

# Economic Outlook

Technology Industries of Finland

4 | 2016



**Global And Finnish Economic Outlook**  
Global economic uncertainty continues  
in 2017  
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## Global economic uncertainty continues in 2017

The world economy has grown at a similar rate in 2016 as in 2015. Industrial production has grown slightly in emerging economies, but remained stagnant in Finland and other advanced economies. Services turnover growth has been slower in 2016 than in the preceding three years.

In regional comparison, GDP will grow less than five per cent in Asia, less than two per cent in Western Europe and some 1.5 per cent in Central and Eastern Europe in 2016. North America will also achieve a growth rate of some 1.5 per cent. Economies in Africa and Middle East will also expand. In Latin America, GDP is projected to contract slightly due to recessions in Brazil, Venezuela, Ecuador and Argentina.

The Consensus Forecasts compiled in October suggest that economic growth will remain uneven around the world in 2017. The growth rate in Western Europe, which is an important market for Finnish exports, will fall slightly below this year's level. Growth will slow down in the UK in particular, but also in Germany, Sweden and Spain.

In contrast, GDP growth in Central and Eastern Europe is accelerating as the recession in Russia eases slightly. Growth will also gain momentum in Hungary, the Baltic countries and Ukraine.

In October, the economists group of Orgalime, the European federation representing the interests of the European mechanical, electrical, electronic and metal articles industries, estimated that production of the sector would grow by approximately one per cent in 2016. The growth is expected to continue at a similar rate next year.

Global economic uncertainty is set to continue in 2017. This is indicated by the results of the global company executive survey conducted by Oxford Economics this autumn. The risk of a further slowdown of global growth was assessed as high. Up to 72 per cent of the survey respondents indicated their view that there was an increased likelihood of a strong slowdown.

China's slowing growth was considered the most important individual risk factor. Respectively, stronger than expected economic and productivity growth in the USA was seen as an opportunity.

## Corporate tax policy should encourage investment

As global economic uncertainty continues, Finland needs high volumes of investment and improved levels of productivity. Companies' real investments in 2016 have dropped by as much as seven billion euros from 2008. This applies to both productive and R&D investments.

Likewise, Finnish goods and service exports remain stagnant for the sixth consecutive year, and our market shares continue to shrink. To maintain the sustainability of our economy, we need to grow our exports again. At current rates, our nation's capital stock will suffer as the volume of new investments falls below the reduction in capital.

We must boost investments because they give companies the opportunity to renew their operations and improve their real competitiveness. This would strengthen economic growth, productivity and employment and would also improve the balance of our public finances.

According to a survey commissioned by the Federation of Finnish Technology Industries' and conducted by the market research company Taloustutkimus Oy, a corporate taxation model that provides incentives for investments would stimulate investment activity. It would also have a significant positive impact on employment.

Taloustutkimus' survey sought to identify what kind of taxation model would encourage companies to invest in Finland. Eight different models were suggested in the survey. According to companies, best incentives for growth and investments are provided by taxation models that delay the payment of tax. As many as 82 per cent of the Federation of Finnish Technology Industries' member companies are in favour of a model where corporate tax is delayed. Of these, by far the most popular choice is a model where corporate taxation is delayed until distribution of dividends, corporate tax rate remains at the current level of 20 per cent and taxation of dividends remains unchanged.

### Economic Growth to Remain Uneven Around the World in 2017

GDP development 2017/2016, %

North America: +2.2%		Western Europe: +1.3%		Central and Eastern Europe: +2.3%		Middle East	
USA	+2.2%	Germany	+1.3%	Russia	+1.2%	Saudi Arabia	+1.0%
Canada	+2.0%	UK	+0.9%	Turkey	+3.0%	Israel	+3.1%
<b>South and Central America: +2.1%</b>		France	+1.2%	Poland	+3.3%	<b>Asia: +4.6%</b>	
Brazil	+1.2%	Italy	+0.7%	Czech Rep.	+2.5%	China	+6.3%
Mexico	+2.2%	Spain	+2.1%	Romania	+3.3%	Japan	+0.9%
Argentina	+3.2%	Netherlands	+1.5%	Ukraine	+2.5%	India	+7.7%
Venezuela	-3.5%	Switzerland	+1.4%	Hungary	+2.6%	Australia	+2.8%
Columbia	+2.8%	Sweden	+2.3%	Slovakia	+3.1%	South Korea	+2.6%
Chile	+2.1%	Belgium	+1.3%	Slovenia	+2.3%	Indonesia	+5.3%
Peru	+4.2%	Norway	+1.7%	Lithuania	+2.8%	Taiwan	+1.7%
<b>Africa</b>		Austria	+1.2%	Latvia	+3.1%	Thailand	+3.3%
South Africa	+1.3%	Denmark	+1.6%	Estonia	+2.5%	Malesia	+4.3%
Nigeria	+3.0%	Greece	+1.1%				
Egypt	+3.6%	<b>Finland</b>	<b>+1.1%</b>				
		Portugal	+1.2%				
		Ireland	+3.0%				

