biggest problem is the lack of well-educated skilled workers and university educated trained colleagues. After 15 years in 4 different regions have started again the skilled foundry man education in secondary school. At the Miskolc University the so called dual BSc education will start with a large interest of students and foundries too.

The casting performance in figures, HUNGARY, 2014

	in tons
<b>Denomination</b>	<b>2014</b>
Grey iron casting	25 405
Nodular iron castings	35 700
Compacted graphite iron castings	13 100
Alloyed iron castings	266
Malleable iron castings	6
<b>Total iron castings</b>	<b>74 477</b>
Unalloyed steel castings	9 208
Alloyed steel castings	2 888
<b>Total steel castings</b>	<b>12 096</b>
Aluminium gravity die castings	49 604
Aluminium pressure die castings	51 658
Aluminium sand castings	161
<b>Total aluminium castings</b>	<b>101 423</b>
Bronze castings	836
Brass castings	1 124
Zinc castings	3 480
Other heavy metal castings	115
<b>Total heavy metal castings</b>	<b>5 555</b>
<b>Magnesium castings</b>	<b>965</b>
<b>TOTAL</b>	<b>194 516</b>
Investment casting all together in total	<b>574</b>

The basically export orientated Hungarian foundries have relative steady market position but about the high HUF – EURO exchange rate they are winning now extra profit of them. It is more than average that the budgets for 2014 are created as optimistic. It is sure because of the very strong Hungarian export dependence at the foundry sector means: everything is depending of the market situation of the countries to where appr. 85% of the Hungarian casting export is fulfilled.

\* \* \* \* \*

## **Macroeconomic developments**

In the first three quarters of 2014, the Italian economy underperformed the euro area and it contracted further by 0.4% year-on-year. While private consumption has been stabilising since mid-2013, the saving rate has increased as waning inflation and new income support measures sustain real disposable income. Investment, both in equipment and construction, contracted substantially over the course of the first nine months of 2014, reflecting uncertain demand prospects as well as tight financing conditions. Exports have continued to sustain GDP growth, albeit only moderately.

Looking ahead, external demand is expected to trigger a slow and gradual recovery. In the final quarter of 2014 the real GDP stabilised. While the value added in the service sector increased, it decreased in manufacturing and agriculture. Overall, the EU Commission 2015 winter forecast projects a gradual recovery in 2015. Real GDP is forecast to expand by 0.6% in 2015, supported by export and only moderate improvements in domestic demand. The recovery is projected to strengthen in 2016 as financing conditions normalise and external demand reinforces triggering an increase in investments.

Financing conditions remain tight, although they gradually loosened over the course of 2014. Bank lending to Italy's corporate sector, and small firms in particular, continued to contract by 2.3% year-on-year in December 2014, but the contraction has slowed in recent months.

Italy's current account surplus has further increased, mirroring public and private sector deleveraging. Italy has turned into a net lender to the rest of the world, but its net international investment position has slightly deteriorated.

HICP (Harmonised Index of Consumer Prices) inflation has been falling since mid-2012, driven by sluggish domestic demand and falling oil prices. HICP inflation averaged 0.2% in 2014, less than in the euro area. Towards the end of 2014, the significant slump in oil prices pushed down HICP inflation to extremely low levels which turned negative in December 2014 and January 2015.

Inflation is expected to be slightly negative in 2015. The increase in Italy's VAT rate by 2 percentage points as of January 2016, enshrined in the 2015 Stability Law, is set to increase HICP inflation in 2016 to 1.5%.

The unemployment rate increased to the historically high level of 12.8% in 2014 from 12.2% in 2013, driven almost entirely by the growth in the participation rate. The EU Commission winter forecast projects the unemployment rate to remain above 12% over 2015-2016.

The government deficit was 3% of GDP in 2014 and it is expected to be 2.6% in 2015, with overall no further improvement in the structural balance over these two years.

Investment continued to fall in the first nine months of 2014 (by 2.2% in real terms y-o-y), particularly in construction (-3.4%), but also in machinery and equipment (-1.7%). Overall, Italy has made some progress in addressing the 2014 recommendations. A significant shift of the tax burden away from labour has been undertaken. The reform of the labour market has a potential to address long-standing rigidities and improve the allocation of labour resources. Some progress has been made to improve the education system as well as the governance and resilience of the banking sector. Initial steps have been taken to streamline institutions and administration. A draft law for competition has been adopted by the government in February 2015. However, progress has been much more limited, and sometimes delayed, in several areas. The spending review is not yet part of regular budgeting procedures, and the privatisation programme also incurred delays in 2014. Only limited progress has been made in addressing corruption and infrastructure bottleneck.

## **The situation in the major casting customer industries**

Q4-2014 data for the Italian Foundry using sectors confirm that activity ended the last year on a weak note. The economic framework at the start of the last year was rather positive until the first half of 2014.

## **Overview foundry using sectors**

### **Automotive**

After six years of consecutive declines, the domestic production of vehicles in 2014 has a positive sign. 2014 was also the year in which the index of industrial production of motor vehicles has been growing again compared to the previous two years.

The total automotive output in 2014 grew nearly +6% (700,000 units, against 658,000 in 2013). Production grew especially in the second half of 2014, with an increase in production of 15.5%, whereas in the first half you could see a decline of 1.5% compared to 2013. Driving the growth of production was the sector of light motor vehicles (cars and commercial vehicles <= 3500 kg) increased by 7.7% compared to 2013, exceeding 672,000 units.

Car production expanded until 400,000 units and at a growth rate of around 3.3%. If the first half of the production recorded a decline of 5.6%, the exploit in the Q4, with 29% more automotive products it closed the second half of the year to 15.2%. Two models that mark the positive performance: Jeep Renegade and Fiat 500X, produced in the same factory in Melfi.

That of light commercial vehicles is the segment for which there has been a greater increase in production, up 15% on 2013. This growth is well distributed during the year, an increase of over 10% in the first half and 20% in the second half.

Completely different is the situation regarding the heavy commercial vehicles, the production of which, in 2014, recorded a real fall of 24%.

Trucks weighing more than 3,500 kg saw their production decrease of 24% compared to 2013. 2014 was started particularly bad, in fact, in the first half; the production decreased by 38%, while in the second half, the rate of decline has decreased, and stood at -10%.

The same applies to buses, although here the rates of decline are heavier: in 2014 the decrease in production compared to 2013, was 31%. The bus sector had very low volumes (289 units in 2014) that contributes a small market to a few thousand units.

### **Mechanical Engineering**

For mechanical engineering the 2014 was substantially stable compared to the previous year. Specifically, the main contribution to the results of 2014, according to data production, came from the improved condition experienced by the sector on the foreign trade. Exports had an expansion of 1.1%. Investment and employment, on the contrary, were estimated down respectively by 0.7% and 0.5%.

Instead, the output of the machine tool, always included within the statistical statement "mechanical engineering", in 2014 grew by 4.5%, driven by surprisingly deliveries on the domestic market that grew by + 26.9%. In contrast to exports, which account for over 75% of production, reported a decline of 1.2%.

### **Construction**

Italian construction output in 2014 continued the downward trend in activity. Total output fell 3.5% y-o-y. The 2014 is the seventh consecutive year of crisis and since 2008 the construction industry lost 32% of investments, amounting to about 64 billion euro.

### **The foundry industry**

The main economic indicators analysed (production volumes and turnover) shows a 2014 better than two previous years, although in the second half of the year the economic situation become strongly deteriorated.

In general Italian industry Foundry closed 2014 with an increase in annual average of 2.7% (compared to + 0.6% in 2013 and -12% in 2012). Faced with a significant growth of non-ferrous castings (+ 4.3%), there was a smaller increase for ferrous castings (+ 1.5%). As a whole, the ferrous and non-ferrous foundries produced in total 2.025.976 tons of castings against 1.972.839 tons in the previous year. Even in 2014 Italian Foundry did not find however yet the levels before 2008 (2.7 million tons in 2007, - 26%).

Most positive signs coming from the turnover for non-ferrous metals recorded growth of + 5.3%, in part also driven by the evolution of inflation of aluminum alloys. The ferrous foundries, although the prices of energy commodities and raw materials (pig iron and scrap) in the 2014 fell, the annual turnover increased of + 2.6%. By aggregating the dynamics of revenues for both sectors (ferrous and non-ferrous), the average annual growth amounted to + 4.3%. Given the slower growth in volumes, this evolution could be explained by an increase in the value of production due to the shift to higher added value products.

The total production value of ferrous and non-ferrous in 2014 reached about 7.6 billion Euros.

Throughout 2014, production and turnover growth were still fragmented, it didn't involving all foundries and mainly came from foreign demand (direct and indirect exports), while the domestic market was steady. The share of exports on the production volume was about 35% and higher in terms of value (export value on total turnover was about 50%).

**Plans and the employment situation**

AS of December 31, 2014 were operating in Italy 1.104 Foundries (191 Ferrous and 913 non ferrous), employed about 28.600 persons, 0.5% more than at the end of 2013. The total number of companies was unchanged respect the previous year.

**Cost developments input materials****Coke**

In 2014 the supply of foundry coke was regular. Overall, the demand of the Italian market was down. According to Assofond estimates coke consumption in 2014 fell to about 65,000 tons, a decrease of 7% over the previous year. The needs of Italian foundries should have been covered for about 85-90% from domestic producer and the remaining from Europe mainly from Poland.

**Ferrous Scrap**

The evolution in the prices of ferrous scrap from Foundry throughout 2014 followed a downward trend with short interruptions related primarily to a temporary strengthening of demand as a result of restocking. Fluctuations around the annual average of €342/t, however, remained fairly small. The minimum price for the scrap has been reached in December when, for example, the prices of new scrap (packages of sheet of deep drawing 30X30) came to 319 Euro/t (average monthly price lists Milan Chamber of Commerce). The maximum prices was reached twelve months earlier, in January 2014, in which the prices of packages of deep drawing sheet 30X30 amounted to Euro 364 / tons. Between the peak and the low prices for the year 2014, the gap €/t is approximately 45 Euro/t.

**Pig Iron**

In the pig iron market, for throughout the first half of 2014, prevailed an atmosphere of stagnation, interrupted abruptly by the development of the Ukrainian crisis whose effects were felt from the month of August. The activity stop of August in Italy delayed the detection of price fluctuations on the pig iron prices. In September the price of pig iron (basic pig iron) (item 300, Chapter 430 Milan Chamber of Commerce) reached the highest level since the beginning of the year. To find similar levels of prices you must go back two years, or until September of 2012 (the Euro 350-360 ton).

In the 2014, the minimum price for the pig iron quality for Foundry has been reached in June / July, when prices came to Euro 420 / tons for hematite and 410 Euro / t for pig iron for ductile iron. Between the peak maximum and the minimum of the year 2014, the gap €/t was between 15-20 €/t. The variation trend of medium 2014 vs 2013, for both types of pig iron, is of about -20 €/ t (-5%).

**Payroll costs**

Labour costs processed by Assofond concerning cost of one working hour of an employee at the third level of the CCNL category contract, older than 21 years and belonging to a foundry with over 51 working units. The current Industry Category Contract (2013-2015) will expire on December 2015. Specifically, it provides for:

1.01.2013 = + 1.68%

1.01.2014 = + 1.94%

1.01.2015 = + 2.07%

**Outlook 2015**

The economic outlook suggests that the economic recovery in the EU will find a more solid footing in 2015 and 2016. The first quarter of the 2015 was weak for the foundry industry. It was quite difficult period especially for Italian iron and steel castings industry, while the situation for non-ferrous castings it was better.

Prospects for the first half of the year are steady and moderately positive for the second one.

The economic framework at the start of this year is rather positive. The expectation is that the weak euro and lower energy bills will provide a major boost to domestic demand and export.

**The situation in the material sectors**

The increase in output of castings involving almost all sectors, except for stainless steels and investment castings. Aggregating the results of the industry, ferrous and non-ferrous metals, the total production is placed over 2 million tons (2,025,976 tons), while the gap from pre-crisis occurs around 26 percentage points lower than the record production of 2007 (2.7 million tons).

The results achieved for both sectors are largely attributable to the good performance of the industry of means of transport which accounted for over 50% of the overall volumes of non-ferrous castings and for about 30% for iron castings.

Throughout 2014, production of iron castings (grey and ductile iron castings) increased by 1.5% in volume to 1.092.773 tons. The volume of castings for mechanical-engineering was down by 2% to 545.393 tons. Castings for motor-vehicle was up by +14% reached a volume of 322.884 tons. The volume of casted parts for building industry shrank by 21% to 91.547 tons, for the first time under the 100.000 tons. Iron and steel industry and the miscellaneous applications was up respectively by +6% and +9% reached a volume of 30.949 tons and 102.000 tons.

#### **Iron and spheroidal and malleable iron (ductile cast iron)**

In 2014, production of grey cast iron grew by 2% (702.872 tons), while ductile cast iron (malleable and spheroidal) rose by +0.6% (389.901 tons).

#### **Steel castings and investment castings**

In 2014, the steel castings volume realized amounted to 71.190 tons (+2.2%), while the output gap than the record 2007 is maintained to -24%, about 22.000 tons less. The inox steel castings recorded a decrease of -8% compared to 2013, carbon steel castings was 0.2% more than in preceding year and the alloy steel casting went up by about 6%. Throughout 2014 the investment castings production decreased by 3%.

#### **Non-ferrous metal castings**

Throughout 2014 the Italian production of non-ferrous castings was up by +4.3% (860,852 tons), finally proposing a positive growth rate since the last two years of declines. This is a rather positive change especially compared to the evolution evidenced by the production sector of ferrous castings in the same period.

For the aluminium sector the production reached a level of 723.287 tons (+4%). The output of zinc castings marking an increase of +8.2% (63.961 tons). 65.855 tons of brass, copper and bronze castings were produced, +4.3% higher as the year before. For the magnesium sector the production reached a level of 7.050 tons (+4.8%).

#### **Foreign trade (ferrous castings sector)**

The foreign trade exchange of ferrous castings (cast iron and steel) in 2014 was characterized by a growth in exports of +6% and a total value of 1.359 million euros. The value of imports (815 million Euro) has shown a decline compared to 2013 (-1%). The volume of exports in 2014 grew by +7% to 391,247 tons, while imports amounted to 427,669 tons increased by +4%.

\*\*\*\*\*

## General economic situation

Figures released by Statistics Netherlands (CBS) by the end of March 2015, show that Dutch government deficit climbed to 15.0 billion euros in 2014, an increase by 0.4 billion euros relative to one year previously, but because the GDP also grew, the deficit, expressed as a percentage of the GDP, did not change (2.3 percent). For the second consecutive year, the Dutch government deficit complies with the 3-percent EMU deficit criterion. With 33.7 billion euros (5.5 percent of the GDP), the deficit reached the highest level in 2009, but since then the deficit has been reduced gradually.

The central government contributed more than 7 billion euros to the deficit, i.e. 2.2 billion more than in the previous year, but government expenses included several large one-off effects, like the proceeds of the auction of telecom frequencies and the bailout to save the SNS Reaal banking and insurance group.

Income transfers contributed to higher government expenses, mainly contributions made by the central government to other levels of government and the European Commission. An additional levy on the basis of recalculation of the gross national income also contributed to higher government expenses. The care allowance, on the other hand, was significantly lower, as a result of changing application criteria.

Higher government expenses were partially offset by higher revenues. Tax proceeds grew by 8.4 billion euros. The private sector and institutions paid more tax and housing associations faced increased costs, due to the special tax on rental property. Banks had to make a one-off financial contribution to the SNS Reaal bailout. The proceeds of corporate tax and dividend tax were higher than anticipated. Natural gas revenues fell significantly by 4.5 billion euros, due to lower gas prices and less output. The revenues from dividend of the Dutch Central Bank were also lower.

Public debt rose by 10 billion euros to 451 billion euros in 2014. Public debt expressed as a percentage of the GDP remained fairly stable at 68.8 percent. The higher public debt in euros was almost entirely offset by the value increase of the GDP in 2014. Since 2008, the growth of the debt-to-GDP ratio has levelled off. Between 2008 and 2014, the debt-to-GDP ratio rose from 54.8 to nearly 69 percent.

Public debt rose less rapidly than the deficit of 15.0 billion euros. For a large part, the deficit was funded by creating new debts, predominantly by the issue of government bonds, but the national government also collected revenues from repayments of claims, which are not included in the government deficit. With these revenues, part of the deficit can be financed. These revenues included repayments by the ING bank and the proceeds of the sale of ING's mortgage portfolio, which the Dutch government acquired in 2009. This transaction put more than 6 billion euros in the government coffers.

### Forecast of the general economic situation in the Netherlands in 2015 and 2016

The GDP is expected by the CPB Netherlands Bureau for Economic Policy Analysis (CPB) to increase in 2015 by 1.7 percent, for 2016 they predict a GDP growth of 1.8 percent.

An unemployment rate of 7.0 percent is foreseen by the CPB Netherlands Bureau for Economic Policy Analysis (CPB) for both 2015 and 2016.

The Dutch Government deficit predicted by the CPB Netherlands Bureau for Economic Policy Analysis (CPB) are 1.8 percent of GDP in 2015 and 1.2 percent in 2016.

### The foundry industry in The Netherlands in 2014 (and forecast 2015 and 2016)

For the Dutch foundry industry the year 2014 was very similar to the previous year 2013: the foundry industry in general was having a difficult year. Some foundries however have customers in good performing markets and were doing well. But most foundries experienced difficult economic times in the year 2014. The cause of this situation is the overall European economic situation. Europe still has not fully recovered from the financial and economic crises that have afflicted the continent from the end of 2008. More and more it becomes clear that this is the new economic reality and that it will take years to get the performances from before the crises.

The forecasts for 2015 and 2016 are not easy to tell. Much will either depend on developments in Europe to finally solve the financial and economic crises, either that we finally must conclude that Europe is facing the new economic reality. Much depends also on the economic performances of the customers of the foundries. The Dutch foundries are highly export driven. The creation of a level playing field is an important goal to pursue. Increasing labour, energy and material costs will affect the margins of the Dutch foundries.

\* \* \* \* \*

## General Economic Development

A fall in oil investment is expected to reduce mainland Norway's GDP growth to just 1.1 per cent in 2015, compared with 2.3 per cent in both 2013 and 2014. Unemployment will increase gradually, to an estimated 4.1 per cent in 2016. This will help to reduce wage growth, which is expected to be less than 3 per cent in 2015.

Reduced demand from the petroleum industry after years of strong growth, together with a modest growth in household demand, were key factors behind the shift to a moderate economic downturn in the second half of 2014. A sharp fall in crude oil prices in autumn 2014 and into 2015 will reinforce the negative impulses from the petroleum industry going forward.

### Main economic Indicators

	2009	2010	2011	2012	2013	2014	2015E
GDP	-1,7	0,3	1,6	2,9	0,6	2,2	0,9
-Mainland Norway	-1,8	2,1	2,6	3,4	2,3	2,3	1,1
Unemployment rate	3,2	3,6	3,3	3,2	3,5	3,5	2,9
Consumer prices	2,1	2,5	1,2	0,8	2,1	2,3	2,0
Investment in the Oil-sector	3,3	-8,9	11,3	15,1	17,1	0,0	-15,9

### Moderate increase in international growth

Economic growth among Norway's trading partners picked up towards the end of 2014. The fall in oil prices seems to be positive for most of Norway's trading partners, but growth is weakened by high debt in the public sector as well as in the households. Many OECD countries are experiencing a major slump, with high unemployment. Fears of deflation are leading to low interest rates globally. Growth in Norway's export markets is expected to be roughly unchanged this year, followed by gradually higher growth thereafter.

