

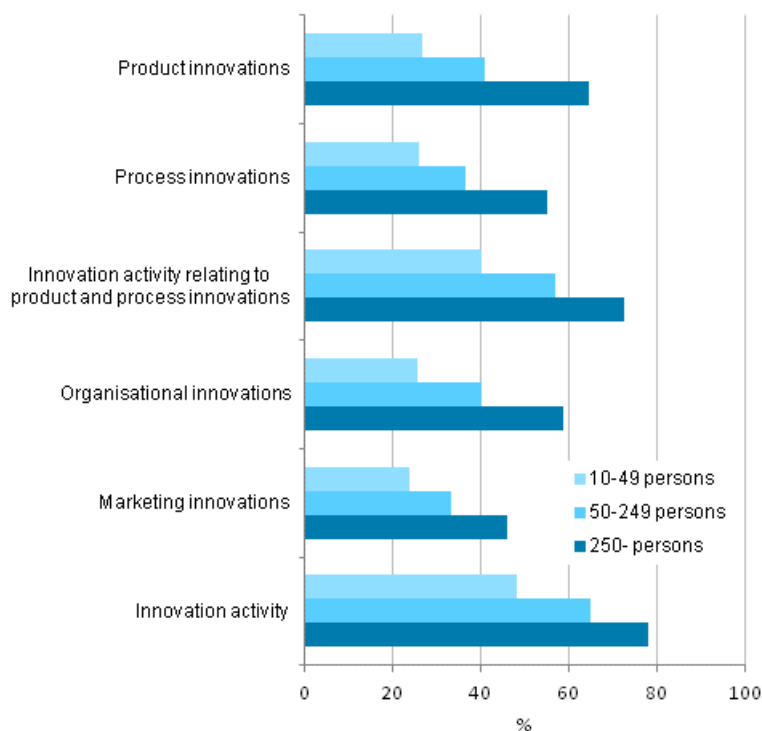
# Innovation activity 2012

## Innovation Survey final report

### Innovation activity commonest in large enterprises with international operations

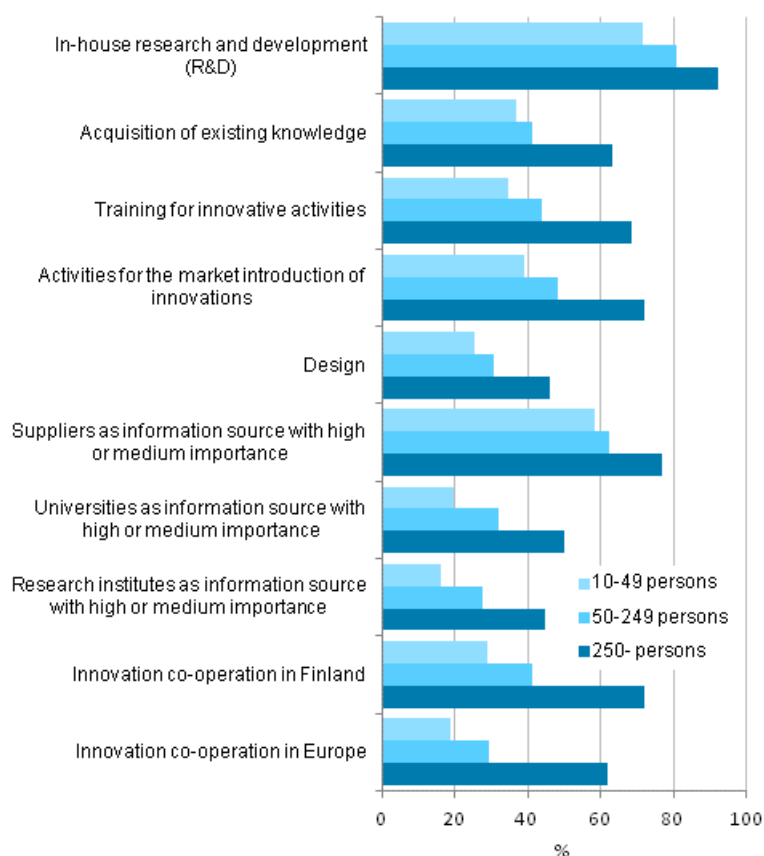
According to a EU survey carried out by Statistics Finland the overall picture of innovation activities by enterprises operating in Finland in 2010 to 2012 was similar to what it had been before. In relative terms, large and internationally operating enterprises had the most innovation activity. One-third of enterprises operating on the domestic markets reported innovation activity related to products or processes, while the share of enterprises reporting similar innovation activity among those operating on international markets was 60 per cent.

#### Prevalence of innovation activity by size category of personnel, 2010-2012, share of enterprises



Among the smallest enterprises in the survey, or enterprises employing ten to 49 persons, approximately one-quarter reported they had launched product innovations during the examined period. The share in medium size enterprises was 41 per cent, and in large enterprises, or those employing at least 250 persons, the share was 64 per cent. All in all, almost one-half or 45 per cent of enterprises were involved in innovation activity related to products and processes, the share being 40 per cent for smaller enterprises, 57 per cent for medium size enterprises and 73 per cent for large enterprises. Large enterprises also reported adoption of new marketing and organisational innovations more often than smaller enterprises.

**Innovation activity relating to products and processes by size category of personnel, 2010-2012, share of enterprises with innovation activity relating to products and processes**



Among the companies that reported innovation activity, the intensity of the activity increased with the size of the enterprise. Large enterprises reported various kinds of innovation activity more often than smaller enterprises, and different data sources and cooperation partners in innovation activity were more commonly seen as important by large enterprises than by small enterprises. Large enterprises also reported that they had received public funding for their innovation activity more often than smaller enterprises.