Source: Consensus Forecasts, October 2016. GDP forecast average growth rates compiled in October 2016.

In addition, the survey had questions related to the companies' investment needs in Finland. More than 90 per cent of companies responded that they had significant or some need for tangible investments as well as investments in personnel and competence. However, the need for investments will not translate into investments without the companies' ability to invest.

### SMEs account for more than half of investments in Finland

According to the survey, as many as 60 per cent of companies with 1 to 10 employees and 45 per cent of companies with 10 to 50 employees have had difficulties in securing financing for investments. The increasingly tighter credit standards and lack of risk financing by the banking sector have become a major constraint to company growth.

According to companies, the conditions for securing investment financing have reached an untenable level which makes investing in Finland very difficult, if not impossible. Companies' ability to invest should be supported by all means possible, including a corporate taxation reform.

SMEs with 1 to 249 employees account for more than 50 per cent of all business sector investments in Finland. Large enterprises with more than 1,000 employees account for some one third. Rest of the investments are made by companies with 250 to 1,000 employees.

According to companies, corporate taxation reform would provide a significant boost to their tangible and intangible investments. They estimate that taxation models that delay the payment of tax until distribution of dividends would increase company investments by some 20 per cent over the next three years, and would provide employment for more than 20,000 people. The reserve for investments model would increase investments by 11 per cent and would create some 11,000 new jobs.

In the study, the implications for the national economy are assessed in terms of higher employment and the resulting income tax on wages and compulsory social insurance contributions. The lower rate of direct tax revenue will also be compensated by public sector savings due to lower level of unemployment as well as the dynamic effects of investments on income tax revenues.

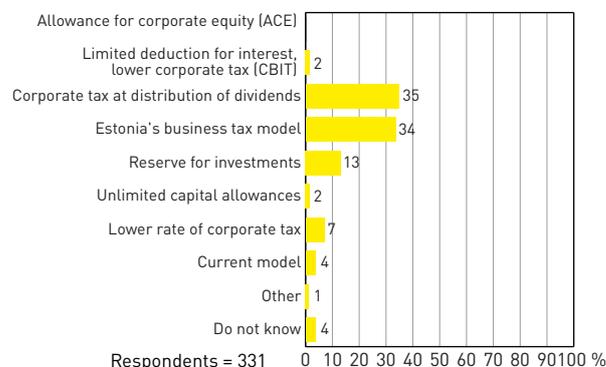
According to the study by Taloustutkimus Oy, companies would like to see a fundamental corporation tax reform, but the reserve for investments model also found some favour. Of the suggested models, the reserve for investments model would be the quickest

to implement, and a step to the right direction. The government programme states that the government will study the possibility of a provision made from a company's taxable income to promote investment. The incentive effect of this model depends on there being no corporate tax liability for funds transferred to the reserve if money from the fund is released for future investments.

There is no way to fully predict all the final effects of the corporate taxation reform. However, it is high time for decision-makers in Finland to accept the fact that only a small portion of tax revenue generated by business activity is collected in the form of corporate tax income. It accounts for only 4.8 per cent. Even loss-making companies generate a lot of tax income for the state, for example, in the form of income tax paid by employees.

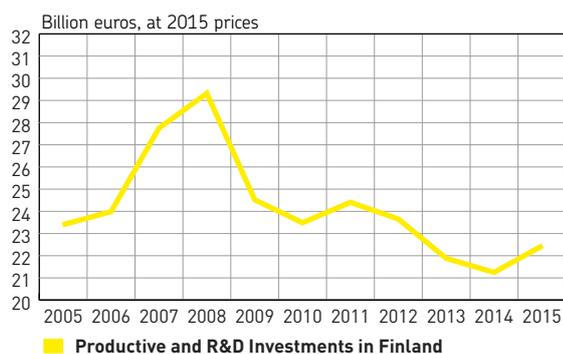
We should try to achieve an overall reform of company tax law to boost company investments and competitiveness. This would benefit Finland in the form of economic growth, higher employment and better balance of public finances. As a result of ongoing international tax reforms, the taxation of company income is increasingly taking place in the country where the revenue is generated. If we fail to boost investment in Finland, we are going to lose factors that help determine that the origin of income is Finland, such as production, R&D, personnel, capital and competence. By boosting investment in Finland, we can also make sure that Finland will not lose out in the division of tax revenue.