### Counter impulses

Expansionary fiscal and monetary policy has dampened the economic downturn in Norway, and will continue to do so. The key policy interest rate is expected to be reduced by 0.5 percentage points towards the summer months. The fall in oil prices and prospects of even lower interest rates have contributed to a marked weakening of the krone by 5.3 per cent in 2014 from the year before. A similar situation is envisaged in 2015, which will contribute to a significant improvement in cost competitiveness. This will stimulate exports and reduce the share of domestic demand covered by imports, thus having a positive effect on the activity in the mainland economy. Higher international growth, fewer negative impulses from the petroleum industry and a slight increase in private domestic demand are all expected to play a role in reversing the economic trend to a modest upturn from 2016.

### Low oil price means reduced investment in petroleum industry

After two and a half years with an oil price of around 110 USD per barrel, the price began to fall in autumn 2014, and by 10 March was almost halved. The oil price is expected to increase gradually going forward, reaching 75 USD per barrel by the end of 2018. Reduced profitability in the petroleum industry will contribute to a fall in the industry's investment by nearly 16 per cent this year and a further 8 per cent next year. However, there is considerable uncertainty about future developments.

### Prospects of some increase in the investment in mainland industries

Investment in mainland industries saw a particularly modest increase last year. The weak krone and low interest rates will lead to internationally-exposed industries increasing their investment going forward. The economic upturn from 2016 will also contribute to higher investment in other industries.

## Lower real wage growth

Growth in average wages fell from 3.9 per cent in 2013 to 3.1 per cent in 2014. Higher unemployment means that wage growth this year will fall further, to an estimated 2.9 per cent. Growth in the consumer price index (CPI) was 2.0 per cent last year. Despite the low oil price pushing prices down, the weakened krone is expected to have a major impact on inflation, resulting in CPI growth this year of 2.3 per cent. Thus, real wage growth, which was 1.8 per cent in 2013 and 1.1 per cent last year, will fall to 0.6 per cent this year - the lowest real wage growth in 25 years.

## Higher unemployment

Slow economic growth implies little growth in employment this year and next. A reduced participation ratio and slightly lower immigration will help to limit the rise in unemployment, which may nevertheless reach 4.1 per cent in 2016. This is well below the level from the beginning of the 2000s. The subsequent economic recovery is then expected to lead to a stronger development in employment, with unemployment falling to 3.8 per cent in 2018.

## The Foundry Industry

There has been a 22 % reduction in sales value of iron and steel castings in 2014 compared with 2013. The sales value of aluminium castings increased with 5 %.

64 % of the foundries expect the profits in 2015 to be on the same level as in 2014 while 15 % expect increased profits.

The total casting production in 2015 is expected to be reduced compared to 2014.

43 % of the Norwegian casting production was exported in 2014. The Nordic and German export markets are the most important.

There has been one foundry closure in 2014 (Iron castings for the windmill industry).

This year there has been one bankruptcy (Scana Steel Stavanger). This plant has now been bought by an investor.

Regarding the market for foundry products in Norway there is a tendency to less activity in the ship building sector. The number of oil and gas projects is reduced in numbers and projects are delayed. These factors contribute to uncertainty regarding order income for the second half of 2015.

The market for road and drainage castings is regarded as stable.

There is less pressure on salaries mainly due to lower activity in the oil and gas sector.

In the foundry sector there was a salary increase of 2,8 % in 2014.

The average payment per hour (per 2nd Quarter 2014) in the foundry sector was €23,3 for skilled foundry workers, €21,7 for semiskilled and €20,5 for unskilled foundry workers.

The currency situation is good with a rather weak Norwegian krone (NOK) and that is of great importance for the export of castings.

\* \* \* \* \*

## Economic situation

### Synthesis

According to CSO preliminary data, in 2014 Polish GDP grew by 3.3%.

There was observed a stable increase in economic activity in Poland on the course of 2014 – the economic growth accelerated considerably in comparison with 2013. After 1.7% growth in 2013, in subsequent quarters of 2014 the GDP growth accounted for: 3.4% in the 1st quarter, 3.5% in the 2nd, 3.3% in the 3rd and 3.1% in the 4th.

In 2014 sold production of industry grew by 3.3% (in December by 8.1% after 0.3% of growth the previous month). Manufacturing production increased faster than in whole sector - by 4.6% yoy.

In the period of January-December 2014 construction and assembly production was in real terms by 3.6% higher comparing to the corresponding period of 2013 when a considerable fall was recorded. In December the growth reached 5.0%.

In 2014 domestic trade recorded 4.1% growth in comparison with 2013.

In 2014 consumer price index accounted for 0.0% yoy. December was another month in a row when deflation was observed – prices fell by 1.0% yoy. Producer price index and construction prices were lower than in 2013 - producer price index fell by 1.5% and construction prices by 1.2% (yoy).

In 2014, the average employment in the enterprise sector increased by 0.6% compared to the previous year and amounted to 5,529 thous. persons. In manufacturing, which has the largest share in employment as a whole, the number of employees amounted to 2,071 thous. persons (2.1% of growth).

The registered unemployment rate in December 2014 reached 11.5% (i.e. 1.9 pp lower than in December 2013).

In the analyzed period, salaries in enterprise sector increased by 3.7% in nominal terms to PLN 3,980. An increase in salaries was observed in all sections.

According to preliminary CSO data in 2014 the volume of exports – in current prices – amounted to EUR 163.1bn and was by 5.2% higher than a year before. The volume of imports stood at EUR 165.6bn and was by 5.5% higher than in the previous year. The balance of foreign trade turnover reached a level of about EUR -2.5bn against EUR -2.0bn in 2013. Among the main receivers of Polish goods were Germany (26.1% of Polish exports), UK (6.4%) and Czech Republic (6.3%). The largest share of Polish imports came from Germany (22.0%), China (10.5%) and Russia (10.5%).

According to provisional NBP data, in 2014 an increase in a deficit of the current account was observed, comparing to the previous year's result. The CA deficit amounted to EUR -5,337mn comparing to EUR -5,252mn in 2013.

In first eleven months of 2014 the budget revenues stood at PLN 260.3bn, when expenditures amounted to PLN 285.1bn. The nominal budget deficit, in the analyzed period, amounted to PLN 24.8bn, so 52.1% of the amount planned in Budgetary Act for the whole year. 6

In 2014, MPC lowered the level of interest rates once. In October 2014 MPC set interest rates at the following levels: Reference – 2.0% (-0.5 pp), Lombard – 3.0% (-1.0 pp), Deposit – 1.0% (unchanged), Rediscount – 2.25% (-0.5 pp).

In 2014, in average terms, Polish zloty strengthen both to US dollar and to euro. An average euro exchange rate, on yearly basis, amounted to PLN 4.1852 and was lower by 0.29% yoy. US dollar exchange rate amounted to PLN 3.1551 and decreased by 0.18% yoy.

## **General Economy**

In 2014, the performance of the Portuguese economy kept favorable. The GDP arrived at the end to a positive value of 0.9%. This performance helped continuing a good performance in the external front, especially exports of goods and services, whose market share abroad has been increasing. Increased competitiveness, evident for example in the progress of unit labor costs, and repositioning achieved in some sectors of goods and services sold abroad, benefiting from attributes other than price, are critical to the progress of exports.

2015 will mark the consolidation of a scenario of expansion of activity, even if moderate, of 1.7%. Environment less restrictive funding, stabilization of the labor market and export performance are key elements in achieving this scenario.

The balance of goods and services kept in positive territory in 2014, reflecting the improvement in the current account surplus. Balance was already also positive in 2013.

In 2014 and compared with the previous year, exports increased 2.5%, due to the performance of tradable goods and services sectors. For 2015, an increase of 4.3% on exports is expected.

The inflation rate, in 2014, declined significantly from 0.4% to -0.2%, reflecting the fragile domestic demand, the movement of the euro appreciation and stabilization of fuel prices.

In 2015 the inflation rate preview is 0.1%.

## **The employment situation**

The unemployment rate remained high, although keeps fallen slightly. In terms annual average, decreased from 16.2% in 2013 to 13.9% in 2014. Information from job centers show increase of demand in some specific jobs. The results from 2014 suggest an inversion on the previous tendency and a possible slow but solid return to a more stable future in terms of employment. In the particular case of casting, the installation of new casting plants in Portugal and also the increase of capacity of some existing ones, resulted in a new demand for casting people, from operators to other qualified jobs.

It is forecast for 2015 an average unemployment rate of 13.4%. On the first quarter this figures were 13.7%.

## **Foundry Industry**

The automotive industry is the main customer market, which demands roughly 73% of the global production.

The Portuguese foundry sector export around 82% of the total production, in weight, mainly to the European market.

## **Production**

In 2014, the outcome of the Portuguese foundry was roughly 157 thousand tons, 122 thousand tons from the ferrous and 35 thousand tons from the non-ferrous sector.

The total volume production, compared with 2013, increased 12.6%, mainly due to the influence of aluminium and nodular iron in the automotive sector.

In global terms, the ferrous sector recovered 12.2% of the activity. The non-ferrous production improved around 14.2%.

### **Iron Castings**

The iron castings sector had a growth of 1.1%.

### **Nodular Iron Castings**

The nodular iron castings increased 19.4% due to the positive recover and new business in the automotive industry.

### **Steel Castings**

The steel castings sector fell 5.3% due to the decrease in demand from the general engineering sector.

### **Non-ferrous Casting Production**

In 2014 the non-ferrous metal castings production, as a whole, had registered an improvement of 14.2 %, mainly due to new projects for automotive industry, as well as an interesting recover in the copper and zinc.

Looking at the sector in detail, we can see the demands improved in all areas.

Aluminium foundries increased around 15.8%, the copper alloy foundries grew 10.1% and the zinc sector, despite having a small production, increased around 20.8%.

### **New casting plants**

In 2014 a new aluminium die casting plant was installed in Portugal. With foreign capital, the new plant will produce mainly automotive components for the EU market. Serial production already started in the first quarter 2015.

A second aluminium die casting plant is actually being installed in the north of Portugal, also for automotive components and with a planned investment of 23.5 Mio€.

### **Industrial cost**

In 2014, the price of most raw materials on the ferrous sector fell along the year, except for the pig iron, that was stable.

In the non-ferrous sector, the price of raw materials reflected an increase on aluminium and zinc and a reduction on copper alloys, when compared with the previous year.

The electricity cost increased around 1%.

The gas price increased around 2.8% in 2014.

Due to the economic situation of the country, most of the foundries expect an increase of the wages close to inflation for 2015.

The implementation of the Industrial Emissions Directive to Portugal, who brought new requirements for the foundry operations, will cause increased costs for business.

### **Foundry vocational training**

The Portuguese Foundry industry has its own training and vocational center, CINFU, a joint partnership with APF and the Portuguese Institute of Employment and Vocational Training, which has once more made an outmost job training foundry men – those in active jobs and those being prepared for future employments. There is also a long partnership with the University of Porto – Faculty of Engineering, for the training of future foundry engineers.

Looking at the global figures:

CINFU develops four types of vocational training:

Training of unemployed people, in long term courses, in technological areas such as Sand Foundry, Die Cast Foundry, Pattern Making, CAD/CAM, CNC and Foundry Laboratory Techniques. Roughly 55 500 volume of hours;

Dual training, in the same technological areas. Roughly 10 000 volume of hours;

Training of employed and unemployed people, in small courses of 25 to 50h, according to a National Catalog of Qualifications. Roughly 124 000 volume of hours;

Specialized training for technical staff, in training areas such as Metallurgy and metal; Health and safety; Organization; Computer knowledge; Foreign languages; Environmental protection. Roughly 5 000 volume of hours.

Comparing to 2013, in 2014 there has been an increase of 5.6% in training hours, a 22.5% increase in the number of people attending courses and an increase of 28% of the actions taken. In numbers, CINFU implemented 307 training actions, involving 4431 people and a training volume activity of 195 337 hours.

\* \* \* \* \*

## General Economy

In the year 2014 there were 64 foundry enterprises (3 large, 11 middle and 50 small or micro enterprises), that is one less than in the year 2013. In the year 2014 foundries made the total income in the height of 502.9 millions EURO, what is 10.7 % more than in the year 2013. In this income the share of large companies was 48.8%, middle companies formed 35.3% and small or micro companies 15.9% of total share.

In foundries the total number of employees was 4256, that is 4.4 % more than in the year 2013. Large companies had 2049 workers, middle 1514 and small or micro companies 693 employees.

In foundries there were 496 millions EURO net incomes from sale, what is 10.8 % more than in 2013. The expenses were 454 millions EURO.

The total added value in foundries was in the height of 170.5 millions EURO, what is 10.8 % more than in the year 2013. The average formed added value per worker was 40.068 EUR, what is 16 % more than in the year 2012.

Because of the distinct orientation to the global market, where the slovenian companies sale more than 90% of their production, also in the year 2014 the companies stayed in touch with the technological and product development. In the presentation the development achievements of 13 companies are introduced: CIMOS-TAM Ai Ltd Maribor , grey iron and aluminium alloys foundry ; LTH castings Ltd, Škofja Loka, the largest slovenian Al-and Mg alloys pressure die castings foundry; Electrothermal devices factory ETA Cerklje na Gorenjskem Ltd, grey cast iron foundry; Valji, rolls and castings production Ltd, Štore, as important industrial rolls manufacturer; Livar JSC Ivančna Gorica , the largest slovenian grey-and nodular graphite cast iron foundry ; Mariborska livarna Maribor JSC PE Alutec, a very important Al-alloys pressure die castings foundry; OMCO Feniks Slovenija Ltd., producer of castings for glass industry and grey cast iron- and copper based castings; Titus Lama Dekani JSC, Zn alloys pressure die castings foundry and manufacturer of multi-slide die casting machines ; Magneti Ljubljana JSC, manufacturer of permanent metallic magnets with their own foundry ; Adut Štore Ltd, grey-and nodular graphite cast iron foundry; DIFA pressure die casting foundry and castings machining Ltd, Škofja Loka, producer of Al-castings; HTS IC Ltd, Ljubljana, manufacturer of components and innovative tools for pressure die castings ; INEL Ltd ,Gornji Grad, induction heating development and application engineering.

## Macroeconomic Indicators

In the first half of the year 2014 we had globally very modest growth of our economy, such tendency was continued also in the second half of the year.

## Foundry Production

The whole production in the year 2014 was 194.003 tons, that is 6.3% more than in the year 2013. We have the following »movements« of the different castings:

- Gray iron 3.8 % growth
- Nodular iron 10.2 % increase
- Steel and malleable and granulat 9.2 % of growth
- Copper alloys – 26.1% growth
- Aluminium 4.8 % increase
- Magnesium - production of 441 tons
- Zinc 5.81 % drop

It is interesting, that the Slovenian foundry industry has in the year 2104 better results of the production parameters as other industries. The better results have foundries connected with automotive programmes. The common conclusion can be, that all foundires have problems with high costs of energy and material costs and too low investments and the lack of development.

\* \* \* \* \*

## Overall Economy and Metal Sector in particular

The Spanish economy generated in 2014 a 1.4 percent higher Gross Domestic Product (GDP) than the previous year. This way, strengthens the recovery of the economy of our country. This was mainly thanks to the advancement of household consumption and investment takeoff, particularly thanks to the investment in equipment.

Metal Industry's New orders, which measure future demand, showed a growth rate of 4.3 percent, compared to the previous year orders. In this sense, it could be said that the Metal productive activity will continue alive, especially regarding capital goods industry and automotive related industries.

Regarding to the labor market and according to the Labor Force Survey, the number of unemployed persons reached 5.4577 million in the fourth quarter of 2014, significantly lower than in previous quarters (-8.1 percent compared to the fourth quarter 2013) but still very high compared to seven or eight years ago.

In terms of prices, the Consumer Price Index recorded a negative annual change of -1.0 percent in December 2014, the sixth consecutive, mainly due to oil prices fall that affected prices of the fuels.

In the context of national economy, in 2014, the metal sector has experienced a situation of improvement over the previous year, although the expectations generated at the beginning of the year did not materialize. Activity advanced more slowly during the second half of the year.

In 2015, following the expected growth of domestic demand (consumption, investment and foreign trade) it seems that the trend will improve, with a more favorable development than 2014. The labor market of the sector will also be slowly improved.

The employment in the Metal Industry closed 2014 with less loss of jobs than in 2013. The number of employed persons reached 869.025 annual average (879.450 in 2013), representing a drop of -1.2 percent.

The Metal industrial production grew by 1.8 percent on average in 2014, compared with the -0.8 percent recorded in 2013 and -10 percent in 2012.

Regarding to foreign trade in the metal sector, exports had an increase of 2.3 percent. Metal imports, meanwhile, recorded important growths quarterly.

In conclusion, the Spanish economy, and also the Metal Sector, has improved compared to twelve months ago. Although the situation is still difficult, it has advanced significantly since the turning point began last exercise.

## Foundry Sector

### Iron Castings Section

#### Mechanical Molding

In general, markets began well the 2014 year and have fallen in last months of the year.

In general, the diversification in different sectors it is working very well.

There have been some payments delays cases.

#### Automotive Casting

In general, for 2014 year, increases in production were expected and in a few cases have been achieved. Whereas, in general, have become similar to 2013 figures.

For the next few years, it is expected stability in Europe. While in USA increases are expected.

Exists a concern about the impact it could have on our costs the approval of a new electric calendar, with more hours in P1 and less in P6.

**Manual Molding**

In general, markets began well 2014 year and have fallen in last months of the year.

The machine tool industry is frankly weak. There was a project before the summer, but funding problems remain.

The die sector has performed well during 2014, although the sensation of the last months has been a little worse.

In water sector there have been some interesting projects, while the mining and cement sectors have had a similar behavior to the previous year.

**Stainless Steel**

The Oil & Gas Sector has performed strongly, although in some cases it has fallen. However, forecasts for 2015 are optimistic, especially in the gas sector.

The hydraulic sector has dropped compared to previous years and there is much competition from foundries in Eastern Europe.

In general, the level of the parts has maintained, while conditions and requirements are increasing.

**Steel Castings**

In general, markets have performed well during the first half of the year, while after the summer have fallen a lot, in some cases dramatically.

The railway sector has improved over the previous year, which was very bad. The forecasts are optimistic, especially railway infrastructure.

The public works sector has been very weak.

Chemical and shipbuilding sectors have had little demand, especially after summer.

In general the situation is not good, although there are many inquiries on the market and foundries have made many offers. There is movement, but very few have materialized.

The quality and time requirements are still very high, while the price level of the pieces remain poor.

**Non-Ferrous Castings**

Aluminum foundries, which increasingly spend more percentage of their production to the automotive sector, have increased their production nearly 5% over the previous year.

In 2014 the production of parts in zamak has changed its trend after several years of continuous falls, having grown 1% over the previous year.

**Raw materials and auxiliaries**

Throughout the year scrap prices have remained stable, with lower prices at the end of 2014 compared with the previous year. Ferroalloys have evolved upward. Ingot prices, graphite and resin have been stable during 2014. The sands have risen by 5% and the shot has dropped (-4%).

The annual change in industrial electricity costs has evolved down -1.60%, mainly due to downward adjustments of enterprises in the amount of contracted power.