Being a forerunner, the complexity of products and confidentiality are more widely recognised ways to promote and maintain the competitiveness of innovations than formal protective measures. Four out of five of those who had taken product or process innovations into use in 2010 to 2012 felt that being a forerunner is an important (high or moderate importance) protective measure, and more than one-half believed that confidentiality and the complexity of products was of high or moderate importance when ensuring the competitiveness of the innovation. Patenting, registration of the copyright of design and, for example, copyrights are, based on the results, alternative protective measures for clearly fewer enterprises.

All in all, nearly one-third of the enterprises included in the study had procurement contracts in 2010 to 2012 to provide products to the public sector, either to domestic or foreign public sector organisations. Eight per cent of enterprises that had procurement contracts reported that they had pursued innovation activity as part of the procurement contract so that innovation was required in the contract. A total of 16 per cent of enterprises that had a procurement contract reported of innovation activity related to implementing the procurement contract without innovation being required in the contract.

Innovation activity related to procurement contracts was commonest in computer programming activities, architectural and engineering activities, and information services activities – in each of these sectors more commonly so that innovation activity was not required in the procurement contract.

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## *1. About the Innovation Survey*

The Innovation Survey 2012 was part of the joint Community Innovation Survey 2012 (CIS2012) project of the EU Member States coordinated by Eurostat, the Statistical Office of the European Statistics, which means that a corresponding survey has been conducted in other Member States as well. The objective of the survey that is conducted every second year is to examine the generality and extent of innovation activity and to chart the characteristics and measures related to innovation activity.

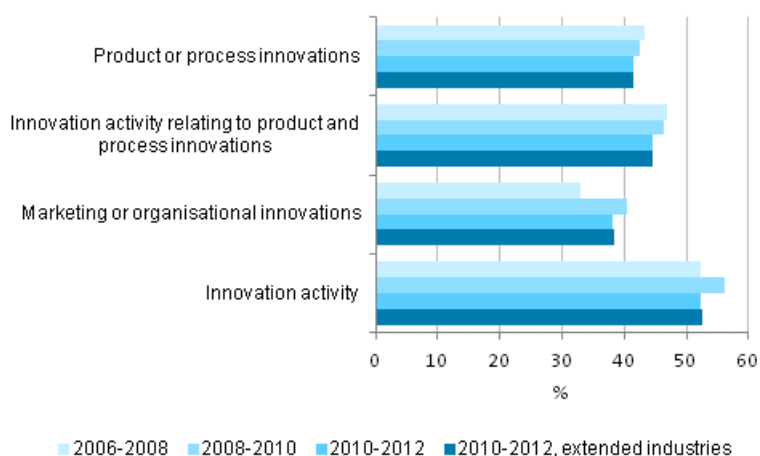
The survey targeted a three year period from 2010 to 2012 and covered enterprises employing at least ten persons in manufacturing (incl. mining and quarrying, electricity, gas and air-conditioning supply, and water supply and waste management) and in certain service industries. Based on an updated EU Regulation that entered into force in 2012, compilation of statistics on service industries was extended in this survey to cover four new industries (TOL 59 Motion picture, video and television programme production, sound recording and music publishing activities, TOL 60 Programming and broadcasting activities, TOL 72 Scientific research and development, and TOL 73 Advertising and market research).

A majority of the survey results by size category and industry can be found on the home page of the statistics in database tables that also include corresponding data from the previous surveys. Results based on other background variables or on a limited review group and non-recurring questions can be found in the appendix tables of this review.

## 2. Prevalence of innovation activity in enterprises in 2010 to 2012

Enterprises reported innovation activity in 2010 to 2012 almost as frequently as in the years preceding the survey period. Altogether, 42 per cent of enterprises reported adoption of product or process innovations, while, in the preceding time periods 2006 to 2008 and 2008 to 2010, the corresponding shares were also good 40 per cent. The share of enterprises that had adopted marketing or organisational innovations was 38 per cent while in previous time periods the proportions were 33 and 40 per cent.