### Technology Industry Companies Would Like to See a Fundamental Corporation Tax Reform – Business Tax Model the Most Popular Choice



Source: Taloustutkimus / Corporate taxation, investments and growth 2016

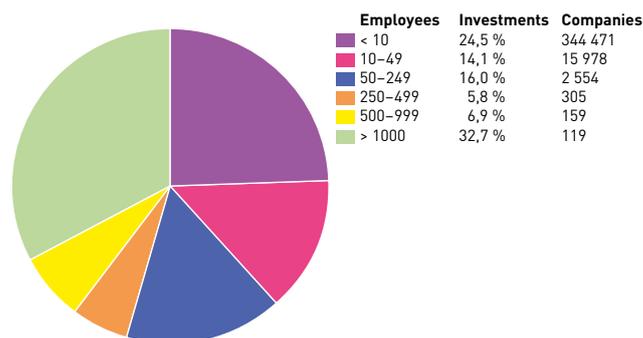
### Companies' Real Investments Have Dropped by EUR 7 billion from 2008



Source: Statistics Finland, National Accounts

### SMEs Account for More Than 50% of Company Investments, Large Enterprises for Some One Third

Percentage of companies' tangible and intangible net investments in Finland in 2014



Source: Statistics Finland (financial statements statistics)



## New orders drop from last year

The turnover of technology industry companies in Finland totalled EUR 68.2 billion in 2015. In 2008, prior to the financial crisis, the corresponding figure was EUR 86 billion. In the January-July period of this year, turnover was two per cent lower than twelve months earlier. Exports of goods shrank by eight per cent.

The level of new orders received by technology industry companies between July and September was lower than in the corresponding period in 2015, but slightly higher than in the preceding quarter. Order books have contracted slightly throughout early 2016.

The companies that took part in the Federation of Finnish Technology Industries' survey of order books reported that the monetary value of new orders between July and September was six per cent lower than in the corresponding period in 2015, but slightly higher than in the preceding quarter. Of the respondents, 59 per cent said the number of new orders was down from April-June, 34 per cent said it was up and seven per cent said it had remained stable.

At the end of September, the value of order books was slightly lower than in the corresponding period last year, but at the same

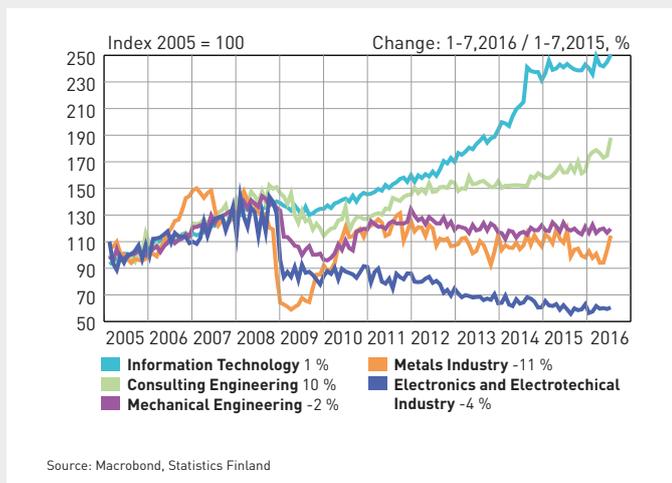
level as in end of June. Fifty per cent of companies reported a decrease in their order books after June, while 37 per cent reported an increase and 13 per cent had seen no change.

Judging from order trends in recent months, the turnover of technology industry companies in the coming winter months is expected to remain at a similar level to that in the corresponding period last year.