\*\*\*\*\*

## Situation of the foundry industry

The Swiss foundry industry closed last year with a slight overall dip in tonnages delivered by 1.2% to 65,530 tonnes across all the material groups. This was announced today by the Swiss Foundry Association (SFA) at a press conference. The result for the year evidenced the positive trend, but also highly sensitive situation in which the Swiss foundry companies found themselves when the SNB raised the minimum euro rate on 15 January 2015. Forecasts for the current year are therefore rather gloomy.

Altogether the tonnages delivered by the iron and steel foundries in 2014 were down by 4.5% on the previous year at 45,110 tonnes. Broken down by individual material group, nodular graphite cast iron (spheroidal cast iron) foundries reported a 3.3% drop to 28,580 tonnes, and cast iron with lamellar graphite (grey cast iron) was down 6.5% on the previous year at 14,860 tonnes. Cast steel was also down, by 4.5% to 1,670 tonnes.

The Swiss light metal foundries increased their tonnages processed in 2014 by 9.4% to 17,120 tonnes. Light metal sand casting achieved a 28.5% increase to 2,770 tonnes, die casting a 10.8% increase to 12,340 tonnes. Gravity die-casting was down by 14.6% at 2,010 tonnes. Copper alloys were down 4.1% on the previous year at 3,300 tonnes. Altogether the Swiss foundry industry closed 2014 with a slight dip of 1.2% in tonnages delivered to 65,530 tonnes across all the material groups. The result per se can be rated as positive, as this slight decrease in tonnages delivered also reflects the fact that many cast parts are being produced with thinner walls, thanks to innovative developments. Consequently it was possible in some cases to produce more cast parts using less material.

Breaking the figures down by individual user markets, the largest growth rates achieved in 2014 were again through new orders from the automotive sector. This is primarily due to the development of innovative lightweight cast components, making a major contribution to reducing CO2 emissions. This is a speciality of the Swiss light metal foundries. Whereas the orders from the commercial vehicle sector tended to be down, rolling stock accounted for increases in production last year. Orders from the construction industry were constantly high, and the energy sector trend was attractive in terms of high-voltage equipment and control cabinets. The leisure industry also came up with new orders. With a few exceptions, demand from the mechanical engineering, tool making and textile machine markets was constantly low.

### Swiss franc shock triggers off fatal pressure wave

The weak euro already created a massive price and cut-throat competition last year. This external factor which cannot be influenced hit the profitability of the Swiss foundry industry, which exports 80% of its production to the Eurozone. As the business development confirms, however, the efforts of affiliated companies with new processes, rationalisation and automation have already produced encouraging results.

Although the fixing of the lower limit of the exchange rate at CHF 1.20 was no cause for celebration, the numerous measures taken to maintain innovativeness and competitiveness had a continually positive effect. So far this has prevented any major downsizing. The situation has changed drastically since the increase in the minimum euro rate.

### Redundancies in Switzerland and production shifted abroad

According to a survey among members of the SFA executive committee, there have been huge decreases in new orders in some cases. The reversal effect of now being able to purchase raw materials and services in the euro countries at lower prices does not offset the millions of financial losses in margins. This cost-cutting represents roughly one third against two thirds in loss of profits. Lower utilisation of production capacity has forced affiliated companies not only to introduce short-time working but also to start laying workers off recently.

At the same time further measures are going full steam ahead to survive and increase efficiency in every division.

Any company that does not already have at least a second production site outside Switzerland and can at all afford this as a medium-sized enterprise is currently looking into switching parts production with high manual expenditure to lower-cost euro countries. On the other hand, Swiss production sites are increasingly switching to specialising in high-spec complete solutions and highly automated mass production.

Made in Switzerland solution to overcoming the crisis

Even though the prevailing circumstances have become markedly tougher and financial resources are dwindling due to the unfavourable currency situation alone, the affiliated companies are investing in this country in the research and development of new, innovative casting solutions. In addition, engineering services with the very latest methods, comprising an “extended workbench”, are being offered to customers. This technical know-how enables the Swiss foundries to make crucial advances. Together with a highly skilled specialist workforce, Made in Switzerland quality and reliability of delivery, this is how they intend to overcome this crisis as well.

\* \* \* \* \*

## General Economic Situation

Turkey's economy lost its upward trend last year, slowing from 2013's 4.2% expansion to a 2.9% increase. The result was driven by sluggish private consumption and a contraction in fixed investment. End of 2014 data revealed a mixed picture of the economy.

Turkey's outlook has moderated. While the fall in oil prices should help reduce the current account deficit, growing uncertainty around the upcoming parliamentary elections and expectations that consumer spending will remain soft present a downside risk. Forecasters lowered their growth projection for 2015 by 0.2 percent and expect the economy to expand 3.4%. For 2016, forecasts GDP expanding 3.9%.

Some of the major economic indicators of Turkey in the recent years:

	2007	2008	2009	2010	2011	2012	2013	2014
Producer Price Index (PPI) %	6,0	8,1	9,3	8,9	11,9	6,1	4,5	10,2
Consumer Price Index (CPI) %	8,4	10,1	6,5	6,4	10,45	6,16	7,40	8,8
Total imports (US \$ bn)	162	194	134,5	177,3	240,8	236,5	251,7	242,4
Total exports (US \$ bn)	115,3	141	109,6	120,9	134,9	152,5	151,8	157,6
Current account blnc (US \$bn)	-38,0	-41,9	-13,96	-48,6	-75,1	-49,9	-64,7	-45,8
Current account / GDP %	7,6	8	2,3	6,6	9,7	6	10,3	5,8
Nominal Interest rate % (Avg)	16,5	16,5	15,0	10,0	10,0	9,0	10,7	11,2
GDP % (YoY)	4,67	0,7	(-4,7)	9,16	8,8	2,2	4,1	2,9

### The Gross Domestic Production (GDP) IV Quarter 2014

GDP increased by 2.9% in 2014 and reached to 126 billion 70 million Turkish Liras at constant prices and increased by 11.6% and reached to 1 trillion 749 billion 782 million Turkish Liras at current prices.

Value added of industry increased by 3.5% and reached to 41 billion 510 million Turkish Liras at constant prices increased by 14.1% and reached to 421 billion 342 million Turkish Liras at current prices compared to previous year in 2014.

The per capita GDP in 2013 was 10 822 US Dollars and in 2014 was 10 404 US Dollars at current prices.

### Situation in the major customer Industries 2014 summary

#### Vehicle production

Automotive production can be summarised with figures as;

Passenger car production +16% rise compared with 2013; 733.439 to 633.604 in 2013

Commercial vehicles (-)11% decrease compared with 2013; 437.006 to 491.930 in 2013

Heavy truck - Government investments projects of highways, bridges and new residential areas feeds the sector only increase in heavy trucks by 3%,

Agricultural Tractors – Competition with Indian and Chinese products locally; Production rise 19%; 48.403 to 40.509 in 2013

#### General engineering and machinery

General Machinery - local demand low

Rolls for steel mills – steel industry is standby position production low.

Castings for electricity production – waiting for local production of wind energy investments.

**Construction, mining**

Cement industry - stable  
 Earth moving machines – stable  
 Crushers - positive

**Developments in the Foundry Industry**

In 2014, the total number of operating foundries is 929; of which 161 are big foundries. The number of SME's is 371 and of micro foundries 397. There are also 17 public and military foundries but their production is negligible. As a result calculated number of operating foundries is 929.

Total foundry production in 2014 has increased by 13,4 % compared to 2013. Figures of year 2014 have been calculated from the data collected from the members of Tudoksad.

Census of 2014 Casting Production in Turkey (1.000 tons)

Castings Shipped	2007	2008	2009	2010	2011	2012	2013	2014	Change (%)
Grey Iron	623	565	456	591	625	610	600	650	8,3
Ductile	394	400	352	423	480	502	500	600	20
Malleable	6,5	5	2	4,7	5,5	8	8	10	25
Steel	144	140	98	124	152	140	135	140	3,7
Non Ferrous	149	155	122	149	170,5	185	300	350	16,7
<b>Total Production</b>	<b>1.316</b>	<b>1.265</b>	<b>1.030</b>	<b>1.292</b>	<b>1.433</b>	<b>1.445</b>	<b>1.543</b>	<b>1.750</b>	<b>13,4</b>
<b>Total employed</b>	<b>35.000</b>	<b>29.000</b>	<b>25.000</b>	<b>30.500</b>	<b>33.000</b>	<b>33.000</b>	<b>35.000</b>	<b>33.000</b>	<b>-5,7</b>
<b>Number of foundries operating</b>									
Micro	600	550	410	374	440	370	402	397	
Small	480	450	400	381	423	410	390	371	
Large	146	150	142	148	177	182	163	161	
<b>Total</b>	<b>1.226</b>	<b>1.150</b>	<b>952</b>	<b>903</b>	<b>1.040</b>	<b>962</b>	<b>955</b>	<b>929</b>	

In 2014 foundry production in Turkey completely recovered after 2009 crises.

New legislation on Occupational Safety and Health arise new costs with new employees.

Economic currency policies keeps Turkish Lira overvalued and has negative effect on profitability of manufacturing for exports.

**Employment situation**

In 2014 mechanization and new automatic production lines reduces total workforce at 6 percent.

**Investment plans**

New Aluminium HPDC foundries with new investments and growing demand from automotive industry.

Ductile and ADI production are expected to rise at least 5% with new machining, finishing investments of foundries.

New green field steel foundry planned.

## Supply of Raw Materials and Energy

Stable market in 2014 compared with previous years.

Prices of Input Materials (all delivered to foundry door) are given below.

Raw Material Prices

Costs	Units	Sept 2008	Feb 2009	Dec 2009	Aug 2010	Feb 2011	Feb 2012	May 2013	April 2014	Dec 2014
of electricity	€/kwhr	10,0	8,3	8,97	9,75	9,71 10	9,5 10,5	10,2 13	8 10,3	7 11,9
of natural gas*	€/m3	35	37	36	39	36	36	37	30	36
of baled steel scrap	€/ton	300	231	260	360	380	373	375	370	306 328
Low Mn basic pig iron	€/ton	550	312 408	300 360	400 440	440	415	420	400	360 380

\*corrected

Manufacturing costs of foundries are mostly indexed to USD. Last 2 years Turkish foundries had to face negotiations from EU customers regarding the exchange rates of Turkish Lira towards Euro. As graphed above manufacturing costs raised more than the value of Euro.

## Cost developments

**Metallic input** - Stable

**Payroll** – rise avg inflation

**Energy** – rise on electricity expected – after the election of parliament (June 2015)

## The situation in The Material sectors

### Grey Iron and Ductile Iron Castings

Fall of %10-20 in automotive orders in first half, recovered second half.

Major foundries invested on vertical integrated machining/finishing capabilities for automotive sector.

New capacity investments with modern moulding machines in medium sized foundries for mainly non-automotive markets (municipality castings, sewage, manhole covers, grills).

A new greenfield ductile iron pipe production plant is postponed due to economic uncertainty.

Heavy competition of neighbouring countries.

Ductile castings increasing its share in total production.

### Steel Castings

Worse than expected. Average capacity utilization 50%.

Total casting shipments below 2011.

Turkish steel foundries start serving new customers and new markets.

Investments on moulding lines, sand reclamation, computer simulation and energy efficiency.

Short backlogs in steel foundries.

Strong competition on local market with cement making, earthmoving, crusher equipment castings.

The demand of steel casting was fluctuating and inconsistent,

Customer demands on very short delivery times, resulting additional labour costs.

Local demand is very low.

### **Non-Ferrous Light Alloy Castings**

Local demand growing steadily

New orders from mainly automotive part & component producers of EU and Turkey.

Investments of new HPDC machines. Few new greenfield plants planned.

### **Suppliers**

Arising risk for steel scrap purchase and increase in raw steel production with arc furnaces causes a rise in scrap prices.

Prices of metallic raw materials were stable.

New local branches of major foundry suppliers.

Sources:

Summary by TUDOKSAD The Turkish Foundry Association

Industry figures: TUDOKSAD members

Economic figures and information: CBRT: Central Bank of Turkey and TurkStat: Turkish Statistical Institute

\* \* \* \* \*

**Economy**

First of all from an economic perspective, the growth in UK GDP in 2014 was reported as close to 2.5%, compared with 1.8% the previous year. Manufacturing reportedly makes up 11% of UK GVA and 54% of UK exports and directly employs 2.6 million people in the UK. Manufacturing output was 12% of GDP and productivity grew by more than that for the service sector in recent years. The budget deficit fell slightly but the net public sector debt was close to 80% of GDP.

Employment continued to rise during the year and unemployment to fall, to around 5.7% of the population (compared with 7.2% for the previous year). Average annual earnings growth during the year was around 1.3%.

**Foundry Industry**

As far as the foundry industry itself is concerned, 2014 remained challenging for the majority of UK foundries and proved to be patchy and somewhat disappointing after early positive indications. The main exception to this was the non-ferrous sector where the strength of the automotive industry resulted in strong demand and distinct improvements in orders.

Aerospace and offshore oil and gas projects have all suffered from a reduction in orders, due to the global economic situation and fall in the price of oil. The continuing problems experienced in the Eurozone countries, and the strength of the UK pound, will also adversely affect exports.

With regard to castings production in 2014 compared with 2013, the estimated output for each material was:-

Grey Iron	Increase of 10%
Ductile iron	Increase of 8%
Steel	Decrease of 25%
Light Alloy	Increase of 8%
Non-Ferrous	Decrease of 4%
Investment Casting	Decrease of 8%

A number of UK foundries have continued to invest in new plant and equipment. Two foundry closures were reported and also some job losses as well as instances of short time working being reported, particularly in the steel sector.

Salary and wage awards were limited to around 2.5%.

The price of most raw materials fell during the year and there was an overall reduction in the price of ferrous scrap, pig iron and non-ferrous ingots. In contrast, energy prices continued to increase.

**OUTLOOK**

Feedback from UK foundries remains patchy with some sectors continuing to see strong demand (automotive) and others (oil and gas) still being affected by global uncertainties, and the low oil price leading to a lack of investment. UK businesses are concerned about the level of sterling having a negative effect on exports.

Most companies expect the near future to remain uncertain with enquiries and order levels slowly beginning to pick up again into 2015.

\* \* \* \* \*



## **TABLES**



**IRON, DUCTILE IRON AND STEEL CASTINGS**



**Table 1**

Total production in 1000 t - Iron, Steel and Malleable iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012		2014 : 2013	
						+/- %		+/- %	
Austria	155,3	160,8	150,0	152,7	155,4	1,8	1,7		
Belgium	95,1	78,3	74,4	71,4	76,5	-3,9	7,1		
Croatia	40,8	40,8	41,3	42,8	43,5	3,6	1,7		
Czech Rep.	266,8	365,7	336,7	328,0	293,5 a)	-2,6	-10,5		
Denmark	62,6	79,2		76,2	78,9		3,6		
Finland	89,3	91,5	78,6	70,1	63,3	-10,8	-9,8		
France	1.624,5	1.674,7	1.436,4	1.419,2	1.393,6	-1,2	-1,8		
Germany d)	3.920,2	4.540,2	4.267,4	4.122,7	4.114,2	-3,4	-0,2		
Hungary	59,2	56,8	52,6	69,0	86,6	31,1	25,5		
Italy	1.102,5 b)	1.235,0 b)	1.115,4 b)	1.146,3 b)	1.164,0	2,8	1,5		
Lithuania									
The Netherlands									
Norway	54,7	58,2	52,8	53,3	40,1	0,8	-24,8		
Poland	640,3 a)	678,7 a)	928,6	911,0	700,0	-1,9	-23,2		
Portugal	115,8	127,6	116,9	108,3	121,5	-7,3	12,2		
Slovenia	108,4	145,2	159,0	143,8	153,1	-9,6	6,5		
Spain	1.025,2	1.106,3	985,5	976,3	1.006,2	-0,9	3,1		
Sweden	219,3	251,1	228,4	228,3	204,4	0,0	-10,5		
Switzerland	54,4	62,8	47,8	47,3	45,1	-1,2	-4,5		
Turkey	1.142,7	1.262,5	1.260,0	1.243,0	1.400,0	-1,3	12,6		
United Kingdom	384,9	441,8	396,3	363,1	371,2	-8,4	2,2		
Total CAEF	11.162,0	12.457,1	11.728,1	11.572,7	11.511,0	-1,3	-0,5		
Romania	54,6	62,9	60,1	44,7					
Russia		3.827,0		3.500,0					
Slovakia		25,0							
Ukraine	955,0 e)		1.130,0	985,0					

a) estimated

b) without investment castings: 2010 1461 t, 2011 1222 t

c) production of member foundries

d) revised data

e) 2009

**Table 2**

Production value in Mio. € (a) - Iron, Steel and Malleable iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012		2014 : 2013	
						+/- %		+/- %	
Austria	424,8	444,9	438,7	465,0	479,7	6,0	3,2		
Belgium									
Croatia									
Czech Rep.									
Denmark									
Finland	210,4	236,0	223,3	204,5	191,1	-8,4	-6,5		
France	3.021,0	3.459,0	3.206,0	3.102,0	2.871,0	-3,2	-7,4		
Germany d)	6.401,3 b)	7.945,5 b)	7.678,3 b)	7.243,7 b)	7.188,0 b)	-5,7	-0,8		
Hungary		110,0		186,0	190,0		2,2		
Italy			2.600,0	2.500,0	2.560,0	-3,8	2,4		
Lithuania									
The Netherlands									
Norway	189,0	197,0	190,0	191,0	141,0	0,5	-26,2		
Poland									
Portugal		222,3	211,8	197,7	222,7	-6,7	12,6		
Slovenia									
Spain	1.674,7		1.795,0	1.728,0	1.832,0	-3,7	6,0		
Sweden									
Switzerland									
Turkey	1.517,0	1.756,0	1.772,0	1.792,0	2.010,0	1,1	12,2		
United Kingdom									
Total									

a) rate of exchange: Ø 2014 or fixed

b) revised figures: foundries &gt;50 employees, turnover

**Table 3**

Number of foundries (Production units) - Iron, Steel and Malleable iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	31	31	29	28	28	-3,4	0,0
Belgium	21	19	18	18	16	0,0	-11,1
Croatia			33	32	32	-3,0	0,0
Czech Rep.		88			81		
Denmark	9	9		9	8		-11,1
Finland	17	20	20	19	19	-5,0	0,0
France	139	133	129	125	124	-3,1	-0,8
Germany	269	268	265	258	254	-2,6	-1,6
Hungary	26	27	26	28	28	7,7	0,0
Italy	183 a)	180 a)	178 a)	174 a)	174 a)	-2,2	0,0
Lithuania							
The Netherlands							
Norway	10	10	10	10	9	0,0	-10,0
Poland	216			233	216		-7,3
Portugal	42	42	38	38	37	0,0	-2,6
Slovenia	15	16	15	15	15	0,0	0,0
Spain	87	86	79	78	76	-1,3	-2,6
Sweden	46	47	47	47		0,0	
Switzerland	19						
Turkey	729	665	674	672	561	-0,3	-16,5
United Kingdom	228	226	224	221	219	-1,3	-0,9
<b>Total</b>	<b>2.087</b>	<b>1.867</b>	<b>1.785</b>	<b>2.005</b>	<b>1.897</b>		

a) without 17 companies active in precision casting

**Table 4**

Employment in the foundry industry - Iron, Steel and Malleables iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	2.653	3.103	3.125	3.124	3.222	0,0	3,1
Belgium	1.684 b)	1.412 b)	1.368 b)	1.319 b)	1.147 b)	-3,6	-13,0
Croatia			2.196	2.214	2.216	0,8	0,1
Czech Rep.		12.500			18.000 d)		
Denmark	960	1.001			1.205		
Finland	1.928	1.907	1.891	1.602	1.428	-15,3	-10,9
France	16.951	16.259	15.749	15.120	14.671	-4,0	-3,0
Germany	43.692 a)	45.807 a)	45.358 a)	44.191 a)	44.580 a)	-2,6	0,9
Hungary	1.890	1.980	1.760	1.710	1.460	-2,8	-14,6
Italy	13.483 c)	13.700 c)	13.533 c)	13.476 c)	13.603 c)	-0,4	0,9
Lithuania							
The Netherlands							
Norway	1.249	1.288	1.207	1.106	935	-8,4	-15,5
Poland	16.500						
Portugal	2.278	2.386	2.133	2.056	2.133	-3,6	3,7
Slovenia	1.400	2.177	1.590	<b>1.180</b>	1.746	-25,8	48,0
Spain	11.551	11.799	11.078	10.832	10.405	-2,2	-3,9
Sweden	3.000	3.600	3.500	3.500		0,0	
Switzerland	1.397						
Turkey	22.865	23.150	24.180	24.150	23.150	-0,1	-4,1
United Kingdom	11.000	11.000	9.500	9.200	9.100	-3,2	-1,1
<b>Total</b>	<b>154.481</b>	<b>153.069</b>	<b>138.168</b>	<b>134.780</b>	<b>149.001</b>		

a) foundries &gt;50 employees

b) only workmen

c) without precision casting

d) incl. non-ferrous

**Table 5**

Direct exports total in 1000 t - Iron, Steel and Malleable iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia			25,7	26,8	108,5	4,5	304,4
Czech Rep.		196,0					
Denmark							
Finland	27,5	24,2	23,3	26,3	21,9	13,0	-16,9
France	658,3	629,4	508,1	578,4	647,1	13,8	11,9
Germany	1.543,5	1.747,1	1.670,7	1.614,1	1.608,4	-3,4	-0,3
Hungary	34,7	37,4	43,4	61,4	65,8	41,4	7,1
Italy	326,5		374,8	366,4	391,2		6,8
Lithuania							
The Netherlands							
Norway	31,2	32,7	29,6	31,1	14,7	5,1	-52,7
Poland	235,0				317,6		
Portugal	88,6	109,1	90,0	89,5	101,9	-0,5	13,9
Slovenia							
Spain	533,2	594,7	558,3	568,5	575,7	1,8	1,3
Sweden	48,4	54,3	54,0				
Switzerland							
Turkey	710,5	731,0	688,0	701,5	756,5	2,0	7,8
United Kingdom							
Total	4.237,4	4.155,9	4.065,9	4.064,0	4.609,4		