**Figure 1. Enterprises with innovation activity 2006 to 2012, share of enterprises**

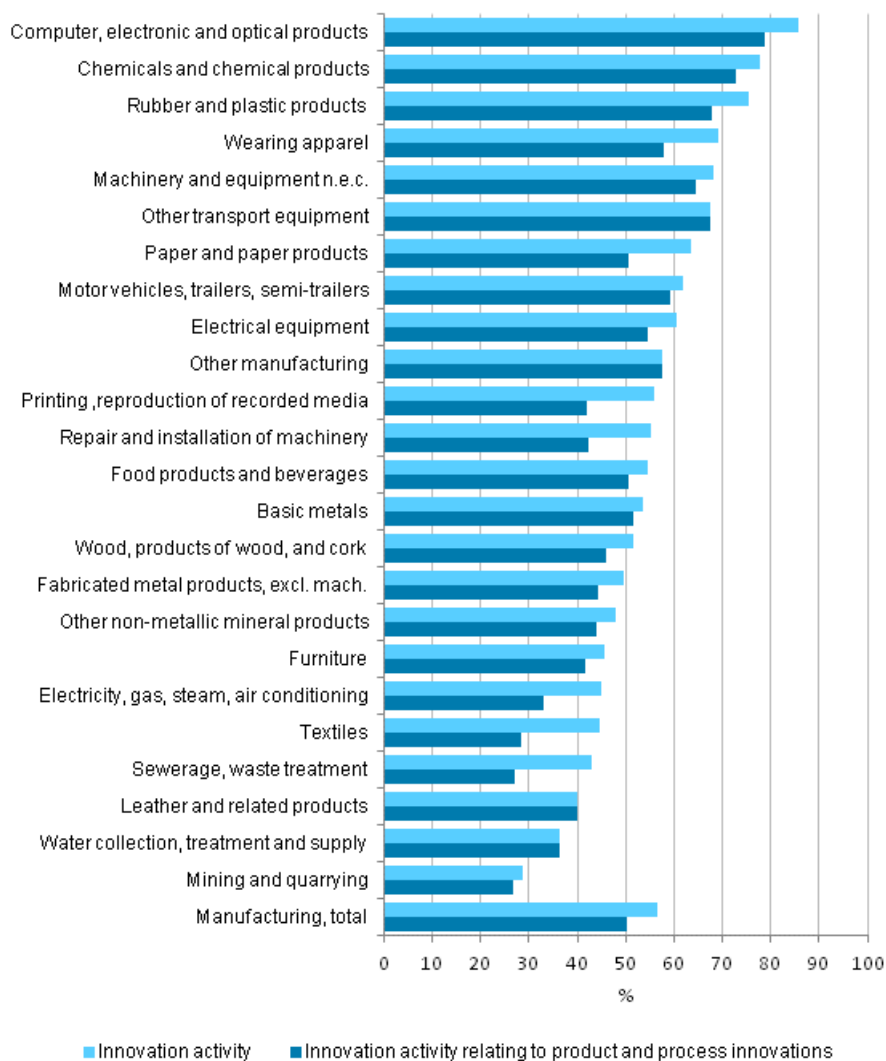


All in all, 45 per cent of the surveyed enterprises were involved in innovation activity related to products and processes (including, in addition to adoption of innovations, also projects and measures aiming at their implementation). One-half of the respondent enterprises had developed and taken into use products and processes in manufacturing and 40 per cent of enterprises in service industries.

The share of enterprises reporting development of marketing and organisation was almost equal for manufacturing and service enterprises. Around 30 per cent of enterprises had adopted organisational innovations and one-quarter of enterprises reported marketing innovations.

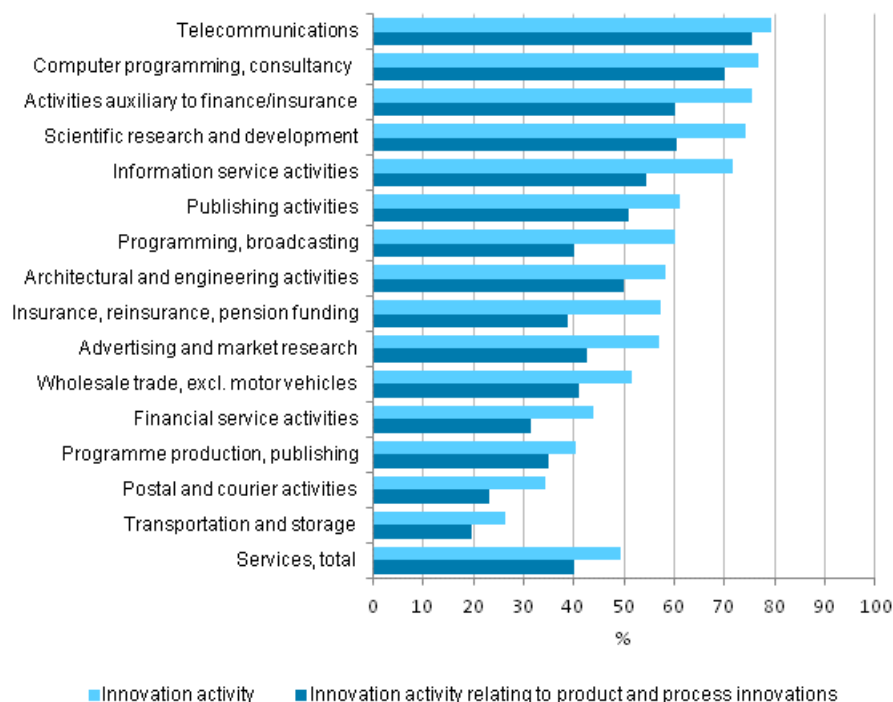
In all, good one-half of the surveyed enterprises were involved in innovation activity in 2010 to 2012. In service enterprises, the share was around one-half of respondents, while the share among manufacturing enterprises was a bit higher, 57 per cent. In manufacturing, innovation activities were most prevalent in manufacture of computer, electronic and optical products, manufacture of chemicals and chemical products, and manufacture of rubber and plastic products. Among service industry enterprises, those in the sectors of telecommunications, computer programming, financing, insurance, and research and development reported most innovation activities. The industries mentioned above have also previously been among those that are involved in innovation activity most frequently.

**Figure 2. Prevalence of innovation activity by industry in manufacturing 2010–2012, share of enterprises**





**Figure 3. Prevalence of innovation activity by industry in services 2010–2012, share of enterprises**



Innovation activity is still clearly more common in large enterprises than in small enterprises. Of the largest enterprises in the survey, close on 80 per cent have had some type of innovation activity in 2010 to 2012, while the corresponding proportion in enterprises that employ ten to 49 persons has been close on one-half. Among medium size enterprises, around two in three reported innovation activity.

In line with previous surveys, enterprises belonging to foreign groups reported considerably more innovation activity than enterprises belonging to Finnish groups and especially independent enterprises not belonging to any group. For example, 43 per cent of enterprises belonging to foreign groups reported that they had launched product innovations to the markets and 54 per cent reported innovation activity related to products and processes. In the category of independent enterprises the corresponding shares were 26 per cent and 39 per cent.

Innovation activity also became more commonplace the wider the geographical markets on which the enterprise sold its products were. For enterprises that only sold their products on the domestic markets, the share of enterprises involved in innovation activity was 40 per cent. Among enterprises that reported countries in the European Union or corresponding countries in Europe but not a wider intentional market as their market, a total of 61 per cent also reported innovation activity. Most commonly innovation activities were reported by enterprises who had a wider market than that in Europe. For these enterprises, the share of those involved in innovation activity was 72 per cent.