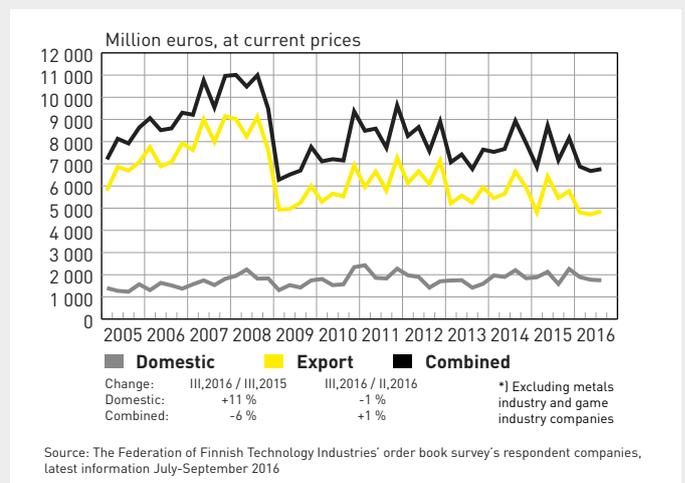
The number of personnel employed by technology industry companies in Finland fell slightly between January and September. Personnel declined by some two per cent, or slightly more than 5,000 employees from the average number in 2015. The total number of personnel was 283,000 at the end of September. 12,000 employees were affected by temporary or part-time lay-offs.

Despite the overall reduction in personnel strength, technology industry companies recruited more than 21,000 new employees in the January-September period. Two-thirds of these employees were hired by SMEs and a third by companies with at least 250 employees. Some companies were increasing their personnel, while others were hiring new employees due to retirements and employee turnover.

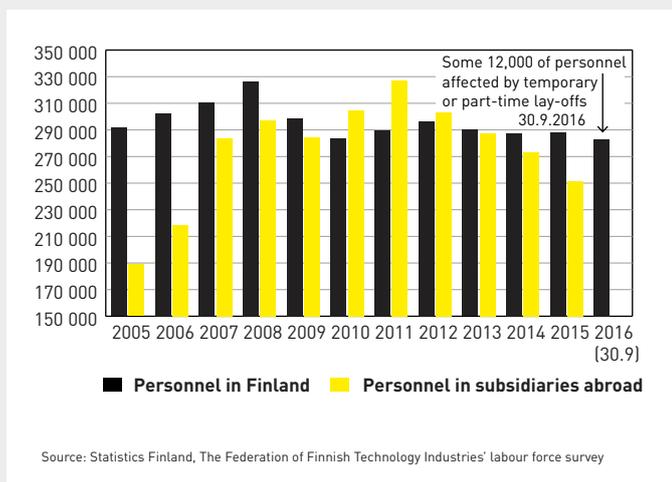
Turnover of the Technology Industry in Finland



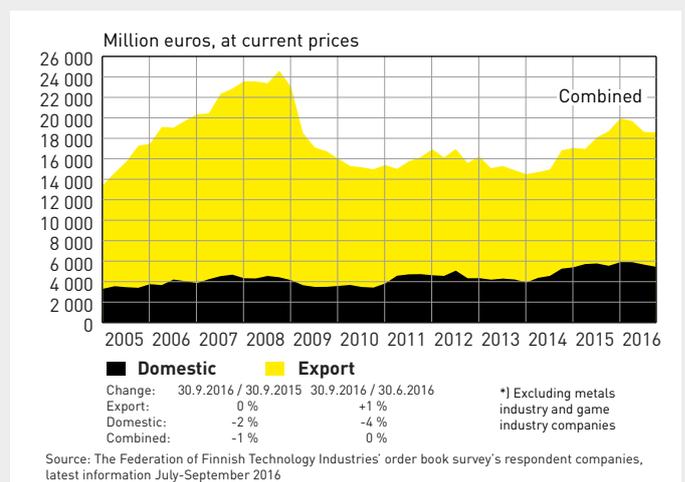
Value of New Orders in the Technology Industry\* in Finland



Technology Industry Personnel in Finland and Abroad



Value of Order Books in the Technology Industry\* in Finland





## Electronics and Electrotechnical Industry in Finland

### Orders slightly up

The turnover of companies in the electronics and electrotechnical industry (telecommunications equipment, electrical equipment and medical technology) in Finland totalled EUR 14.6 billion in 2015. In 2008, prior to the financial crisis, turnover was EUR 30.4 billion. In the January-July period of this year, turnover was four per cent lower than twelve months earlier. Exports of goods shrank by six per cent.

Both new orders and order books in the electronics and electrotechnical industry were slightly higher between July and September than in the corresponding period in 2015. Orders were up from the April-June period.