# **IRON CASTINGS**



**Table 6**

Total production in 1000 t - Iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	38,7	40,6	39,7	40,8	40,7	2,6	-0,1
Belgium	58,0	38,0	36,5	35,0	34,3	-4,2	-2,1
Croatia				33,9	33,4		-1,7
Czech Rep.	153,3	197,7	179,4	170,0	160,0 a)	-5,2	-5,9
Denmark	27,8	31,8		28,4	30,8		8,4
Finland	28,2	28,1	24,6	19,3	17,2	-21,4	-10,8
France	623,0	734,5 b)	657,7 b)	635,4 b)	566,2 b)	-3,4	-10,9
Germany	2.185,3	2.587,8	2.392,7	2.336,5	2.356,0	-2,3	0,8
Hungary	28,9	27,6	49,0	30,9	25,7	-37,0	-16,8
Italy	633,1	692,3	626,4	689,0	702,9	10,0	2,0
Lithuania							
The Netherlands							
Norway	14,3	15,5	13,4	13,6	11,8	1,3	-13,6
Poland	445,1	471,8 a)		700,0	489,0 a)		-30,1
Portugal	38,4	41,3	35,0	33,1	33,5	-5,4	1,1
Slovenia	73,4	76,8	100,2	77,5	80,5	-22,6	3,8
Spain	410,5	444,9	328,6	321,3	334,7	-2,2	4,2
Sweden	161,8	176,5	153,9	163,0		5,9	
Switzerland	19,4	20,4	16,2	15,9	14,9	-1,6	-6,5
Turkey	591,0	625,0	610,0	600,0	650,0	-1,6	8,3
United Kingdom	129,0	146,0	128,0	121,0	133,1	-5,5	10,0
Total	5.659,1	6.396,6	5.391,3	6.064,7	5.714,5		-5,8

a) estimation

b) incl. malleable castings

**Table 7**

Production value in Mio. € (a) - Iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia							
Czech Rep.							
Denmark							
Finland		48,1	44,3	37,0	31,9	-16,5	-13,8
France							
Germany b)	5.362,4 c)	6.715,5 c)	6.382,5 c)	6.028,8 c)	5.971,8 c)	-5,5	-0,9
Hungary							
Italy							
Lithuania							
The Netherlands							
Norway	61,0	58,0	51,0	51,0	48,0	0,0	-5,9
Poland							
Portugal			54,2	49,1	51,7	-9,5	5,3
Slovenia							
Spain	1.351,3 b)	1.557,1 b)	1.415,0 b)		1.427,0 b)		
Sweden							
Switzerland							
Turkey	670,0	720,0	700,0	710,0	720,0	1,4	1,4
United Kingdom							
Total							

a) rate of exchange: Ø 2014 or fixed

b) incl. nodular and malleable iron castings

c) revised figures: foundries &gt;50 empl., turnover

Table 8

Production of iron castings in 1000 t / subdivided by the major customer industries

Country	Year	1	2	3	4	5	6 7		8	Total iron castings
		Pressure pipes and fittings	Drain pipes and fittings	Building and domestic goods	Ingot moulds and bottoms	Rolls	Iron castings for		Any other iron castings	
							Eng. plant and machinery	Vehicle industry		
Austria	2013									40,8
	2014									40,7
	± %									-0,1
Belgium	2013									35,0
	2014									34,3
	± %									-2,1
Croatia	2013		4,5	15,2		1,4	7,2	2,2	3,5	33,9
	2014		4,0	15,2		1,3	7,3	2,1	3,5	33,4
	± %									
Czech Rep.	2013									170,0
	2014									160,0
	± %									-5,9
Denmark	2013									
	2014									30,8
	± %									
Finland	2013			4,3			8,4	6,6	0,003	19,3
	2014			4,9		1,3	7,4	2,5	1,057	17,2
	± %			15,2			-12,2	-61,5	35,133	-10,8
France c)	2013	a)	a)	82,6			195,5	286,9	70,5	635,4
	2014	a)	a)	80,9			156,2	265,6	63,4	566,2
	± %			-2,0			-20,1	-7,4	-10,0	-10,9
Germany	2013	a)	a)	a)	a)	a)	522,0	1.586,7	227,8	2.336,5
	2014	a)	a)	a)	a)	a)	517,8	1.602,4	235,8	2.356,0
	± %						-0,8	1,0	3,5	0,8
Hungary	2013		0,01				23,5	2,3	5,0	30,9
	2014									25,7
	± %									-16,8
Italy	2013	b)	b)	61,6	13,7		342,3	178,0	93,4	689,0
	2014	b)	b)	42,3	14,0		338,0	206,5	102,0	702,9
	± %			-31,3	2,2		-1,3	16,0	9,2	2,0
Lithuania	2013									
	2014									
	± %									
The Netherlands	2013									
	2014									
	± %									
Norway	2013			10,8			1,1		1,7	13,6
	2014			9,1			0,8		1,9	11,8
	± %			-15,8			-30,0		11,8	-13,6
Poland	2013									700,0
	2014									489,0
	± %									-30,1
Portugal	2013		0,1	2,4			2,5	26,5	1,5	33,1
	2014		0,7	2,6			2,4	27,2	0,6	33,5
	± %		426,4	8,3			-3,6	2,3	-61,9	1,1
Slovenia	2013									77,5
	2014									80,5
	± %									3,8
Spain	2013									321,3
	2014									334,7
	± %									4,2
Sweden	2013									163,0
	2014									
	± %									
Switzerland	2013									15,9
	2014									14,9
	± %									-6,5
Turkey	2013	10,0	10,0	55,0	20,0	20,0	180,0	250,0	55,0	600,0
	2014	10,0	10,0	60,0	20,0	25,0	200,0	250,0	75,0	650,0
	± %									8,3
United Kingdom	2013		13,5	10,3	1,3		29,5	45,0	21,4	121,0
	2014		14,9	11,3	1,4		32,5	49,5	23,5	133,1
	± %		10,0	10,0	10,0		10,0	10,0	10,0	10,0

a) contained in: Pos. 8

c) incl. nodular + malleable iron castings

b) contained in: Pos. 3

**Table 9**

Number of foundries (Production units) - Iron castings (incl. nodular iron castings)

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	27 a)	27 a)	25 a)	24 a)	24 a)	-4,0	0,0
Belgium	14	19	13	12	11	-7,7	-8,3
Croatia				26	26		0,0
Czech Rep.		60					
Denmark				9	8		
Finland	14	14	16	14	12	-12,5	-14,3
France	102 a)	96 a)	93 a)	89 a)	88 a)	-4,3	-1,1
Germany	216 a)	215 a)	212 a)	207 a)	203 a)	-2,4	-1,9
Hungary		18	15	16	16	6,7	0,0
Italy	156 a)	154 a)	152 a)	149 a)	149 a)	-2,0	0,0
Lithuania							
The Netherlands							
Norway	7	7	7	7	6	0,0	-14,3
Poland	180			185	180		-2,7
Portugal	35	35	31	31	30	0,0	-3,2
Slovenia		12		8	11		37,5
Spain	57 a)	56 a)	49 a)	48 a)	46 a)	-2,0	-4,2
Sweden	34	34	34	34		0,0	
Switzerland	18						
Turkey	653	594	603	603	490	0,0	-18,7
United Kingdom							
<b>Total</b>	<b>1.513</b>	<b>1.341</b>	<b>1.250</b>	<b>1.462</b>	<b>1.300</b>		

a) incl. malleable iron castings

b) only members

**Table 10**

Employment in the foundry industry - Iron castings (incl. nodular iron castings)

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium	1.090	839 c)	825 c)	786 c)	612 c)	-4,7	-22,1
Croatia				1.826	1.820		-0,3
Czech Rep.							
Denmark					1.205		
Finland	1.283	1.268	1.239	1.074	847	-13,3	-21,1
France	13.066	12.413	11.980	11.460	11.231	-4,3	-2,0
Germany	36.447 ab)	38.263 ab)	37.498 ab)	36.582 ab)	36.971 ab)	-2,4	1,1
Hungary							
Italy	10.960 a)	11.140 a)	10.922 a)	10.862 a)	11.013 a)	-0,5	1,4
Lithuania							
The Netherlands							
Norway	1.084	1.124	1.043	943	774	-9,6	-17,9
Poland	12.400						
Portugal	1.606				1.584		
Slovenia		1.450			1.306		
Spain	9.008 a)	9.384 a)	8.684 a)	8.482 a)	8.062 a)	-2,3	-5,0
Sweden	2.600	2.600	2.500	2.500		0,0	
Switzerland							
Turkey	15.000	15.000	15.500	24.150	16.000	55,8	-33,7
United Kingdom							
<b>Total</b>	<b>104.544</b>	<b>93.481</b>	<b>90.191</b>	<b>98.665</b>	<b>91.425</b>		

a) incl. malleable iron castings

b) foundries &gt;50 employees

c) only workers

**Table 11**

Direct exports total in 1000 t - Iron castings (incl. nodular iron castings)

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia				26,7	28,5		6,5
Czech Rep.							
Denmark							
Finland	26,2	23,0	20,9	24,2	20,7	15,9	-14,3
France	633,0 a)	596,3 a)	477,2 a)	549,1 a)	619,4 a)	15,1	12,8
Germany	1.465,0	1.656,6	1.584,4	1.530,5	1.514,6	-3,4	-1,0
Hungary		35,0	42,2	56,9		34,8	
Italy							
Lithuania							
The Netherlands							
Norway	29,7	30,6	28,0	29,7	13,9	5,9	-53,1
Poland	222,0			352,7	300,0		-14,9
Portugal	83,6		83,9		96,3		
Slovenia							
Spain	483,3 a)	536,8 a)	501,1 a)	510,6 a)	514,7 a)	1,9	0,8
Sweden	45,3	50,3	50,0				
Switzerland							
Turkey	620	630	595	600	650	0,8	8,3
United Kingdom							
<b>Total</b>	<b>3.608,1</b>	<b>3.558,6</b>	<b>3.382,7</b>	<b>3.680,4</b>	<b>3.758,1</b>		

a) incl. malleable iron castings

# **DUCTILE IRON CASTINGS**



**Table 12**

Total production in 1000 t - Ductile iron castings (Nodular and Malleable iron castings)

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	100,6	101,6	93,0	98,9	97,7	6,3	-1,2
Belgium	5,8	6,8	6,4	5,8	6,7	-8,3	15,2
Croatia				8,6	10,0		16,3
Czech Rep.	58,0 a)	67,0	61,0	60,0 a)	58,5 a)	-1,6	-2,5
Denmark	34,8	47,4		47,7	48,1		0,7
Finland	46,4	46,4	38,4	37,0	33,1	-3,8	-10,4
France	916,1	831,6	675,7	703,1	745,2	4,1	6,0
Germany	1.486,9	1.746,1	1.676,3	1.572,0	1.551,3	-6,2	-1,3
Hungary	24,4	23,2	31,0	33,1	48,8	6,9	47,3
Italy	405,3	469,1	416,8	387,6	389,9	-7,0	0,6
Lithuania							
The Netherlands							
Norway	37,4	39,0	36,4	37,2	25,9	2,2	-30,3
Poland	152,3	161,4 a)		156,0 a)	156,0 a)		0,0
Portugal	70,1	77,9	73,9	67,6	80,7	-8,5	19,4
Slovenia	28,8	33,2	24,9	34,9	34,2	39,9	-1,9
Spain	543,3	584,2	580,7	579,7	583,5	-0,2	0,7
Sweden	39,4	51,8	51,1	44,9		-12,1	
Switzerland	33,2	40,5	29,7	29,6	28,6	-0,6	-3,3
Turkey	427,7	485,5	510,0	508,0	610,0	-0,4	20,1
United Kingdom	188,7	219,8	194,3	178,1	190,1	-8,3	6,7
Total	4.599,2	5.032,4	4.499,7	4.589,9	4.698,5		

a) estimated

**Table 13**

Total production in 1000 t - Nodular iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	100,6	101,6	93,0	98,9	97,7	6,3	-1,2
Belgium	5,8	6,8	6,4	5,8	6,7	-8,3	15,2
Croatia				8,5	9,9		16,5
Czech Rep.	52,4	67,0	58,1	60,0 b)	55,0	3,3	-8,3
Denmark	34,8	47,4		47,7	48,1		0,7
Finland	46,4	46,4	38,4	37,0	33,1	-3,8	-10,4
France	916,1 a)	831,6 a)	675,7 a)	703,1 a)	745,2 a)	4,1	6,0
Germany	1.486,9 a)	1.746,1 a)	1.676,3 a)	1.572,0 a)	1.551,3 a)	-6,2	-1,3
Hungary	24,4	23,2	31,0	33,1	48,8	6,8	47,3
Italy	405,3 a)	469,1 a)	416,8 a)	387,6 a)	389,9 a)	-7,0	0,6
Lithuania							
The Netherlands							
Norway	37,4	39,0	36,4	37,2	25,9	2,2	-30,3
Poland	135,7	143,8 b)		145,0 b)	145,0 b)		0,0
Portugal	70,1	77,9	73,9	67,6	80,7	-8,5	19,4
Slovenia	26,4	30,4	24,9	31,1	34,2	24,6	10,2
Spain	540,0	579,1	574,8	574,6	583,5	0,0	1,6
Sweden	39,4	43,0	51,1	44,9		-12,1	
Switzerland	33,2	40,5	29,7	29,4	28,6	-1,2	-2,7
Turkey	423,0	480,0	502,0	500,0	600,0	-0,4	20,0
United Kingdom	185,0	216,0	191,0	175,0	189,0	-8,4	8,0
<b>Total</b>	<b>4.563,0</b>	<b>4.988,8</b>	<b>4.479,6</b>	<b>4.558,5</b>	<b>4.672,7</b>		

a) incl. malleable iron castings

b) estimated

**Table 14**

Production value in Mio. € (a) - Nodular iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia							
Czech Rep.							
Denmark							
Finland	85,8	91,1	86,3	82,1	73,9	-4,9	-9,9
France							
Germany	b)	b)	b)	b)	b)		
Hungary							
Italy							
Lithuania							
The Netherlands							
Norway		107,0	105,0	106,0	68,0	1,0	-35,8
Poland							
Portugal			109,6	100,9	120,9	-8,0	19,9
Slovenia	b)	b)	b)	b)	b)		
Spain	b)	b)	b)	b)	b)		
Sweden							
Switzerland							
Turkey	550,0	650,0	690,0	700,0	850,0	1,4	21,4
United Kingdom							
<b>Total</b>							

a) rate of exchange: Ø 2014 or fixed

b) contained in: Tab. 7

**Table 15**

Production of nodular iron castings in 1000 t / subdivided by the major customer industrie:

Country	Year	1	2	3	4	Total nodular iron castings
		Pressure pipes and fittings	Nodular iron castings for:		Any other nodular iron castings	
			Eng. plant and machinery	Vehicle industry		
Austria	2013					98,9
	2014					97,7
	± %					-1,2
Belgium	2013					5,8
	2014					6,7
	± %					15,2
Croatia	2013					8,5
	2014					9,9
	± %					16,5
Czech Rep.	2013					60,0
	2014					55,0
	± %					-8,3
Denmark	2013					47,7
	2014					48,1
	± %					0,7
Finland	2013		21,9	15,1	0,05	37,0
	2014	0,1	20,5	12,2	0,39	33,1
	± %		-6,5	-19,2	719,1	-10,4
France	2013	a)	25,7	183,7	493,8	703,1
	2014	a)	24,2	187,7	533,3	745,2
	± %		-6,0	2,2	8,0	6,0
Germany b)	2013	a)	491,4	671,4	409,2	1.572,0
	2014	a)	470,9	672,6	407,8	1.551,3
	± %		-4,2	0,2	-0,3	-1,3
Hungary	2013		13,0	20,1		33,1
	2014					48,8
	± %					47,3
Italy	2013	54,3	213,2	104,6	15,5	387,6 b)
	2014	49,2	207,4	116,4	16,9	389,9 b)
	± %	-9,3	-2,7	11,2	9,3	0,6
Lithuania	2013					
	2014					
	± %					
The Netherlands	2013					
	2014					
	± %					
Norway	2013		20,6		16,5	37,2
	2014		8,9		17,1	25,9
	± %		-57,1		3,1	-30,3
Poland	2013					145,0
	2014					145,0
	± %					0,0
Portugal	2013	0,6	1,5	58,3	6,3	66,6
	2014	5,9	1,8	72,4	0,7	80,7
	± %	957,4	19,5	24,1	-88,3	21,2
Slovenia	2013					31,1
	2014					34,2
	± %					10,2
Spain	2013					574,6
	2014					583,5
	± %					1,6
Sweden	2013					44,9
	2014					
	± %					
Switzerland	2013					29,6
	2014					28,6
	± %					-3,3
Turkey	2013	110,0	90,0	250,0	50,0	500,0
	2014	125,0	120,0	300,0	55,0	600,0
	± %	13,6	33,3	20,0	10,0	20,0
United Kingdom	2013	6,2	44,8	85,0	39,0	175,0
	2014	6,7	48,4	91,8	42,1	189,0
	± %	8,0	8,0	8,0	8,0	8,0

a) contained in: Pos. 4

b) incl. malleable iron castings

**Table 16**

Total production in 1000 t - Malleable iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia				0,1	0,1		4,0
Czech Rep.	3,1	7,0	4,3	3,0	3,5	-30,3	16,7
Denmark							
Finland							
France	c)	c)	c)	c)	c)		
Germany	51,9	35,1	31,7	30,2	30,5	-4,5	0,8
Hungary	0,015	0,012	0,011	0,013	0,006	18,2	-53,8
Italy	a)	a)	a)	a)	a)		
Lithuania							
The Netherlands							
Norway							
Poland	16,6 d)	17,6 d)		11,0 d)	11,0 d)		0,0
Portugal							
Slovenia	2,4			3,8			
Spain	3,3 b)	5,1 b)	5,9 b)	5,1 b)	5,5 b)	-13,3	8,1
Sweden							
Switzerland							
Turkey	4,7	5,5	8	8	10	0,0	25,0
United Kingdom	3,7	3,8	3,3	3,1	1,1	-6,1	-64,5
<b>Total</b>	<b>85,8</b>	<b>74,0</b>	<b>53,2</b>	<b>64,4</b>	<b>61,8</b>		

a) contained in: Tab. 12

b) incl. other alloys

c) contained in: Tab. 6

d) estimated

**Table 17**

Production value in Mio. € (a) - Malleable iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Croatia							
Belgium							
Czech Rep.							
Denmark							
Finland							
France							
Germany							
Hungary							
Italy							
Lithuania							
The Netherlands							
Norway							
Poland							
Portugal							
Slovenia							
Spain							
Sweden							
Switzerland							
Turkey	15	21,0	32,0	32,0	40,0	0,0	25,0
United Kingdom							
<b>Total</b>							

a) rate of exchange: Ø 2014 or fixed

Table 18

Production of malleable iron castings in 1000 t / subdivided by the major customer industries

Country	Year	1	2	3	4	Total malleable iron castings
		Malleable iron castings for:		Fittings	Any other malleable iron castings	
		Eng. plant and machinery	Vehicle industry			
Austria	2013					
	2014					
	± %					
Belgium	2013					
	2014					
	± %					
Croatia	2013	0,1				0,1
	2014					0,1
	± %					4,0
Czech Rep.	2013					3,0
	2014					3,5
	± %					16,7
Denmark	2013					
	2014					
	± %					
Finland	2013					
	2014					
	± %					
France a)	2013					
	2014					
	± %					
Germany	2013					30,2
	2014					30,5
	± %					0,8
Hungary	2013			0,013		0,013
	2014					0,006
	± %					-53,8
Italy a)	2013					
	2014					
	± %					
Lithuania	2013					
	2014					
	± %					
The Netherlands	2013					
	2014					
	± %					
Norway	2013					
	2014					
	± %					
Poland	2013					11,0 b)
	2014					11,0
	± %					0,0
Portugal	2013					
	2014					
	± %					
Slovenia	2013					3,8
	2014					
	± %					
Spain	2013					5,1 a)
	2014					5,5 a)
	± %					8,1
Sweden	2013					
	2014					
	± %					
Switzerland	2013					
	2014					
	± %					
Turkey	2013	1,0	1,0	5,5	0,5	8,0
	2014	2,0	1,0	6,0	1,0	10,0
	± %	100,0	0,0	9,1	100,0	25,0
United Kingdom	2013	1,9	0,3	0,4	0,7	3,1
	2014	0,4	0,2	0,2	0,4	1,1
	± %	-78,4	-20,0	-57,1	-46,2	-64,5

a) incl. other alloys

b) estimated

**Table 19**

Number of foundries (Production units) - Malleable iron castings

Country	2009	2010	2011	2012	2013	2012 : 2011	2013 : 2012
						+/- %	
Austria							
Belgium							
Croatia				1	1		0,0
Czech Rep.							
Denmark							
Finland							
France	a)	a)	a)	a)	a)		
Germany	10	10	a)	a)	a)		
Hungary	1	1			1		
Italy	a)	a)	a)	a)	a)		
Lithuania							
The Netherlands							
Norway							
Poland							
Portugal							
Slovenia	1						
Spain	a)	a)	a)	a)	a)		
Sweden							
Switzerland							
Turkey	3	3	3	3	3	0,0	0,0
United Kingdom	a)	a)	a)	a)	a)		
<b>Total</b>	<b>15</b>	<b>14</b>	<b>3</b>	<b>4</b>	<b>5</b>		

a) contained in: Tab. 9

**Table 20**

Employment in the foundry industry - Malleables iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia				220	228		3,6
Czech Rep.							
Denmark							
Finland							
France	a)	a)	a)	a)	a)		
Germany	a)	a)	a)	a)	a)		
Hungary							
Italy	a)	a)	a)	a)	a)		
Lithuania							
The Netherlands							
Norway							
Poland							
Portugal							
Slovenia							
Spain	a)	a)	a)	a)	a)		
Sweden							
Switzerland							
Turkey	135	150	180	150	150	-16,7	0,0
United Kingdom	a)	a)	a)	a)	a)		
<b>Total</b>	<b>135</b>	<b>150</b>	<b>180</b>	<b>370</b>	<b>378</b>		

a) contained in: Tab. 10

**Table 21**

Direct exports total in 1000 t - Malleable iron castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia				0,025	0,030		20,0
Czech Rep.							
Denmark							
Finland							
France	a)	a)	a)	a)	a)		
Germany	16,5	11,8	10,8	10,3	10,4	-4,5	0,8
Hungary							
Italy							
Lithuania							
The Netherlands							
Norway							
Poland	1,8						
Portugal							
Slovenia							
Spain	a)	a)	a)	a)	a)		
Sweden							
Switzerland							
Turkey	3,0	4,0	5,0	5,5	6,5	10,0	18,2
United Kingdom							
<b>Total</b>	<b>21,3</b>	<b>15,8</b>	<b>15,8</b>	<b>15,8</b>	<b>16,9</b>	<b>0,2</b>	<b>6,9</b>

a) contained in: Tab. 11



# **STEEL CASTINGS**



**Table 22**

Total production in 1000 t - Steel castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	16,1	18,6	17,3		16,9		
Belgium	31,3	33,6	31,5	30,6	35,5	-2,8	16,0
Croatia				0,2	0,1		-36,5
Czech Rep.	57,9	94,0	94,9	95,0 a)	75,0	0,1	-21,1
Denmark							
Finland	14,7	17,0	15,6	13,9	13,0	-11,3	-6,6
France	85,3	108,9	102,2	80,7	82,3	-21,1	2,0
Germany	192,1	217,5	215,4	214,2	206,9	-0,5	-3,4
Hungary	5,9	6,0	3,5	5,0	12,1	40,8	143,0
Italy	64,1	73,7	72,2	69,7	71,2	-3,5	2,2
Lithuania							
The Netherlands							
Norway	3,0	3,7	3,0	2,5	2,4	-17,7	-4,4
Poland	67,4	71,4 a)		55,0 a)	55,0 a)		0,0
Portugal	7,3	8,5	8,0	7,6	7,3	-5,3	-3,9
Slovenia	6,1	35,2	33,9	31,4	38,4	-7,4	22,4
Spain	71,5	77,2	76,1	75,3	82,4	-1,1	9,4
Sweden	18,1	22,8	23,4	20,4	14,8	-12,8	-27,5
Switzerland	1,8	1,9	2,0	1,8	1,7	-8,7	-7,0
Turkey	124,0	152,0	140,0	135,0	140,0	-3,6	3,7
United Kingdom	67,2	76,0	74,0	64,0	48,0	-13,5	-25,0
<b>Total</b>	<b>833,8</b>	<b>1.018,0</b>	<b>913,0</b>	<b>902,1</b>	<b>902,9</b>		

a) estimated

**Table 23**

Production value in Mio. €(a) - Steel castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia							
Czech Rep.							
Denmark							
Finland	78,0	96,9	92,7	85,4	85,3	-7,8	-0,1
France							
Germany	1.038,9 b)	1.230,0 b)	1.295,8 b)	1.239,8 b)	1.238,9 b)	-4,3	-0,1
Hungary							
Italy							
Lithuania							
The Netherlands							
Norway	23,0	32,0	34,0	34,0	25,0	0,0	-26,5
Poland							
Portugal				47,8	50,1		4,7
Slovenia							
Spain	323,4	395,5	380,0	345,0	405,0	-9,2	17,4
Sweden							
Switzerland							
Turkey	282,0	365,0	350,0	350,0	400,0	0,0	14,3
United Kingdom							
<b>Total</b>							

a) rate of exchange: Ø 2014 or fixed

b) revised figures : foundries &gt;50 employees, turnover

Table 24

Production of steel castings in 1000 t / subdivided by the major customer industries

Country	Year	1	2	3	4	Total steel castings
		Steel castings castings for:		Steel castings for railways, locomotives, carriages, wagons and trams	Any other steel castings	
		Eng. plant and machinery	Vehicle industry			
Austria	2013					13,1
	2014					16,9
	± %					29,4
Belgium	2013					30,6
	2014					35,5
	± %					16,0
Croatia	2013					0,2
	2014					0,1
	± %					-36,5
Czech Rep.	2013					95,0
	2014					75,0
	± %					-21,1
Denmark	2013					
	2014					
	± %					
Finland	2013	12,9	0,034	0,016	0,9	13,9
	2014	12,1	0,005	0,016	0,8	13,0
	± %	-6,4	-85,3	0,0	-6,1	-6,6
France	2013	54,5	4,4	21,1	0,7	80,7
	2014	53,4	4,4	23,2	1,3	82,3
	± %	-2,0	-1,0	10,0	87,3	2,0
Germany	2013	72,1	14,4		127,7	214,2
	2014	67,1	14,7		125,1	206,9
	± %	-6,9	2,4		-2,1	-3,4
Hungary	2013	4,1	0,9			5,0
	2014					12,1
	± %					143,0
Italy	2013					69,7
	2014	10,1	3,0	1,4	56,7 c)	71,2
	± %					2,2
Lithuania	2013					
	2014					
	± %					
The Netherlands	2013					
	2014					
	± %					
Norway	2013	1,7			0,8	2,5
	2014	1,6			0,8	2,4
	± %					-4,4
Poland	2013					55,0 b)
	2014					55,0
	± %					0,0
Portugal	2013	5,2	0,2	0,1	2,0	7,6
	2014	5,5	0,2	0,6	0,9	7,3
	± %	4,5	-2,9	907,8	-54,6	-3,9
Slovenia	2013					31,4
	2014					38,4
	± %					22,4
Spain	2013					75,3
	2014					82,4
	± %					9,4
Sweden	2013					20,4
	2014					14,8
	± %					-27,5
Switzerland	2013					1,8
	2014					1,7
	± %					-7,0
Turkey	2013	85,0	15,0	20,0	15,0	135,0
	2014	80,0	20,0	25,0	15,0	140,0
	± %	-5,9	33,3	25,0	0,0	3,7
United Kingdom	2013					64,0
	2014					48,0
	± %					-25,0

a) included in position 2 vehicle industry

b) estimated

c) incl. mining industry, building and domestic goods and steel industry

**Table 25**

Number of foundries (Production units) - Steel castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	4	4	4	4	4	0,0	0,0
Belgium	7	7	6	6	5	0,0	-16,7
Croatia				5	5		0,0
Czech Rep.		25					
Denmark							
Finland	6	6	7	9	7	28,6	-22,2
France	37	37	36	36	36	0,0	0,0
Germany	53	53	53	51	51	-3,8	0,0
Hungary	10	8	10	11	11	10,0	0,0
Italy	27	26	26	25	25	-3,8	0,0
Lithuania							
The Netherlands							
Norway	3	3	3	3	3	0,0	0,0
Poland	36			48	36		-25,0
Portugal	7	7	7	7	7	0,0	0,0
Slovenia		3		2	3		50,0
Spain	30	30	30	30	30	0,0	0,0
Sweden	12	13	13	13		0,0	
Switzerland	4						
Turkey	73	68	68	66	68	-2,9	3,0
United Kingdom							
<b>Total</b>	<b>309</b>	<b>290</b>	<b>263</b>	<b>316</b>	<b>291</b>		

**Table 26**

Number of persons employed total - Steel castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium	594 a)	573 a)	543 a)	533	535	-1,8	0,4
Croatia				168	168		0,0
Czech Rep.							
Denmark							
Finland	645	639	652	528	581	-19,0	10,0
France	3.885	3.864	3.769	3.660	3.440	-2,9	-6,0
Germany	7.246 b)	7.496 b)	7.845 b)	7.699 b)	7.609 b)	-1,9	-1,2
Hungary							
Italy	2.523	2.560	2.611	2.614	2.590	0,1	-0,9
Lithuania							
The Netherlands							
Norway	165	164	164	163	161	-0,6	-1,2
Poland	4.100						
Portugal	462				549		
Slovenia		502			440		
Spain	2.543	2.415	2.394	2.350	2.343	-1,8	-0,3
Sweden	930	1.000	1.000	1.000		0,0	
Switzerland							
Turkey	7.730	8.000	8.500	8.000	7.000	-5,9	-12,5
United Kingdom							
<b>Total</b>	<b>30.823</b>	<b>27.213</b>	<b>27.478</b>	<b>26.715</b>	<b>25.416</b>		

a) only workmen

b) foundries &gt;50 empl.

**Table 27**

Direct exports total in 1000 t - Steel castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia				0,06	0,05		-16,7
Czech Rep.							
Denmark							
Finland	1,3	1,2	2,4	2,1	1,2	-11,7	-45,7
France	25,3	33,1	30,9	29,2	27,7	-5,5	-5,1
Germany	78,5	90,5	86,2	83,5	83,4	-3,1	-0,1
Hungary		2,4	1,2				
Italy							
Lithuania							
The Netherlands							
Norway	1,5	2,1	1,6	1,4	0,8	-9,3	-43,5
Poland	11,2				16,5		
Portugal	5,0		6,1	6,0	5,6	-2,5	-5,9
Slovenia							
Spain	49,9	57,9	57,2	58,0	61,1	1,4	5,3
Sweden	3,1	4,0	4,0				
Switzerland							
Turkey	87,5	97	88	96	100	9,1	4,2
United Kingdom							
<b>Total</b>	<b>263,4</b>	<b>288,1</b>	<b>277,7</b>	<b>276,4</b>	<b>296,4</b>		

# **NON-FERROUS METAL CASTINGS**



**Table 28**

Total production in 1000 t - Non-ferrous metal castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	138,0	149,1	142,4	131,6	138,0	-7,6	4,9
Belgium	1,3	1,2	0,8	1,7	1,9	118,6	9,1
Croatia	13,0	13,0	13,0	20,0	22,3	53,7	11,5
Czech Rep.	77,6	94,3	92,0	95,0 a)	108,0 a)	3,3	13,7
Denmark	4,4	4,7		4,1	4,0		-3,4
Finland	11,6	7,8	6,9	7,6	7,1	10,0	-6,8
France	332,6	371,8	362,3	328,9	335,8	-9,2	2,1
Germany	929,8 c)	991,2 c)	987,8 c)	1.019,1 c)	1.132,4	3,2	11,1
Hungary	94,5	105,2	102,6	104,6	108,2	2,0	3,4
Italy	868,2	978,3	844,3	825,4	860,9	-2,2	4,3
Lithuania							
The Netherlands							
Norway	8,6	7,0	5,6 b)	6,5 b)	6,6 b)	16,1	1,4
Poland	263,4 a)	279,2 a)		358,3 a)	358,3		0,0
Portugal	29,1	24,4	29,2	30,6	34,9	4,9	14,2
Slovenia	30,7	34,9	33,4	38,8	44,9	16,2	15,8
Spain	117,7	132,4	133,4	131,3	135,6	-1,6	3,3
Sweden	47,3	57,2	55,0	56,9	56,7	3,5	-0,4
Switzerland	24,2	24,4	21,6	19,1	20,4	-11,5	7,0
Turkey	149,0	170,5	185,0	300,0	300,0	62,2	0,0
United Kingdom	116,5	135,1	124,0	123,1	131,0	-0,7	6,4
<b>Total CAEF</b>	<b>3.257,4</b>	<b>3.581,6</b>	<b>3.139,0</b>	<b>3.602,4</b>	<b>3.806,9</b>	<b>14,8</b>	<b>5,7</b>
Romania	35,3	51,8	57,8	58,3			
Russia	500,0	473,0		600,0			
Slovakia		46,0					
Ukraine	45,0 d)		402,0	380,0			

a) estimated

b) without copper (only 2 foundries = no data collection)

c) revised figures

d) 2009

**Table 29**

Production value in Mio. € (a) - Non-ferrous metal castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	800,4	911,5	893,9	876,0	938,2	-2,0	7,1
Belgium							
Croatia							
Czech Rep.							
Denmark							
Finland	71,5	68,9	64,1	83,5	76,4	30,3	-8,5
France	2.389,0	2.693,0	2.552,0	2.673,0	2.706,0	4,7	1,2
Germany d)	4.189,1 c)	5.041,5 c)	5.083,4 c)	5.117,3 c)	5.426,0 c)	0,7	6,0
Hungary		210,0	216,0	284,0	304,0	31,5	7,0
Italy			4.150,0	3.950,0	4.160,0	-4,8	5,3
Lithuania							
The Netherlands							
Norway	58,0	67,0	42,0 b)	44,0 b)	43,0 b)	4,8	-2,3
Poland							
Portugal		305,6	284,0		243,7		
Slovenia							
Spain	647,4	778,4	763,0	750,0	763,0	-1,7	1,7
Sweden							
Switzerland							
Turkey	600,0	677,5	897,0	1.420,0	1.575,0	58,3	10,9
United Kingdom							
<b>Total</b>							

a) rate of exchange: Ø 2014 or fixed

b) without copper (only 2 foundries = no data collection)

c) revised figures

d) foundries &gt;50 employees, turnover

**Table 30**

Number of foundries (Production units) - Non-ferrous metal castings

Country	Total		thereof:					
			Pressure die casting		Other Light casting		Other Heavy metal alloy casting	
	2013	2014	2013	2014	2013	2014	2013	2014
Austria	30	36	13	16	11	15	6	5
Belgium	7	6						
Croatia	27	27	17	17			10	10
Czech Rep.								
Denmark	7							
Finland	16	16	7	7	5	5	4	4
France	303	298						
Germany	341	341						
Hungary	88	89	36	37	35	34	17	17
Italy	913	913						
Lithuania								
The Netherlands								
Norway	6	4	1	1	4	3	2	
Poland	255	230						
Portugal	30	31	19	20	4	4	7	7
Slovenia	51	50						
Spain	52	52						
Sweden	77							
Switzerland								
Turkey	366	358	316	305	20	21	30	32
United Kingdom	205	205						
Total	2.774	2.656	409	403	79	82	76	75

**Table 31**

Employment in the foundry industry - Non-ferrous metal castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	4.445	3.920	3.960	4.030	4.159	1,8	3,2
Belgium	312 a)	276 a)	282 a)	276	258	-2,1	-6,5
Croatia				1.540	1.545		0,3
Czech Rep.		5.500					
Denmark	384	357					
Finland	493	464	441	450	447	2,0	-0,7
France	12.986	13.079	12.780	12.013	11.900	-6,0	-0,9
Germany	30.472 b)	30.563 b)	32.144 b)	32.765 b)	34.207 b)	1,9	4,4
Hungary	2.300	3.520	3.360	4.034	4.870	20,1	20,7
Italy	14.650	15.000	14.563	14.330	14.428	-1,6	0,7
Lithuania							
The Netherlands							
Norway	437	432	278	346	423	24,5	22,3
Poland	7.400						
Portugal	990		1.102	1.625	1.724	47,5	6,1
Slovenia	2.200	1.800	2.667	2.200	2.243	-17,5	2,0
Spain	4.305	4.602	4.568	4.645	4.810	1,7	3,6
Sweden	2.750	2.750	2.700	2.700		0,0	
Switzerland	1.539						
Turkey	6.500	7.500	9.000	14.000	10.000	55,6	-28,6
United Kingdom	9.500	9.500	9.000	8.800	8.900	-2,2	1,1
Total	101.663	99.263	96.845	103.754	99.914		

a) only workmen

b) foundries &gt; 50 empl.