The frequency of innovation activity also varies according to the role the enterprise has in production. Just like in the previous survey, main suppliers operating in the value chain that are sellers of end products also responsible for planning, as well as system suppliers that supply entities to the main suppliers, reported innovation activity more often in 2010 to 2012 than enterprises acting as subcontractors. For example, nearly 60 per cent of main suppliers and system suppliers had taken into use or launched innovations on the markets. Among subcontractors, 40 per cent had made innovations.

### 3. Innovation activity related to products and processes in 2010 to 2012

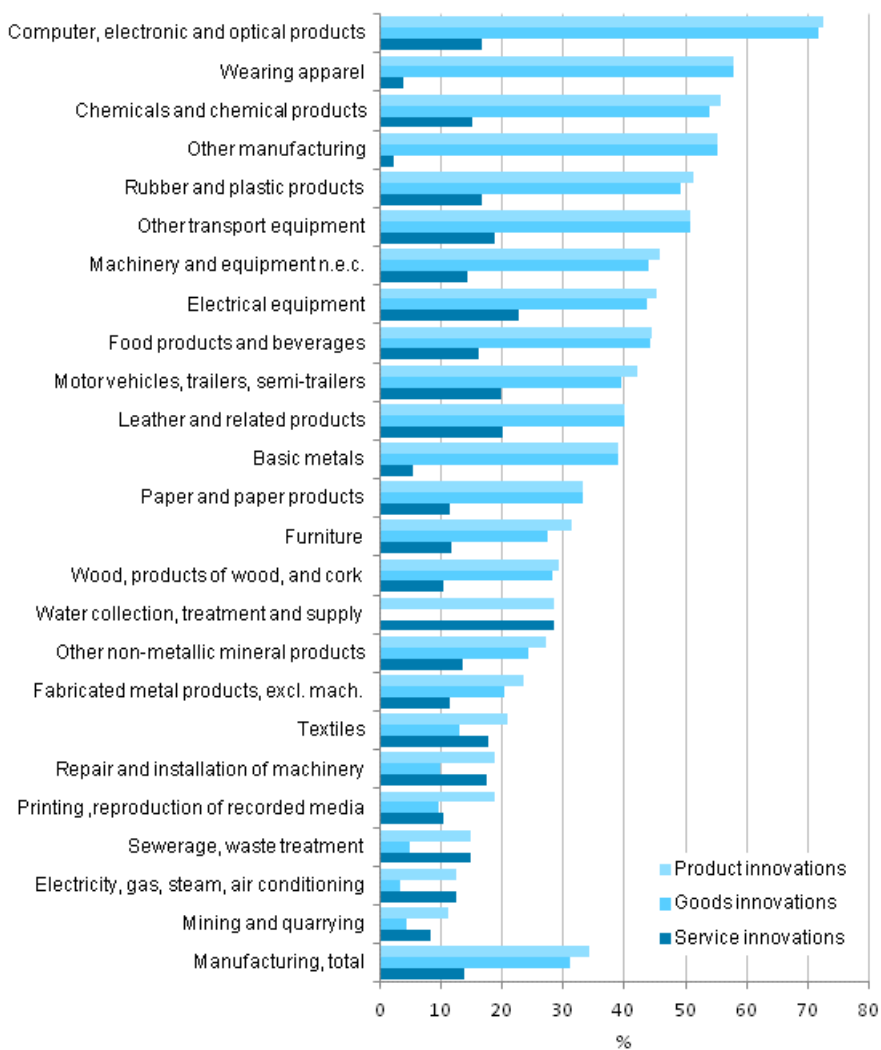
#### One in three enterprises launch product innovations on the markets

Approximately one-third of surveyed enterprises reported that they had launched product innovations on the markets during the survey period. In industries where innovations are more commonplace, seven enterprises out of ten reported that they had launched product innovations in the three year period.

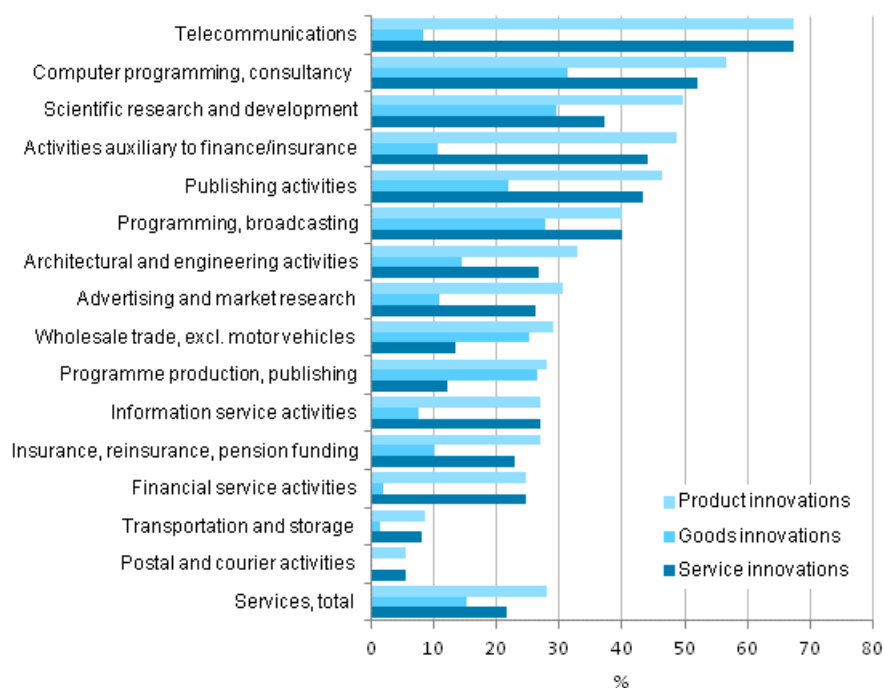
In manufacturing, product innovations naturally focus on goods but as the importance of services has grown in many industries, the share of enterprises that have launched service innovations on the markets is also considerable. Similarly, product innovations are built on both services and goods in service industries as well.