The electronics and electrotechnical companies that took part in the Federation of Finnish Technology Industries' survey of order books reported that the monetary value of new orders in the industry between July and September was 20 per cent higher than

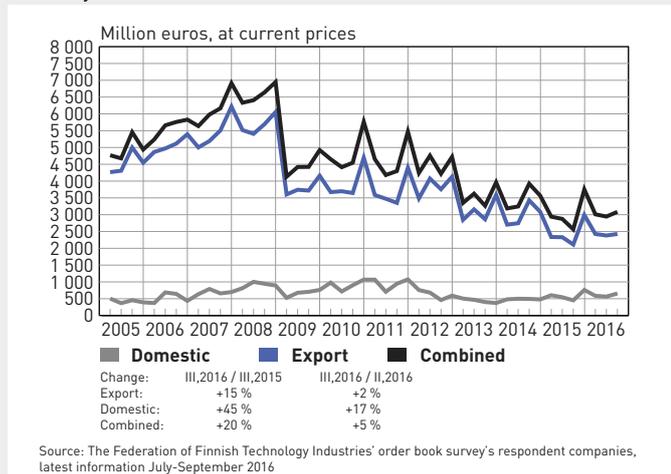
in the corresponding period last year, and five per cent higher than in the preceding quarter.

At the end of September, the value of order books was up by 20 per cent from the corresponding period last year, and four cent higher than the value reported at the end of June.

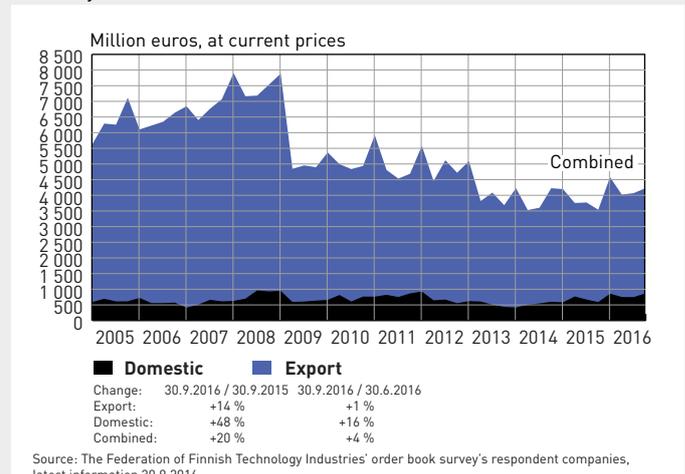
Judging from order trends in recent months, the turnover of electronics and electrotechnical industry companies is expected to be slightly higher in the coming winter months than in the corresponding period last year.

The number of personnel employed by companies in the electronics and electrotechnical industry in Finland declined in the January-September period. Personnel declined by some ten per cent, or close to 5,000 employees from the average number in 2015. The total number of personnel was slightly less than 36,000 at the end of September.

Value of New Orders in the Electronics and Electrotechnical Industry in Finland



Value of Order Books in the Electronics and Electrotechnical Industry in Finland





## Mechanical Engineering in Finland

### New orders and order books shrink

The turnover of mechanical engineering companies (machinery, metal products and vehicles) in Finland totalled EUR 28 billion in 2015. In 2008, prior to the financial crisis, the turnover was EUR 33.3 billion. In the January-July period of this year, turnover was two per cent lower than twelve months earlier. Exports of goods shrank by six per cent.

The level of new orders received by mechanical engineering companies between July and September was clearly lower than a year earlier. Order books have also contracted since the spring.

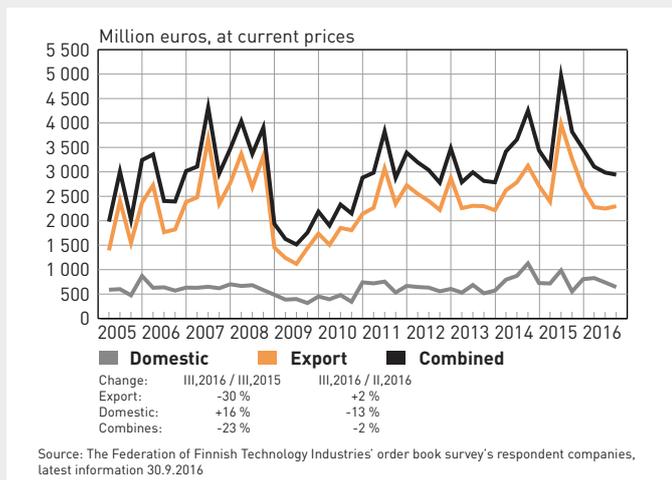
The mechanical engineering companies that took part in the Federation of Finnish Technology Industries' survey of order books reported that the monetary value of new orders in the industry between July and September was 23 per cent lower than in the corresponding period of 2015, and two per cent lower than in the preceding quarter.