# **COPPER ALLOY CASTINGS**



**Table 32**

Total production in t - Copper alloy castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	2.266						
Belgium							
Croatia				164	183		
Czech Rep.	12.227 c)	14.241 c)	14.506 c)	14.000 ac)	18.000 ac)	-3,5	28,6
Denmark	913	1.273		1.094	1.099		0,5
Finland	3.908	3.575	3.008	4.346	3.953	44,5	-9,0
France	19.420	19.964	17.688	17.618	17.864	-0,4	1,4
Germany	80.715	82.517	76.640	68.523	72.064	-10,6	5,2
Hungary	1.289	1.293	1.745	2.333	2.175	33,7	-6,8
Italy	69.000	73.830	62.727	63.122	65.855	0,6	4,3
Lithuania							
The Netherlands							
Norway	1.821	1.274	b)	b)	b)		
Poland	7.935	8.411 a)		6.000 a)	6.000	#DIV/0!	0,0
Portugal	12.664	8.470	9.206	9.502	10.464	3,2	10,1
Slovenia	1.021	1.582	1.052	598	754	-43,2	26,1
Spain	7.766	9.664	11.760	11.756	10.176	0,0	-13,4
Sweden	9.600	10.600	10.300	10.300		0,0	
Switzerland	2.233	2.127	2.347	2.334	2.090	-0,6	-10,5
Turkey	12.000	13.000	14.000	14.000	19.000	0,0	35,7
United Kingdom	9.500	11.000	10.000	9.200	8.832	-8,0	-4,0
<b>Total</b>	<b>254.278</b>	<b>262.821</b>	<b>234.979</b>	<b>234.890</b>	<b>238.509</b>		

a) estimated

b) only 2 foundries = no data collection

c) copper and zinc

**Table 33**

Production value in Mio. € (a) - Copper alloy castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia							
Czech Rep.							
Denmark							
Finland	27,2	26,0	22,7	44,0	41,4	94,3	-5,9
France							
Germany	633,4 b)	768,0 b)	757,7 b)	758,1 b)	798,0 b)	0,0	5,3
Hungary							
Italy							
Lithuania							
The Netherlands							
Norway	20,0	20,0					
Poland							
Portugal		208,3	160,9		102,2		
Slovenia							
Spain							
Sweden							
Switzerland							
Turkey	85,0	94,5	122,0	116,0	150,0	-4,9	29,3
United Kingdom							
<b>Total</b>							

a) rate of exchange: Ø 2014 or fixed

b) copper and zinc, revised figures: foundries &gt;50 employees, turnover

**Table 34**

Copper alloy castings in t

Country	Year	Total Production	thereof:					Pressure die casting Messing Laiton Brass
			Sandcast and Gravity die castings	thereof:				
				Copper	Aluminium Bronze	other Bronzes	Brass	
Austria	2013							
	2014							
	± %							
Belgium	2013							
	2014							
	± %							
Croatia	2013	154,0						
	2014	183,0						
	± %	18,8						
Czech Rep. C)	2013	14.000						
	2014	18.000						
	± %	28,6						
Denmark	2013							
	2014	1.099						
	± %							
Finland	2013	4.346	4.346		1.574	1.702	1.070	
	2014	3.953	3.953		1.466	1.521	966	
	± %	-9,0	-9,0		-6,9	-10,6	-9,7	
France	2013	17.618						
	2014	17.864						
	± %	1,4						
Germany	2013	68.523	34.506					
	2014	71.834	36.214					
	± %	4,8	4,9					
Hungary	2013	2.333						
	2014	2.175						
	± %	-6,8						
Italy	2013	63.122			65.855			
	2014	65.855						
	± %	4,3						
Lithuania	2013							
	2014							
	± %							
The Netherlands	2013							
	2014							
	± %							
Norway	2013	a)						
	2014	a)						
	± %							
Poland	2013							
	2014	6.000	b)					
	± %							
Portugal	2013	9.502			2.072		7.430	
	2014	10.464			2.100		8.364	
	± %	10,1			1,4		12,6	
Slovenia	2013	598						
	2014	754						
	± %	26,1						
Spain	2013	11.756						
	2014	10.176						
	± %	-13,4						
Sweden	2013	10.300	6.000					4.300
	2014							
	± %							
Switzerland	2013	2.334						
	2014	2.090						
	± %	-10,5						
Turkey	2013	14.000	10.000	2.500	2.500	1.000	4.000	2.500
	2014	19.000	12.500	3.000	2.500	2.500	4.500	3.500
	± %	35,7	25,0	20,0	0,0	150,0	12,5	40,0
United Kingdom	2013	9.200						
	2014	8.832						
	± %	-4,0						

a) only 2 foundries = no data collection

b) estimated  
98

c) copper and zinc

# **LIGHT AND ULTRALIGHT CASTINGS**



**Table 35**

Total production in t - Light and ultralight castings

Country	2010	2011	2012	2013	2014	2013 : 2012		2014 : 2013	
Austria	121.426	135.375	129.552	131.586	138.029		1,6		4,9
Belgium	931	823	790	646	742		-18,2		14,9
Croatia				19.781	22.075				11,6
Czech Rep.	65.369	80.049	77.457	81.000 a)	90.000 a)		4,6		11,1
Denmark	3.240	3.172		2.853	2.756				-3,4
Finland	4.028	4.032	3.619	2.966	2.854		-18,0		-3,8
France	286.647	326.777	324.509	290.721	297.117		-10,4		2,2
Germany	812.549	858.635	863.244	895.415 b)	1.008.795		3,7		12,7
Hungary	88.921	99.928	96.327	98.291	102.388		2,0		4,2
Italy	737.502	839.850	724.003	702.426	730.338		-3,0		4,0
Lithuania									
The Netherlands									
Norway	6.765	5.695	5.575	6.474	6.562		16,1		1,4
Poland	237.475	251.724		340.000 a)	340.000				0,0
Portugal	15.950	15.490	18.940	20.014	23.169		5,7		15,8
Slovenia	27.227	30.377	30.065	35.521	37.244		18,1		4,9
Spain	100.043	112.989	112.384	110.601	116.374		-1,6		5,2
Sweden	34.200	43.000	40.400	40.100			-0,7		
Switzerland	20.410	20.826	17.970	15.646	17.120		-12,9		9,4
Turkey	123.500	145.000	157.000	270.000	300.000		72,0		11,1
United Kingdom	98.000	114.500	104.500	105.000	113.400		0,5		8,0
<b>Total</b>	<b>2.784.183</b>	<b>3.088.242</b>	<b>2.706.335</b>	<b>3.169.041</b>	<b>3.348.963</b>				

a) estimated

b) revised

**Table 36**

Production value in Mio. € (a) - Light and ultralight castings

Country	2010	2011	2012	2013	2014	2013 : 2012		2014 : 2013	
Austria									
Belgium									
Croatia									
Czech Rep.									
Denmark									
Finland	39,7	41,3	39,6	37,6	33,3		-5,0		-11,4
France									
Germany	3.555,6 b)	4.273,6 b)	4.325,6 b)	4.348,3 b)	4.628,0 b)		0,5		6,4
Hungary									
Italy									
Lithuania									
The Netherlands									
Norway	38,0	47,0	42,0	44,0	43,0		4,8		-2,3
Poland									
Portugal		92,6	115,0		131,8				
Slovenia									
Spain									
Sweden									
Switzerland									
Turkey	465,0	540,0	720,0	1.240,0	1.300,0		72,2		4,8
United Kingdom									
<b>Total</b>									

a) rate of exchange: Ø 2014 or fixed

b) revised figures: foundries &gt;50 employees, turnover

**Table 37**

Light and ultralight castings in t

Country	Year	Total Production	thereof:					
			Aluminium			Magnesium		
			Sandcast and gravity die castings	Pressure die casting	Total	Sandcast and gravity die cast.	Pressure die casting	Total
Austria	2013	131.586	64.220	61.548	125.768			
	2014	138.029	69.704	61.706	131.410			
	± %	4,9	8,5	0,3	4,5			
Belgium	2013	646						
	2014	742						
	± %	14,9						
Croatia	2013	19.781	1.908	17.873	19.781			
	2014	22.075	2.200	19.875	22.075			
	± %	11,6	15,3	11,2	11,6			
Czech Rep.	2013	81.000						
	2014	90.000						
	± %	11,1						
Denmark	2013	2.853						
	2014	2.756						
	± %	-3,4						
Finland	2013	2.966	1.136	1.830	2.966			
	2014	2.854	1.271	1.583	2.854			
	± %	-3,8	11,9	-13,5	-3,8			
France	2013	290.721						
	2014	297.117						
	± %	2,2						
Germany	2013	902.032 c)	379.711	495.670	879.044	16.371	16.371	
	2014	1.008.795	409.544	576.680	993.874	14.921	14.921	
	± %	11,8	7,9	16,3	13,1	-8,9	-8,9	
Hungary	2013	98.291	47.638	50.322	98.291	331	331	
	2014	102.388	49.765	51.658	101.423	965	965	
	± %	4,2	4,5	2,7	3,2	191,5	191,5	
Italy	2013	702.426			695.697			6.729
	2014	730.338			723.287			7.050
	± %	4,0			4,0			4,8
Lithuania	2013							
	2014							
	± %							
The Netherlands	2013							
	2014							
	± %							
Norway	2013	6.474	6.446	28	6.474			
	2014	6.562	6.521	41	6.562			
	± %	1,4	1,2		1,4			
Poland	2013	340.000 b)			340.000			
	2014	340.000						
	± %							
Portugal	2013	20.014	2.037	17.977	20.014			
	2014	23.169	1.339	21.830	23.169			
	± %	15,8	-34,3	21,4	15,8			
Slovenia	2013	35.522			35.521			1
	2014	37.244			36.803			441
	± %	4,8			3,6			
Spain	2013	110.601						
	2014	116.374						
	± %	5,2						
Sweden	2013	40.100	5.100	33.600	35.700	1.400	1.400	
	2014							
	± %							
Switzerland	2013	15.646	4.510 d)	11.136 d)				
	2014	17.120	4.779 d)	12.341 d)				
	± %	9,4	6,0	10,8				
Turkey	2013	270.000	160.000	110.000	270.000			
	2014	300.000,0	175.000	125.000	300.000			
	± %	11,1	9,4	13,6	11,1			
United Kingdom	2013	105.000			101.500			3.400
	2014	113.400			110.000			3.400
	± %	8,0			8,4			0,0

a) Difference = Other casting processes

b) estimated

c) Difference to reported processes = no specific data available

d) Aluminium and Magnesium

**ZINC**



**Table 38**

Total production in t - Zinc

Country	2010	2011	2012	2013	2014	2013 : 2012		2014 : 2013	
Austria	14.130	13.717	12.871						
Belgium	329	341							
Croatia				30	30				0,0
Czech Rep.		2.000							
Denmark									
Finland	257	222	259	258	250	-0,4			-3,1
France	23.669	22.628	20.064	17.765	18.083	-11,5			1,8
Germany	36.569 b)	49.969 b)	47.891 b)	55.142	51.493	15,1			-6,6
Hungary	3.738	3.710	4.367	3.798	3.480	-13,0			-8,4
Italy	60.760	63.800	56.846	59.120	63.961	4,0			8,2
Lithuania									
The Netherlands									
Norway									
Poland	13.800	14.628 a)		8.000 a)	8.000				0,0
Portugal	450	476	1.027	1.073	1.296	4,5			20,8
Slovenia	2.443	2.910	2.250	2.650	6.889	17,8			160,0
Spain	9.293	9.056	8.639	8.288	8.426	-4,1			1,7
Sweden	3.500	3.600	4.300	6.500		51,2			
Switzerland	1.552	1.436	1.235	1.104	1.207	-10,6			9,3
Turkey	13.500	12.500	14.000	16.000	31.000	14,3			93,8
United Kingdom	8.000	8.600	8.500	7.900	7.800	-7,1			-1,3
<b>Total</b>	<b>191.990</b>	<b>209.593</b>	<b>182.249</b>	<b>187.628</b>	<b>201.915</b>				

a) estimated

b) revised figures

**Table 39**

Production value in Mio. € (a) - Zinc

Country	2010	2011	2012	2013	2014	2013 : 2012		2014 : 2013	
Austria									
Belgium									
Croatia									
Czech Rep.									
Denmark									
Finland	4,6	1,7	1,8	1,9	1,6	2,2			-12,4
France									
Germany	b)	b)	b)	b)	b)				
Hungary									
Italy									
Lithuania									
The Netherlands									
Norway									
Poland									
Portugal		4,9	8,1						
Slovenia									
Spain									
Sweden									
Switzerland									
Turkey	50,0	40,0	55,0	64,0	125,0	16,4			95,3
United Kingdom									
<b>Total</b>									

a) rate of exchange: Ø 2014 or fixed

b) included in table 33

**Table 40**

Zinc in t

Country	Year	Total Production	thereof:					
			Sandcast and Gravity die casting	Pressure die casting	general engineering	automotive industry	other	
Austria	2013							
	2014							
	± %							
Belgium	2013							
	2014							
	± %							
Croatia	2013	30,0						
	2014	30,0						
	± %	0,0						
Czech Rep.	2013							
	2014							
	± %							
Denmark	2013							
	2014							
	± %							
Finland	2013	258						
	2014	250			250			
	± %	-3,1						
France	2013	17.765						
	2014	18.083						
	± %	1,8						
Germany	2013	55.142		55.142	257	281	54.604	
	2014	51.493		51.493	254	363	50.876	
	± %	-6,6		-6,6	-1,2	29,2	-6,8	
Hungary	2013	3.798						
	2014	3.480						
	± %	-8,4						
Italy	2013	59.120						
	2014	63.961						
	± %	8,2						
Lithuania	2013							
	2014							
	± %							
The Netherlands	2013							
	2014							
	± %							
Norway	2013							
	2014							
	± %							
Poland	2013	8.000 a)						
	2014	8.000 a)						
	± %							
Portugal	2013	1.073						
	2014	1.296						
	± %	20,8						
Slovenia	2013	2.650						
	2014	6.889						
	± %	160,0						
Spain	2013	8.288						
	2014	8.426						
	± %	1,7						
Sweden	2013	6.500						
	2014							
	± %							
Switzerland	2013	1.104						
	2014	1.207						
	± %	9,3						
Turkey	2013	16.000			5.000	3.000	8.000	
	2014	31.000			13.000	6.000	12.000	
	± %	93,8			160,0	100,0	50,0	
United Kingdom	2013	7.900						
	2014	7.800						
	± %	-1,3						

a) estimated

## **OTHER ALLOY CASTINGS**



**Table 41**

Total production in t - Other alloy castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria	2.447						
Belgium							
Croatia				20	20		0,0
Czech Rep.	2.300 a)						
Denmark	277	290		150	102		-32,0
Finland	6						
France	2.830	2.457	2.295	2.818	2.754	22,8	-2,3
Germany	3 b)	80 b)	9 b)	3 b)	13 b)	-66,7	333,3
Hungary	262	291	124	170	115	37,1	-32,4
Italy	900	800	680	693	697	1,9	0,6
Lithuania							
The Netherlands							
Norway							
Poland				4.300 c)	4.300		0,0
Portugal							
Slovenia							
Spain	636	647	601	584	665	-2,8	13,9
Sweden							
Switzerland							
Turkey							
United Kingdom	1.000	1.000	1.000	1.000	1.000	0,0	0,0
<b>Total</b>	<b>10.661</b>	<b>5.565</b>	<b>4.709</b>	<b>9.738</b>	<b>9.666</b>		

a) incl. copper and zinc

b) since 2010: new survey

c) estimated

**Table 42**

Production value in Mio. € (a) - Other alloy castings

Country	2010	2011	2012	2013	2014	2013 : 2012	2014 : 2013
						+/- %	
Austria							
Belgium							
Croatia							
Czech Rep.							
Denmark							
Finland							
France							
Germany							
Hungary							
Italy							
Lithuania							
The Netherlands							
Norway							
Poland							
Portugal							
Slovenia							
Spain							
Sweden							
Switzerland							
Turkey							
United Kingdom							
<b>Total</b>							

a) rate of exchange: Ø 2014 or fixed

**Table 43**

Other alloy castings in t

Country	Year	Total Production	thereof:	
			Sandcast and Gravity die casting	Pressure die casting
Austria	2013			
	2014			
	± %			
Belgium	2013			
	2014			
	± %			
Croatia	2013	20,0		
	2014	20,0		
	± %	0,0		
Czech Rep.	2013			
	2014			
	± %			
Denmark	2013	150		
	2014	102		
	± %	-32,0		
Finland	2013			
	2014			
	± %			
France	2013	2.818		
	2014	2.754		
	± %	-2,3		
Germany	2013	3		
	2014	13		
	± %	333,3		
Hungary	2013	170		
	2014	115		
	± %	-32,4		
Italy	2013	693		
	2014	697		
	± %	0,6		
Lithuania	2013			
	2014			
	± %			
The Netherlands	2013			
	2014			
	± %			
Norway	2013			
	2014			
	± %			
Poland	2013	4.300 a)		
	2014	4.300 a)		
	± %	0,0		
Portugal	2013			
	2014			
	± %			
Slovenia	2013			
	2014			
	± %			
Spain	2013	584		
	2014	665		
	± %	13,9		
Sweden	2013			
	2014			
	± %			
Switzerland	2013			
	2014			
	± %			
Turkey	2013			
	2014			
	± %			
United Kingdom	2013	1.000		
	2014	1.000		
	± %	0,0		

a) estimated

# **WORLD PRODUCTION**



Table 44

World production 2013, selected countries - Iron and Steel castings in t

			Iron castings	Nodular iron castings	Malleable iron castings	Steel castings	Total
Austria			40.751	116.966	na	13.084	170.801
Belgium			35.000	5.800	na	30.600	71.400
Bosnia/Herzegovina			9.738	1.675	na	4.385	15.798
Brazil			1.825.000	746.300	na	232.500	2.803.800
Canada			377.789	na	na	91.983	469.772
China			20.550.000	11.600.000	600.000	5.500.000	38.250.000
Croatia			33.900	8.600	100	200	42.800
Czech. Rep.			169.564	48.202	8.605	76.380	302.751
Denmark	**		31.800	47.400	na	na	79.200
Finland			19.300	37.000	na	13.900	70.200
France			635.414	703.141	na	80.688	1.419.243
Germany			2.381.462	1.541.737	30.243	207.585	4.161.027
United Kingdom			121.000	175.000	650	64.000	360.650
Hungary			30.900	39.400	13	5.000	75.313
India			6.700.000	1.000.000	60.000	1.100.000	8.860.000
Italy			689.000	387.600	na	69.700	1.146.300
Japan			2.135.794	1.683.250	45.001	181.679	4.045.724
Korea			1.086.400	705.100	6.000	164.100	1.961.600
Mexico	**		771.700	58.947	na	78.746	909.393
Mongolia			na	na	na	na	na
Netherlands			na	na	na	na	na
Norway			13.613	37.183	na	2.493	53.289
Pakistan			150.000	15.000	na	35.000	200.000
Poland			700.000	156.000	1.100	55.000	912.100
Portugal			33.140	67.641	na	7.557	108.338
Romania			25.385	3.024	875	15.420	44.704
Russia			2.800.000	na	na	700.000	3.500.000
Serbia	*		37.251	15.162	10.328	9.050	71.791
Slovakia	**		2.700	18.200	na	4.100	25.000
Slovenia			77.500	34.900	3.800	31.400	147.600
South Africa	*		161.000	59.000	na	118.000	338.000
Spain			321.300	579.700	5.100	75.300	981.400
Sweden			163.000	44.900	na	20.400	228.300
Switzerland			15.900	29.600	na	1.800	47.300
Taiwan			560.989	190.941	na	75.872	827.802
Thailand			na	na	na	na	na
Turkey			600.000	500.000	8.000	135.000	1.243.000
Ukraine			360.000	120.000	35.000	470.000	985.000
United States			4.083.000	4.251.500	81.250	1.422.850	9.838.600