The share of enterprises that had introduced product innovations to the markets remained at previous years' levels both in manufacturing and services, in 2010 to 2012 all in all 34 per cent in manufacturing and 28 per cent in services.

**Figure 4. Enterprises with product innovations by industry in manufacturing 2010–2012, share of enterprises**



**Figure 5. Enterprises with product innovations by industry in services 2010–2012, share of enterprises**



The product innovations introduced to the markets are primarily developed by the enterprise that launched the product. Good 80 per cent of enterprises that reported goods innovations had developed the goods themselves, and around one-half had developed them together with other enterprises or institutions. One in four of enterprises that had launched goods innovations had remodelled goods original produced by someone else, and around one in ten reported that goods innovations had been developed by others. In manufacturing, development work is carried out more goods inside the own enterprise than in service industries.

In service production enterprises relay on external developers and on development work carried out outside the enterprise somewhat more often than in development of goods innovations. For example, one in three enterprises that had introduced a service innovation to the markets reported that they had remodelled services produced by others.

Of the enterprises that had launched product innovations, nearly two out of three reported new products that were new from the viewpoint of the enterprise's markets. Good 70 per cent launched a product innovation that was new from the enterprise's perspective but similar products were already available from the enterprise's competitors on the enterprise's markets.

For example, among smaller class product innovators, 30 per cent only had new products for the market in question and nearly one-third reported products that were new both for the enterprise and the markets. By contrast, for around one-fifth of the largest sized product innovators, all innovations were new for the markets, and good one-half reported that they had launched both products that were new for the markets and products that were new only for the enterprise.

The product life-cycles and the role of product innovations naturally vary by industry. All in all, 11 per cent of the 2012 turnover of the examined enterprises was generated from innovations launched on the markets in 2010 to 2012; four per cent of turnover was generated from new products in terms of the enterprise's markets, seven per cent from products that were new to the enterprise. The share of product innovations of the turnover of enterprises that had made product innovations was close on one-fifth, 17 per cent, while the share in manufacturing was 23 per cent and eight per cent in services. The turnover from innovations among the smallest innovators in service industries represented one-fifth of the turnover, but for the largest service industry enterprises the share of innovations in turnover represented only five per cent of the combined turnover of the innovators.

## ***Process innovations through joint development***

The share of enterprises that had taken process innovations into use remained almost unchanged from previous years in 2010 to 2012. In manufacturing, around one-third of enterprises reported they had taken process innovations into use and one-quarter of service enterprises reported the same. In relative terms, most process renewals were adopted by enterprises in manufacture of rubber and plastic products, manufacture of computer, electronic and optical products, and in operations serving financing and insurance, as well as in computer programming, in each of which the share of enterprises that reported innovations represented over 40 per cent of enterprises in the sector. Process innovations were taken into use least frequently in manufacture of textiles and wearing apparel, and in transport and storage.

Process innovations were directed most commonly at manufacture and production, as well as process support functions just like in previous years. One in four manufacturing enterprises had renewed their manufacturing and production methods and close on one in five had renewed their support functions. In service industries, the share for production development was clearly lower, 13 per cent, but for support functions it was the same as in manufacturing, 18 per cent. One in ten of both manufacturing and service enterprises had taken into use innovations related to logistics or delivery and distribution systems.

Nearly 60 per cent of those that had taken process innovations into use had developed the innovations related to processes themselves. Transfer of knowledge and spreading of innovations is important also for processes because more than one-half of the innovators had developed the process innovations together with others and one-quarter had remodelled processes originally developed by others. Approximately one in six of enterprises that had taken process innovations into use reported that other enterprises or institutions had developed the innovation.

## ***Ongoing projects become future innovations***

Good one quarter of the surveyed enterprises reported projects related to the development of product or process innovations that had not so far resulted in innovations; the projects had either been discontinued during the survey period 2010 to 2012 or they were still ongoing at the end of 2012.

One in ten of the enterprises, had had discontinued development projects and one-quarter of enterprises – 30 per cent in manufacturing and 21 per cent in service industries – reported projects and measures that were continuing at the end of 2012. A considerable share of enterprises with innovation activities also had activities that aimed at future innovations.

## ***Various types of resources are involved in innovation development***

Development of innovations require many types of actions and measures that are focused on the industry and also, for example, according to each development stage. Concerning 2010 to 2012, enterprises reported different types of innovation activities almost similarly as in previous surveys.

Three out of four enterprises that had developed products or processes had had research and development activities (R&D), roughly one-half had ordered R&D from outside the enterprise and, for example, some 40 per cent had arranged or acquired training related to developing and implementing innovations. R&D, equipment acquisition related to innovations, acquiring of existing knowledge (like patents) and design were more common innovation activities in manufacturing than in services. Enterprises reported activities related to training and launching innovations on the market as frequently in manufacturing and in services. Large enterprises reported various types of innovation activities clearly more often than small enterprises.