At the end of September, the value of order books was six per cent lower year-on-year, and two per cent lower than at the end of June.

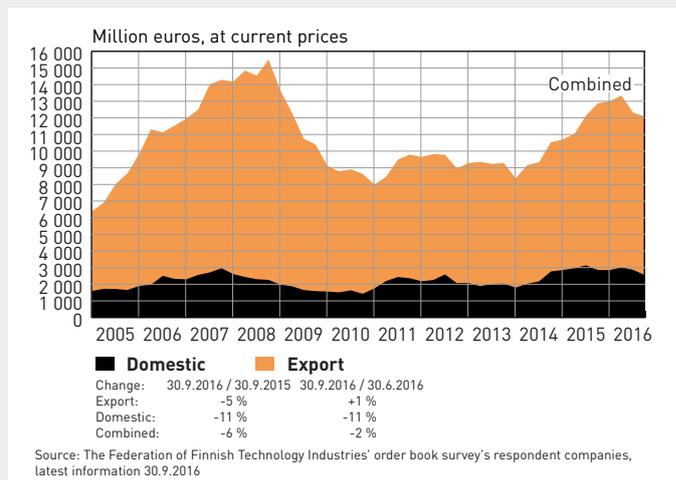
Judging from order trends in recent months, the turnover of mechanical engineering companies in the coming winter months is expected to remain at a similar or slightly lower level than the corresponding period last year.

The number of mechanical engineering personnel in Finland declined slightly in the January-September period. It was down by almost three per cent, or more than 3,000 employees from the average number in 2015. The total number of personnel came to more than 121,000 at the end of September.

Value of New Orders in the Mechanical Engineering in Finland



Value of Order Books in the Mechanical Engineering in Finland





## Metals Industry in Finland

### Production volumes up, turnover down

The turnover of metals industry companies (steel products, non-ferrous metals, castings and metallic minerals) in Finland amounted to EUR 9.1 billion in 2015. The corresponding 2007 pre-crisis figure was EUR 11.2 billion. In the January-July period of this year, turnover was 11 per cent lower than twelve months earlier. Goods exports dropped by 13 per cent. The turnover and value of goods exports contracted due to the year-on-year decline in prices. Producer prices in the industry were 11 per cent lower in Finland in the January-September period than a year earlier.

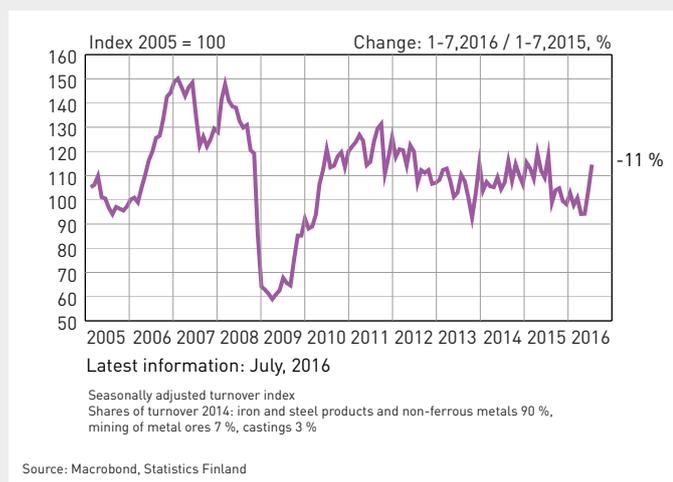
The total production of steel products, non-ferrous metals, castings and metallic minerals in Finland between January and August increased by eight per cent year-on-year. Production of steel products, non-ferrous metals and metallic minerals increased, while production of castings remained more or less unchanged.

Global steel production shrank slightly between January and September from the corresponding period in 2015, but was up by two per cent in September. In early 2016, production fell by five per cent in the EU and slightly in North America. In Asia, however, production increased by one per cent.