Source: Modern Casting, data can differ from CAEF Co 7

\*) 2011 \*\*) 2010 \*\*\*) 2009

na= not available

Table 45

World Production 2013 selected countries - Non-ferrous metal castings in t

		Copper	Aluminum	Magnesium	Zinc	Others	Total
Austria		na	125.768	5.818	na	14.408	145.994
Belgium		na	646	na	na	na	646
Bosnia/Herzegovina		na	7.158	na	na	na	7.158
Brazil		17.700	241.700	4.600	3.600	na	267.600
Canada		14.536	220.729	na	na	na	235.265
China		750.000	5.200.000	na	na	300.000	6.250.000
Croatia		16.400	19.781	na	30	na	36.211
Czech. Rep.		6.609	87.744	na	10.182	1.072	105.607
Denmark	**	1.273	3.172	na	na	290	4.735
Finland		4.346	2.996	na	258	na	7.600
France		17.618	290.721	na	17.765	2.819	328.923
Germany		68.523	885.661	16.371	55.142	3	1.025.700
United Kingdom		9.200	101.600	3.400	7.900	1.000	123.100
Hungary		2.333	97.960	331	3.798	170	104.592
India		na	950.000	C	na	na	950.000
Italy		63.122	695.697	na	6.729	59.120	824.668
Japan		76.611	1.382.015	na	27.293	6.394	1.492.313
Korea		26.400	560.900	na	na	13.100	600.400
Mexico	**	140.701	600.469	109	1.007	na	742.286
Mongolia		na	na	na	na	na	na
Netherlands							
Norway		na	6.474	na	na	na	6.474
Pakistan		10.000	10.000	na	na	na	20.000
Poland		6.000	340.000	na	8.000	na	354.000
Portugal		9.502	20.014	na	1.073	na	30.589
Romania		4.216	48.725	5.050	175	168	58.334
Russia		na	600.000	na	na	na	600.000
Serbia	*	2.220	4.958	na	na	7.528	14.706
Slovakia	**	na	46.000	C	na	na	46.000
Slovenia		59.800	35.521	na	2.650	na	97.971
South Africa	*	14.300	21.000	300	1.400	na	37.000
Spain		11.756	110.601	na	8.288	na	130.645
Sweden		10.300	35.700	1.400	6.500	na	53.900
Switzerland		1.207	15.646	4.960	na	na	21.813
Taiwan		42.429	280.571	6.748	na	na	329.748
Thailand		na	na	na	na	na	na
Turkey		14.000	270.000	na	16.000	na	300.000
Ukraine		40.000	250.000	12.000	20.000	58.000	380.000
United States		321.400	1.682.000	108.000	238.400	61.600	2.411.400

Source: Modern Casting, data can differ from CAEF Co 7

\*) 2011 \*\*) 2010 \*\*\*) 2009

na= not available

A) includes magnesium

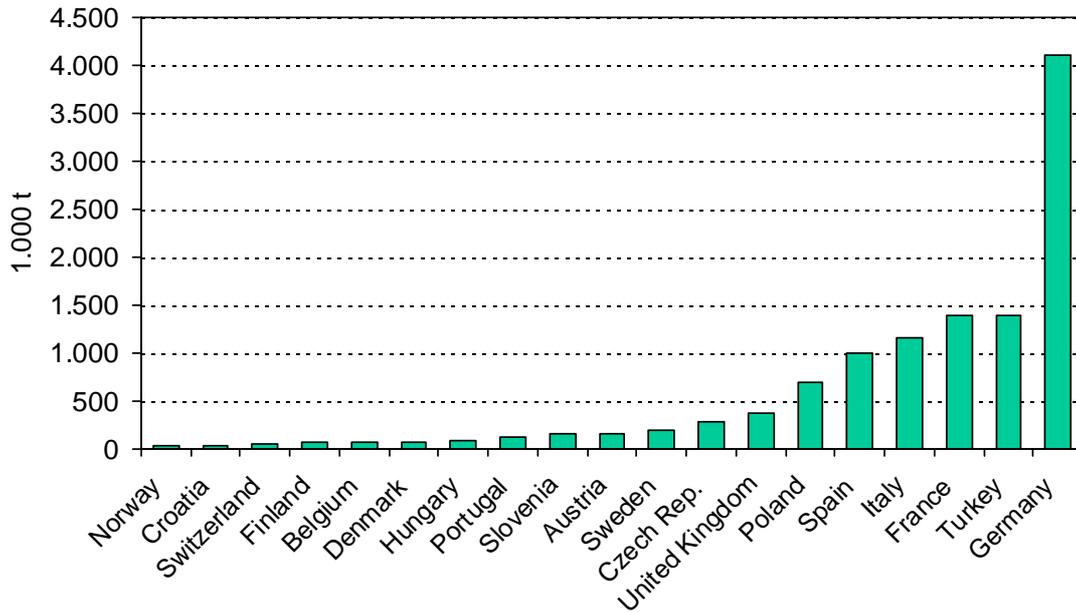
B) all nonferrous

C) includes zinc

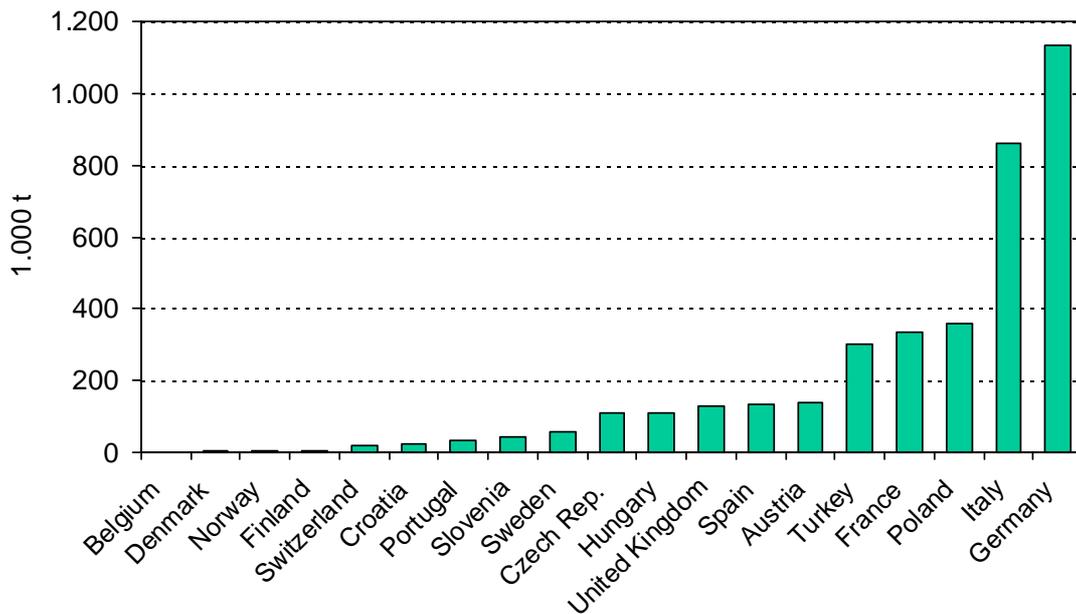
## **GRAPHS**



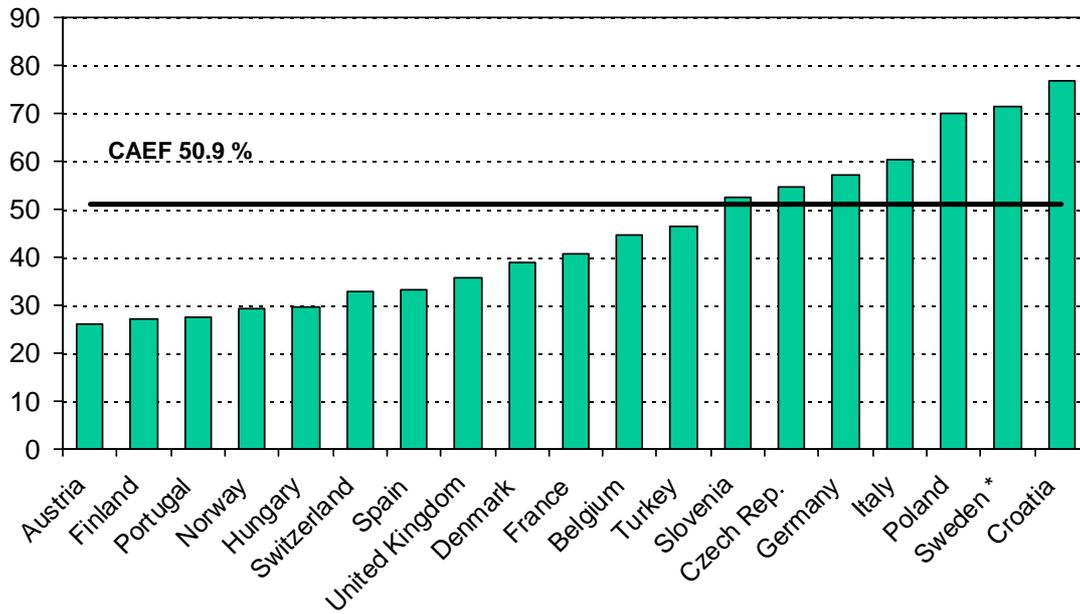
### Production of Iron, Ductile Iron and Steel Castings in the European Foundry Industry 2014



### Production of Non-Ferrous Metal Castings in the European Foundry Industry 2014

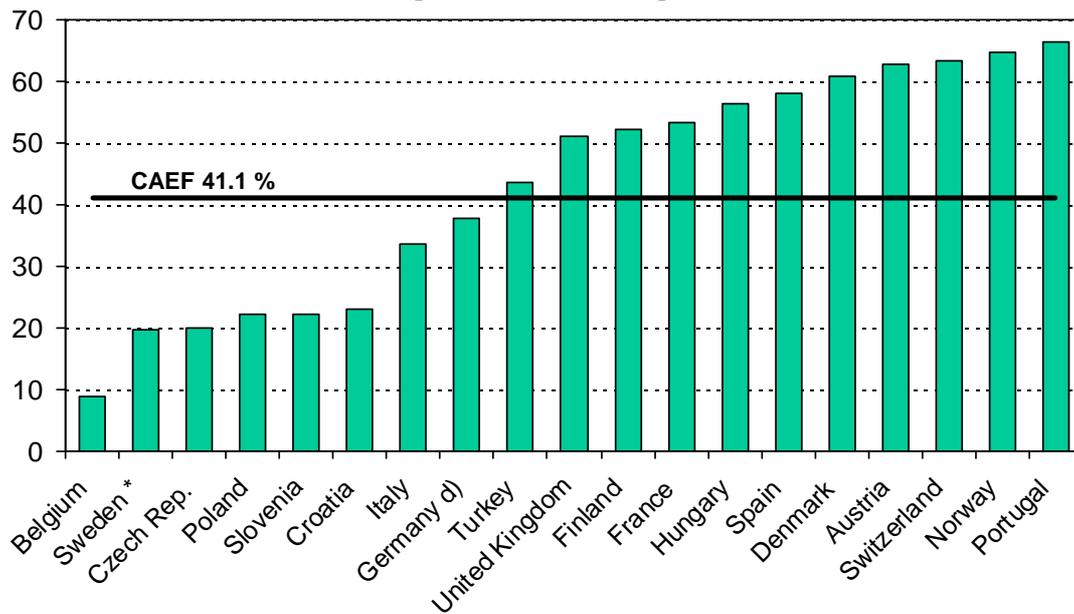


### Iron Castings National Production Share of Iron, Ductile Iron and Steel Castings in Percentage 2014



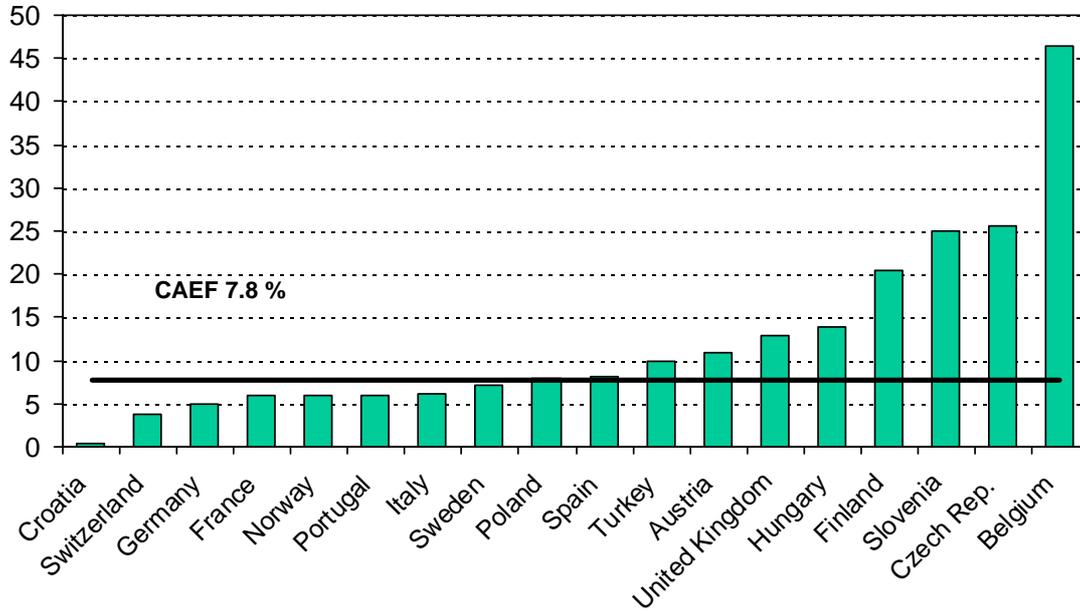
\*) 2013

### Ductile Iron Castings National Production Share of Iron, Ductile Iron and Steel Castings in Percentage 2014

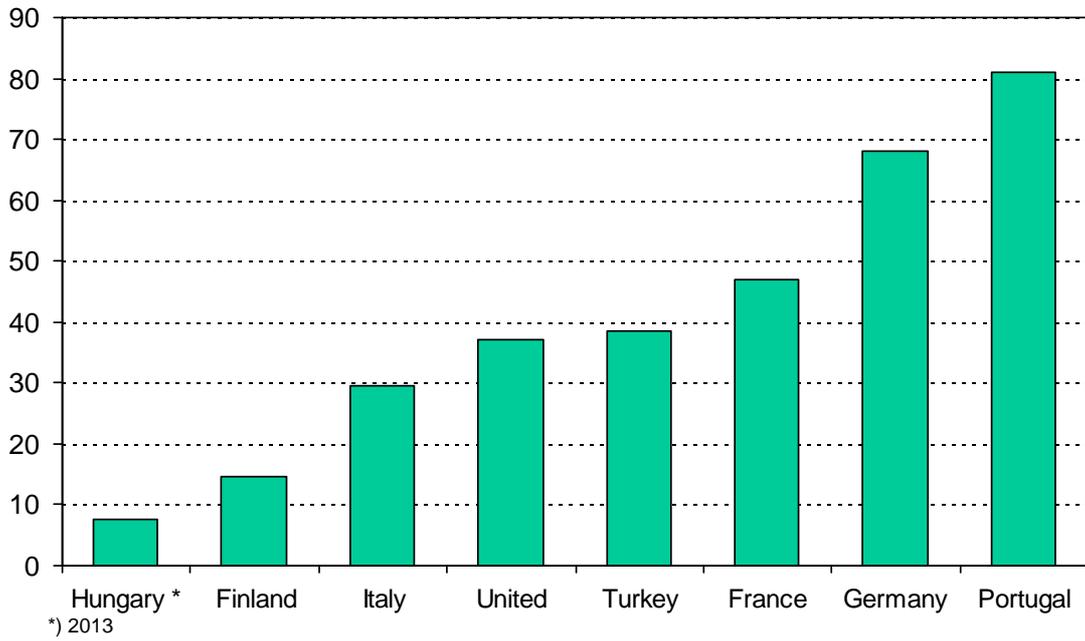


\*) 2013

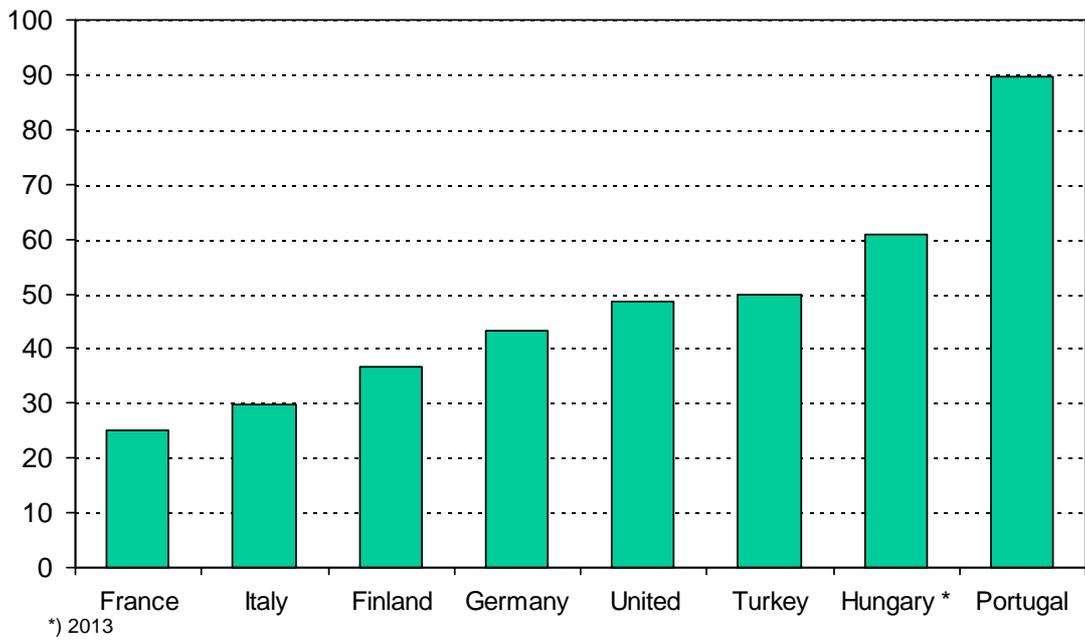
### Steel Castings National Production Share of Iron, Ductile Iron and Steel Castings in Percentage 2014