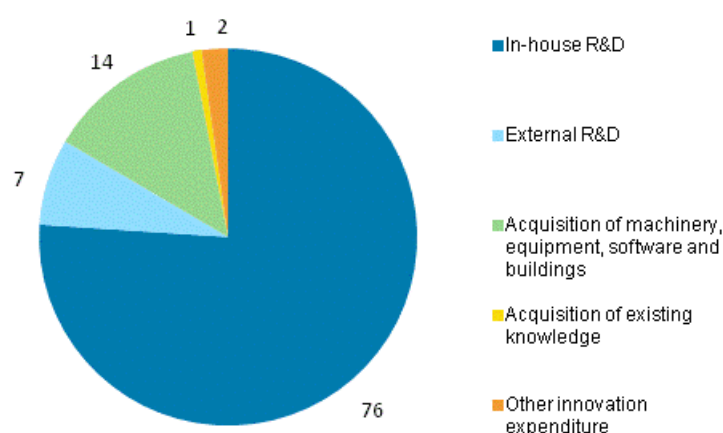
Enterprises reported clearly less innovation expenditure in 2012 than in 2010 and 2008 when statistics on innovation expenditure were last compiled.<sup>1)</sup> In 2012, innovation expenditure reported by enterprises amounted to a total of EUR 6.2 billion. In manufacturing, innovation expenditure decreased considerably from the previous measuring period, when the overall expenditure was nearly EUR six billion. In 2012, manufacturing enterprises reported that they had spent good EUR 4.5 billion on innovation activities. In surveyed service industries, a total of nearly EUR 1.7 billion was spent on innovation activities. The change

1) Innovation expenditure must often be determined by assessment because they are not necessarily monitored in the enterprise's bookkeeping and accounting systems. A change in the wording of a question may affect the comparability of the latest data with previously released data.

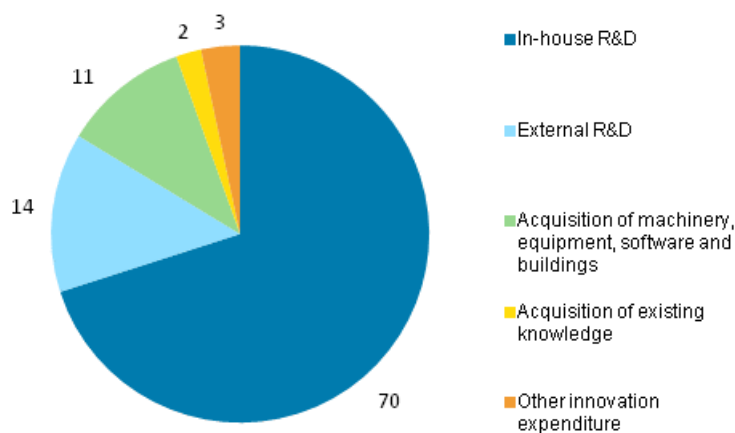
compared to 2010, when the combined innovation expenditure of service industries was close on EUR 1.3 billion is in part explained by the industry expansion that was made.

In line with previous years, R&D expenditure represented a considerable share of all combined innovation expenditure in 2012. Other items total represented around one-quarter of the total expenditure in innovation activity.

**Figure 6. Distribution of innovation expenditure in manufacturing 2012**



**Figure 7. Distribution of innovation expenditure in services 2012**



All in all, good one-third of enterprises that had developed products or processes received public funding for their innovation activity in 2010 to 2012. In manufacturing, 42 per cent had received funding, in services, 27 per cent. In relative terms, most public funding was received by large manufacturing enterprises of which, for example, 72 per cent received support from the State and 22 per cent from the EU. Of all medium size companies, good one-quarter reported support from the State and five per cent from the EU.

Measured by the number of enterprises that received funding, the State was the central source of funding for innovation activity. Altogether, 28 per cent of enterprises with innovation activity received public funding from the State. Nine per cent received support from local or regional authorities and six per cent from the EU. Three per cent of enterprises that reported innovation activity related to products and processes also reported that they had participated in the European Union’s Seventh Framework Programme for Research and Technological Development.

### ***Equipment and material suppliers and private sector customers important in innovation activity***

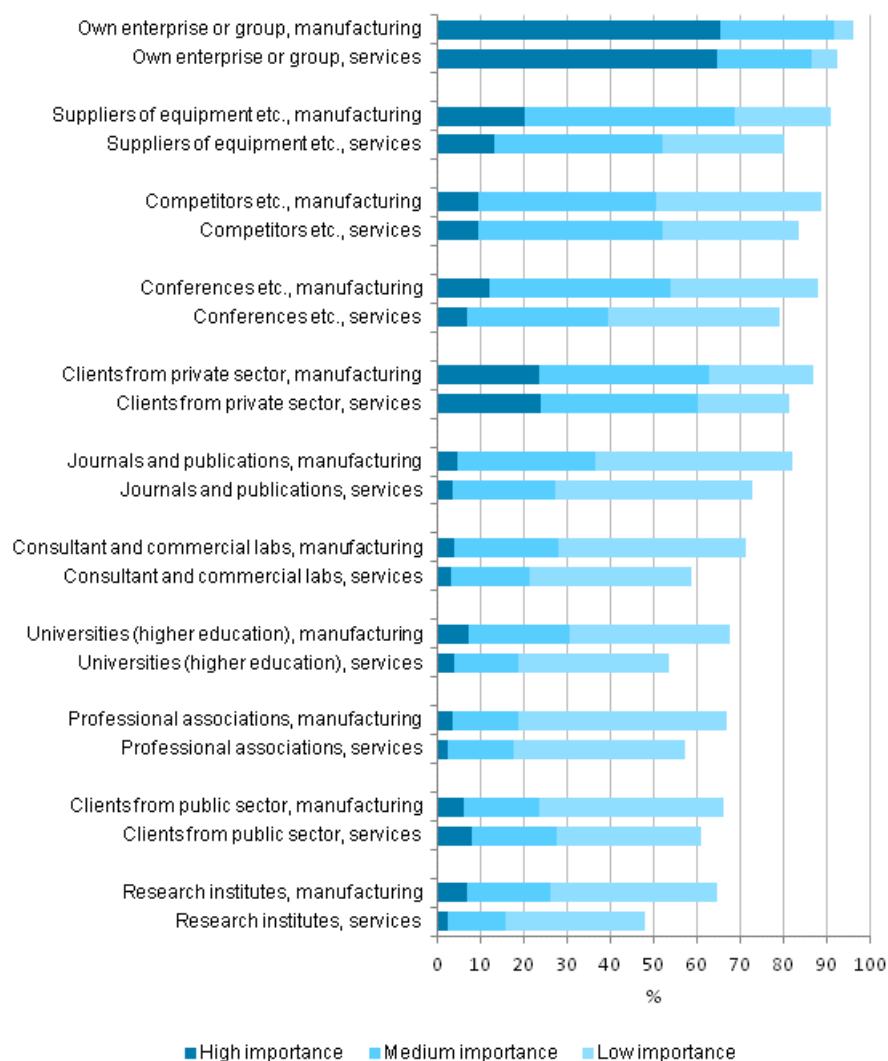
The use of different information sources, as well as cooperation with different cooperation partners in innovation activity, still present themselves as more important to large enterprises than to small enterprises. Large enterprises name various information sources and cooperation partners as having high importance more often than small companies.