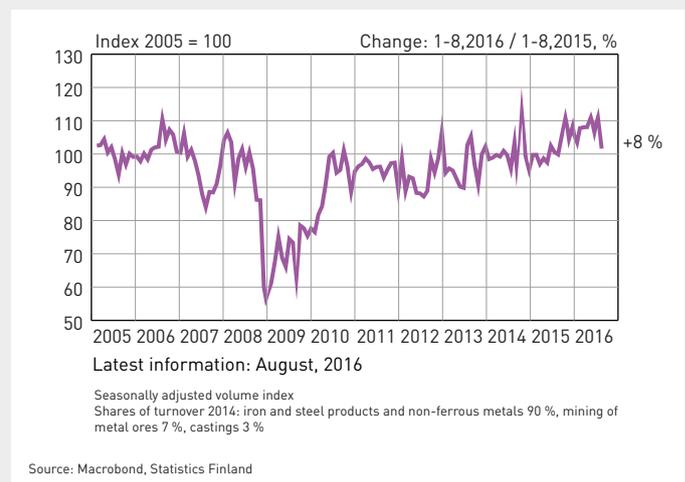
China, Japan, India, the United States, Russia and South Korea were the largest producers in September. China accounted for 50 per cent of global steel production.

The number of metals industry personnel in Finland fell between January and September. It was down by more than two per cent, or close to 400 employees from the average number in 2015. The total number of personnel was 15,400 at the end of September.

Turnover of the Metals Industry in Finland



Production Volume of the Metals Industry in Finland





## Consulting Engineering in Finland

### Orders up Growth driven by large individual orders

The turnover of consulting engineering companies (industrial, social and construction expert services) in Finland totalled EUR 5.5 billion in 2015. In 2008, prior to the financial crisis, the industry's turnover in Finland was the same, EUR 5.5 billion. In the January-July period of this year, turnover was 10 per cent higher than twelve months earlier.

Both new orders and order books continued to pick up in the consulting engineering sector in the July-September period. The growth stems from large individual orders. Typically to the sector, new order volumes tend to fluctuate strongly from one quarter to another.

The consulting 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 January

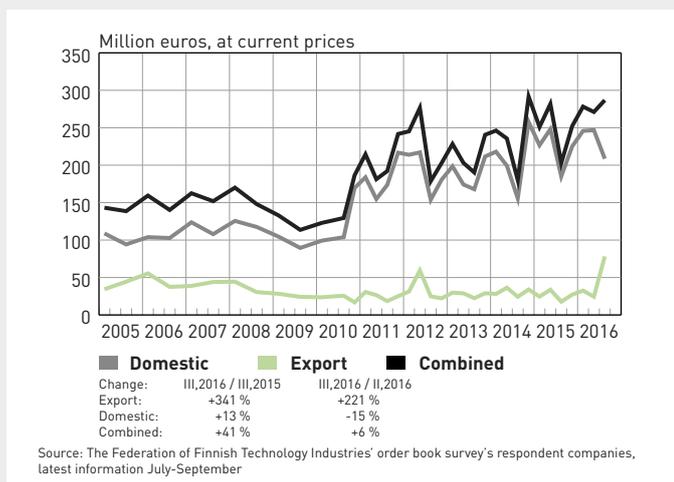
and September was 41 per cent higher than in the corresponding period in 2015 and six per cent higher than in the preceding quarter.

At the end of September, the value of order books was 15 per cent higher than in the corresponding period last year, and eight per cent higher than at the end of June.

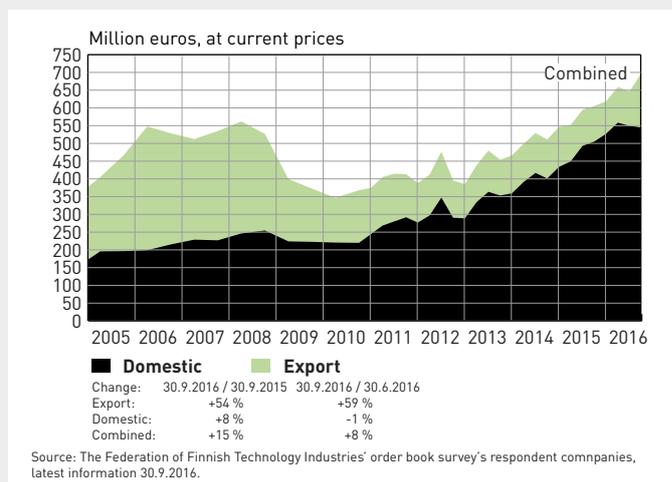
Judging from order trends in recent months, the turnover of consulting-engineering companies in the coming winter months is expected to exceed that of last year.