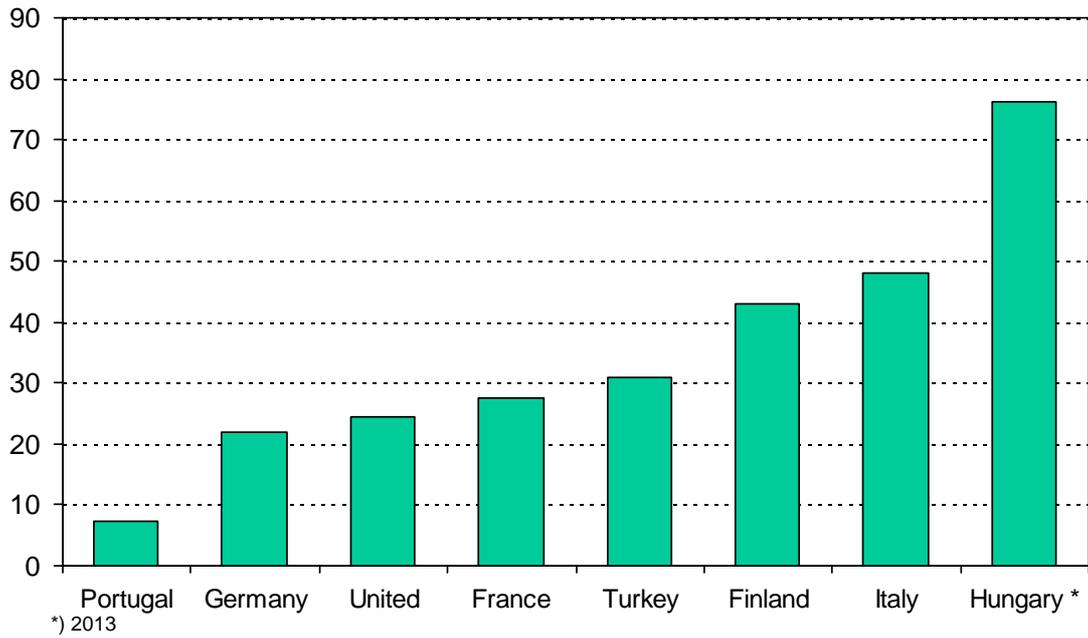
**Iron Castings for the Vehicle Industry  
National Production Share in Percentage 2014**



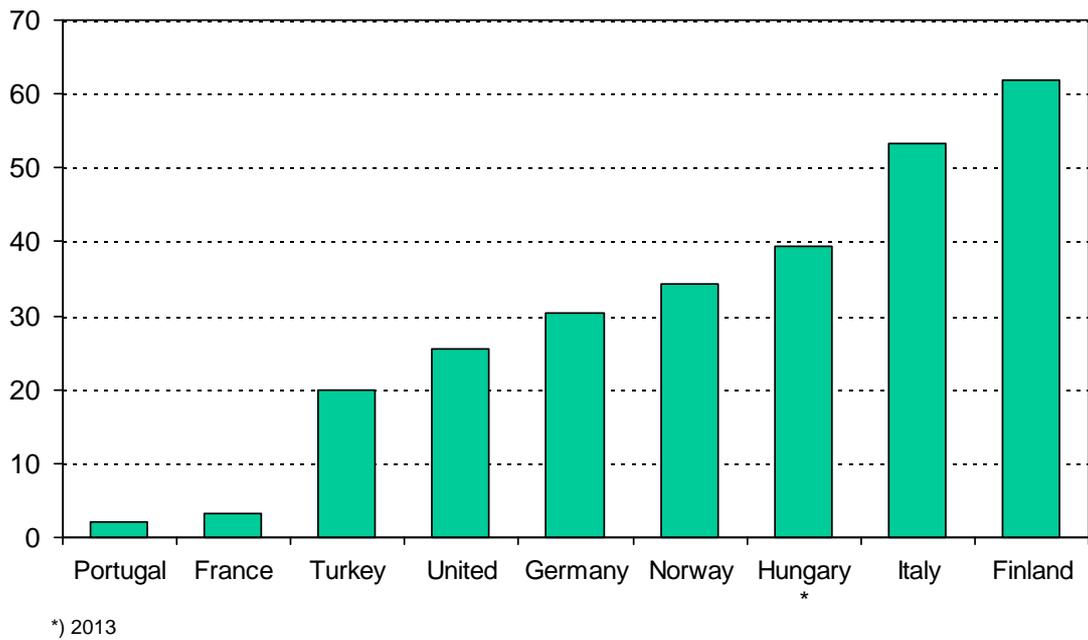
**Nodular Iron Castings for the Vehicle Industry  
National Production Share in Percentage 2014**



### Iron Castings for Engineering Plant and Machinery National Production Share in Percentage 2014

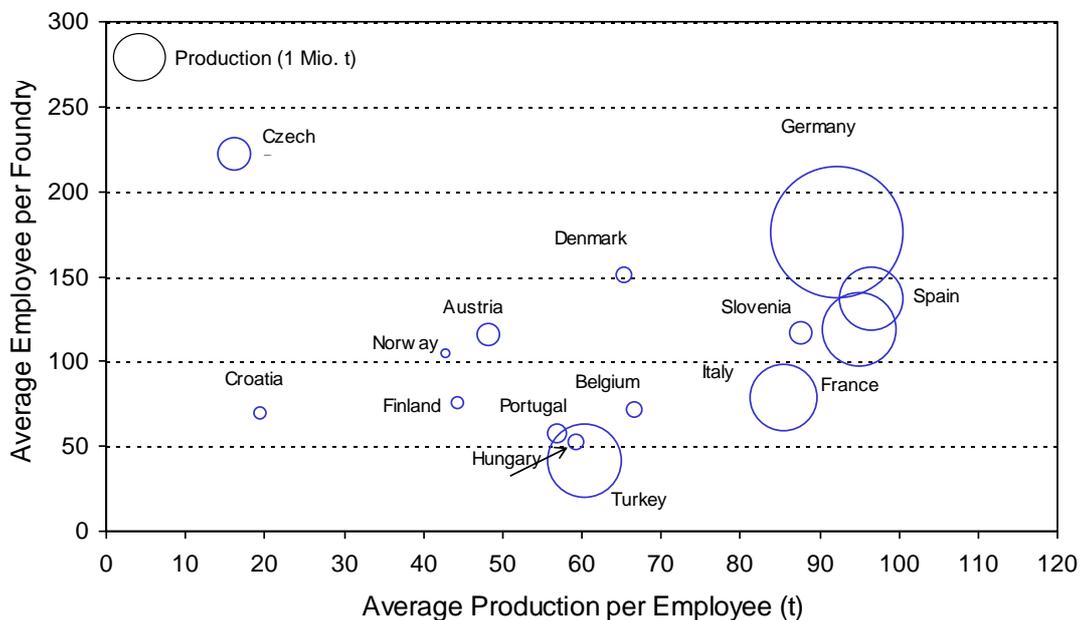


### Nodular Iron Castings for Engineering Plant and Machinery National Production Share in Percentage 2014



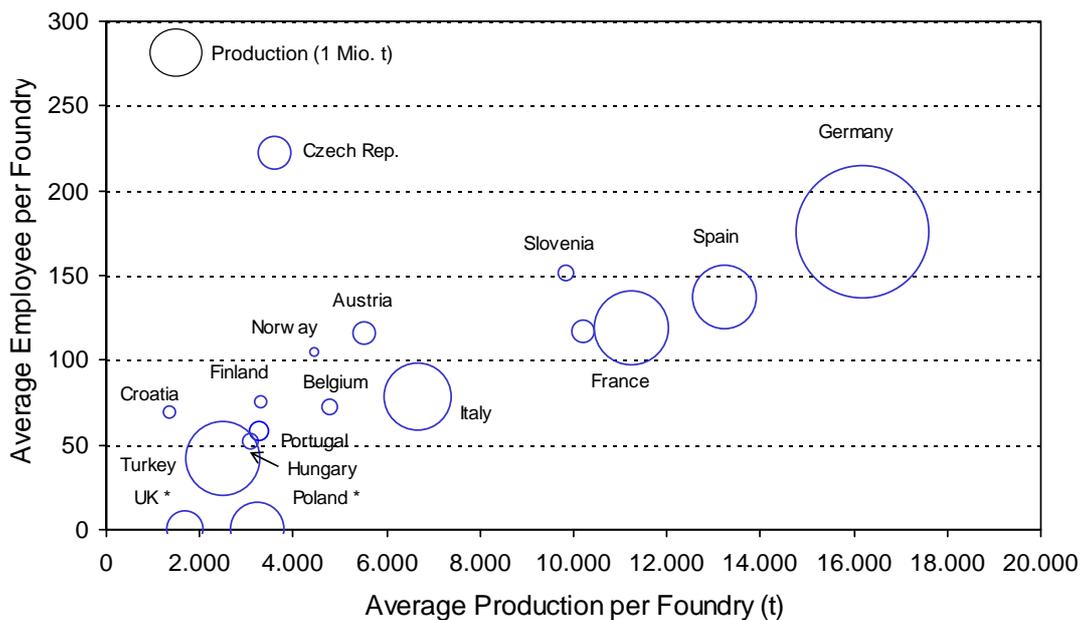
## Average Production per Employee - Iron, Steel and Malleable Iron Castings

### Production of Iron, Ductile Iron and Steel Castings in the European Foundry Industry 2014



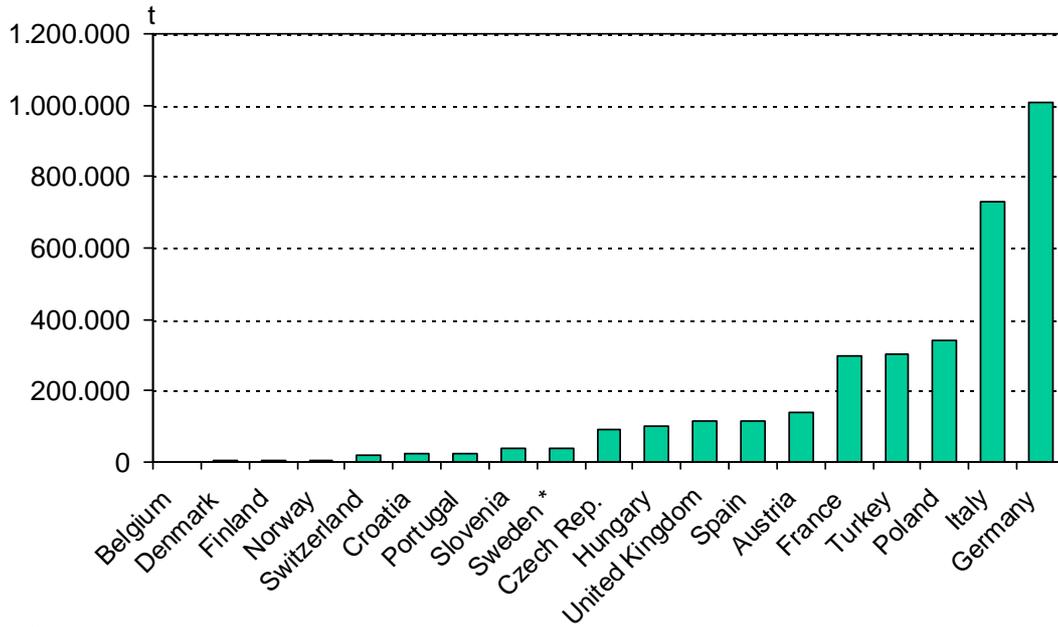
## Average Production per Foundry - Iron, Steel and Malleable Iron Castings

### Production of Iron, Ductile Iron and Steel Castings in the European Foundry Industry 2014



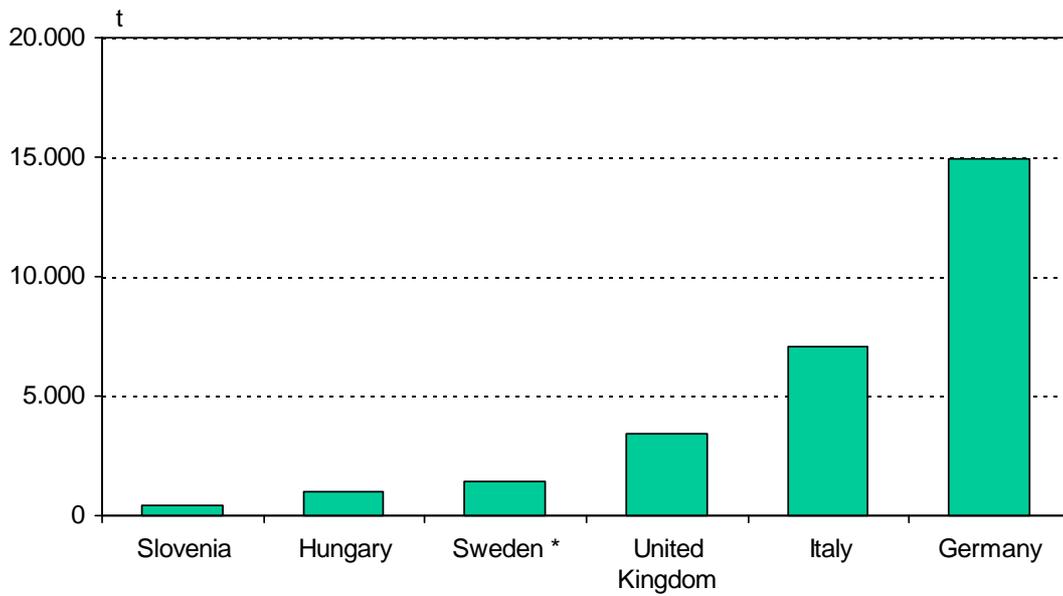
\*) number of employees not available

### Production of Light and Ultralight Castings in the European Foundry Industry 2014



\*) 2013

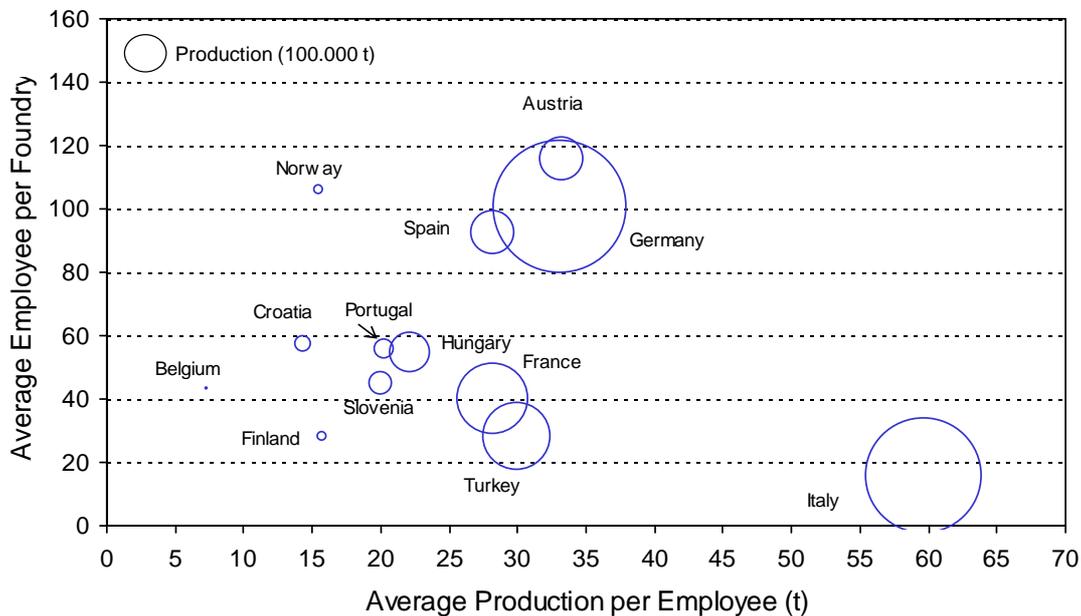
### Major Producers of Magnesium Castings in the European Foundry Industry 2014



\*) 2013

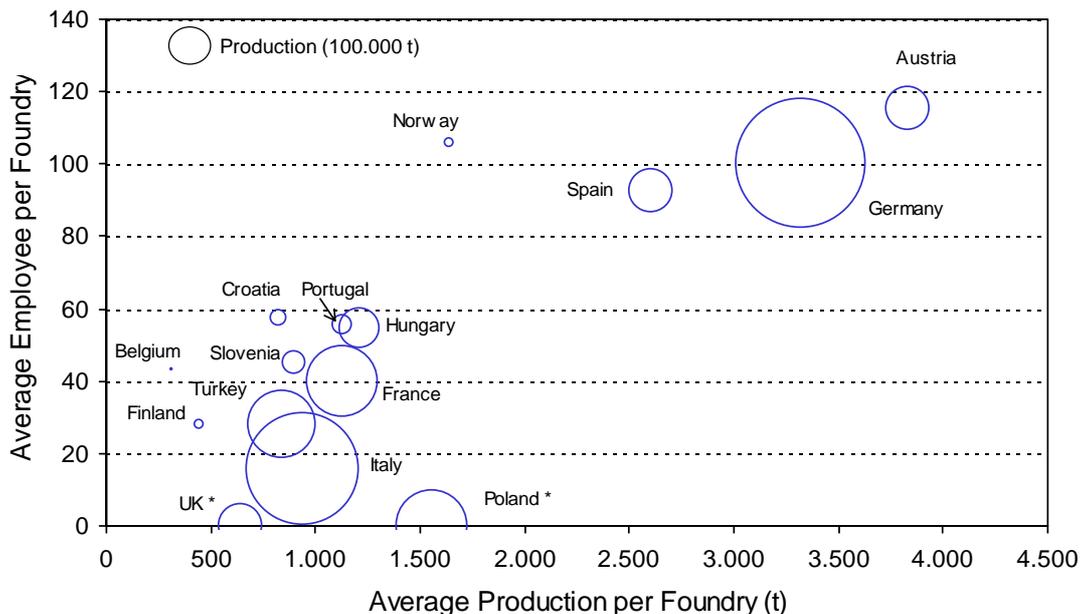
## Average Production per Employee – Non-Ferrous Metal Castings

### Production of Non-Ferrous Metal Castings in the European Foundry Industry 2014



## Average Production per Foundry – Non-Ferrous Metal Castings

### Production of Non-Ferrous Metal Castings in the European Foundry Industry 2014



\*) number of employees not available

## CAEF - The European Foundry Association

Commission No. 7

c/o Bundesverband der Deutschen Gießerei-Industrie

P.O. Box 10 19 61, 40010 Düsseldorf, Germany • Hansaallee 203, 40549 Düsseldorf, Germany

info@caef.eu • www.caef.eu