The importance of various information sources was seen as quite similar in 2010 to 2012 in both manufacturing and service enterprises but manufacturing enterprises reported actual cooperation related to innovation activity more frequently than service enterprises and also named cooperation as more important in many respects.

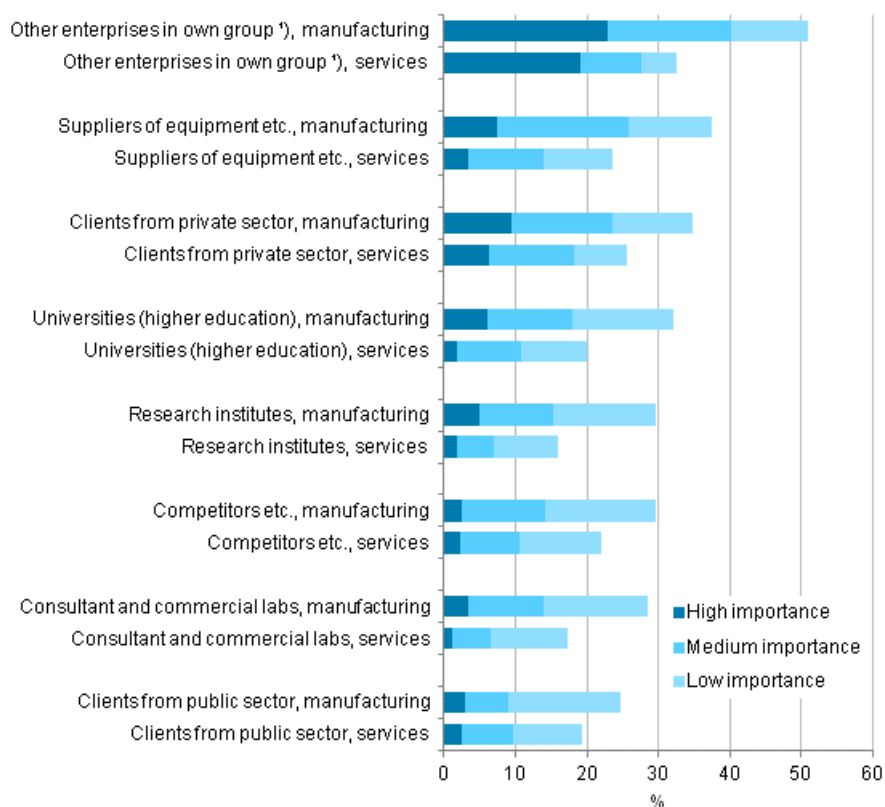
All in all, 36 per cent of enterprises that had developed and taken product and process innovations into use reported cooperation related to innovation activity. In manufacturing, 41 per cent had participated in cooperation, in services, 30 per cent.

The main information sources and cooperation partners in 2010 to 2012 were, like in previous years, the own enterprise, other enterprises in the same group, and equipment and material suppliers. Customers that had previously been named as key information sources and cooperation partners were now for the first time inquired as divided into private and public sector customers. Based on the results, private sector customers are both important information sources and important cooperation partners. The importance of public sector customers as information sources and cooperation partners is clearly more modest. Only a few per cent of enterprises involved in innovation activity saw public sector customers as having high importance in cooperation related to innovation activity. As information sources, public sector customers had a high or moderate importance for approximately one in four enterprises with innovation activity.

**Figure 8. Information sources for innovation activities in manufacturing and services 2010–2012, share of enterprises with innovation activities related to product and process innovations**



**Figure 9. Co-operation partners for innovation activities in manufacturing and services 2010–2012, share of enterprises with innovation activities related to product and process innovations**



<sup>1)</sup> only enterprises within a group

Nearly all enterprises with cooperation related to innovation activity had cooperation in Finland in 2010 to 2012 just like in previous surveys. Of those with cooperation, 68 per cent reported having cooperation partners in Europe and 27 per cent in the United States. All in all, 15 per cent had cooperation with parties located in China or India and around one in five reported cooperation in other countries or areas.