The number of personnel employed by Finnish consulting engineering companies increased in the period between January-September. Personnel increased by slightly more than four per cent, or by 1,900 employees from the 2015 average. The total number of personnel was some 50,000 at the end of September.

Value of New Orders in the Consulting Engineering in Finland



Value of Order Books in the Consulting Engineering in Finland





## Information Technology in Finland

### Orders down

The turnover of information technology companies (IT services and software) in Finland totalled EUR 11 billion in 2015. Game industry accounted for about EUR 2.4 billion of it. In 2008, prior to the financial crisis, the industry's turnover in Finland totalled EUR 6.7 billion. In the January-July period of this year, turnover was slightly higher than in the corresponding period of the previous year.

The level of new orders received by information technology companies between April and June and July and September was clearly lower than in the corresponding period in 2015. Order books have also contracted slightly in recent months. Typically for the sector, new order volumes in particular fluctuate strongly from one quarter to another.

The information technology companies that took part in the Federation of Finnish Technology Industries' survey of order books

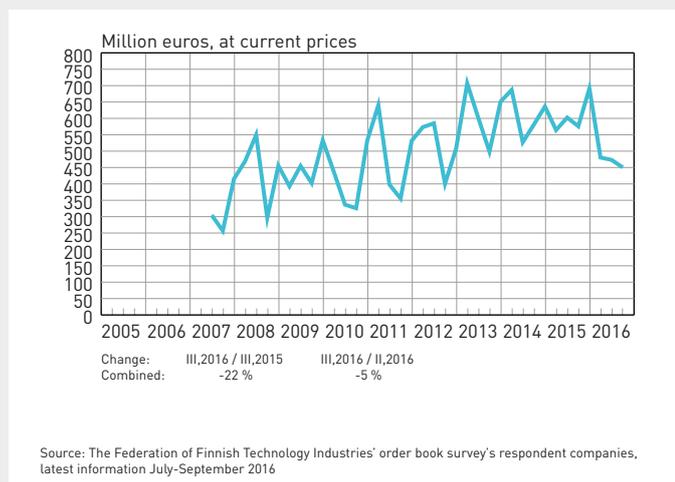
reported that the monetary value of new orders between July and September was 22 per cent lower than in the corresponding period in 2015, and five per cent lower than in the preceding quarter.

At the end of September, the value of order books was six per cent lower year-on-year, and slightly lower than at the end of June.

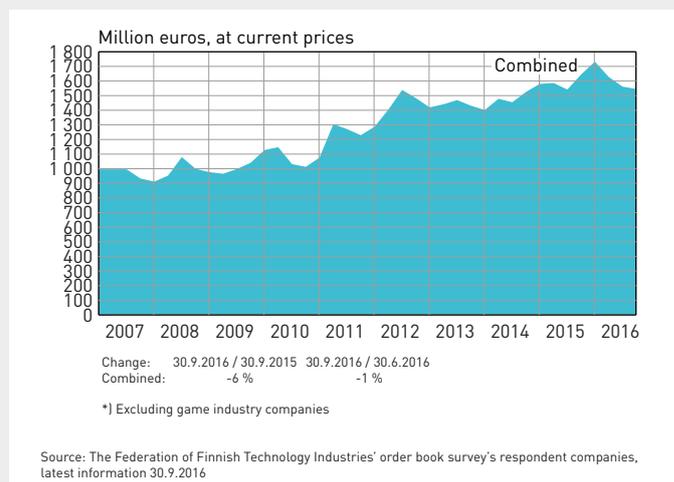
Judging from order trends in recent months, the turnover of information technology companies in the coming winter months is expected to remain at a similar or slightly lower level than the corresponding period last year.

The number of information technology personnel in Finland increased slightly in the January-September period. Compared with the 2015 average, the increase was slightly more than two per cent, or some 1,300 employees. The total number of personnel was nearly 61,000 at the end of September.

Value of New Orders in the Information Technology in Finland



Value of Order Books in the Information Technology\* in Finland



## ECONOMIC OUTLOOK 4 | 2016

Information based on the situation on 1 November 2016

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Please visit the homepage of the Federation of Finnish Technology Industries for additional information on technology industry turnover, exports, investments, personnel and the development of producer and metal prices: [www.techind.fi](http://www.techind.fi).

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