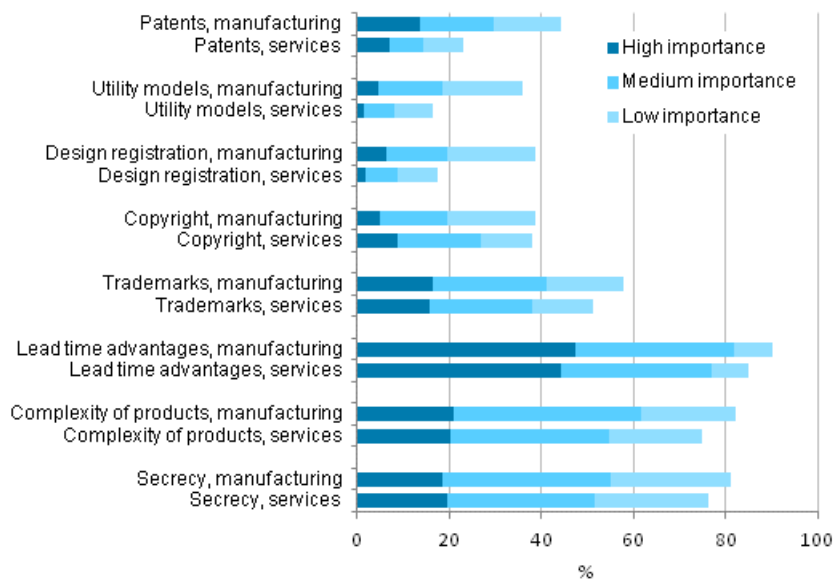
### *Innovations are protected to ensure competitiveness*

Manufacturing enterprise reported the use of patents, utility design applications, and registration of the copyright of design in order to promote and maintain the competitiveness of product and process innovations more frequently than service enterprises did. Copyrights and trademarks are, however, nearly of equal importance for both manufacturing and service enterprises.

Being a forerunner, the complexity of products and confidentiality are clearly more frequently used methods to maintain and promote competitiveness of innovations than formal protective measures. Nearly 90 per cent of enterprises that took product and process innovations into use in 2010 to 2012 found speed and being a forerunner to be a way to promote and maintain the competitiveness of an innovation. A majority saw speed and being a forerunner as having a high or at least moderate importance. Almost 80 per cent of enterprises with innovations in 2010 to 2012 felt that the complexity of products was a way to protect the innovation and ensure competitiveness. A majority of these – three out of four – saw this to have high or at least moderate importance. Confidentiality was seen to be as important for competitiveness as the complexity of products.



**Figure 10. Methods for maintaining or increasing the competitiveness of product and process innovations introduced 2010–2012, share of enterprises with the introduction and implementation of product and process innovations**

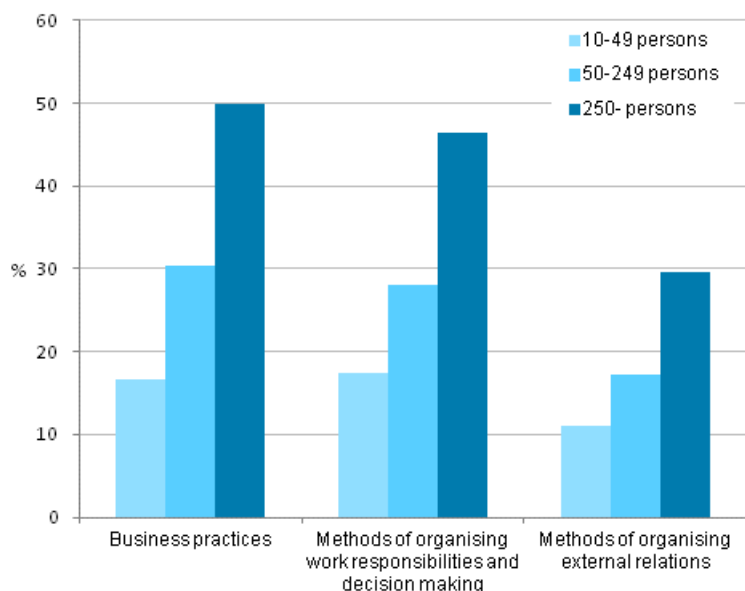


## 4. Implementation of marketing and organisational innovations in 2010 to 2012

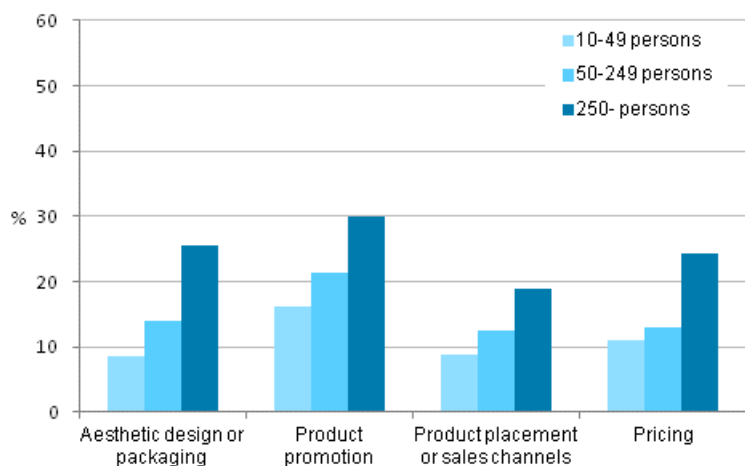
Unlike product and process innovations, implementation of marketing and organisational innovations was nearly as commonplace in manufacturing and services. In marketing innovations, the design of the product is slightly more in focus in manufacturing, while in services the competitive tool can be pricing development slightly more often than in manufacturing.

Organisational innovations, which 30 per cent of enterprises reported they had implemented in 2010 to 2012, were mainly directed at business practices or reorganisation of responsibilities and decision-making. Those who had implemented marketing innovations, 27 per cent of enterprises, most often reported innovations related to sales promotion. In large enterprises, design and packaging, as well as pricing, were also objects of innovation.

**Figure 11. Prevalence of organisational innovations by size category of personnel 2010–2012, share of enterprises**



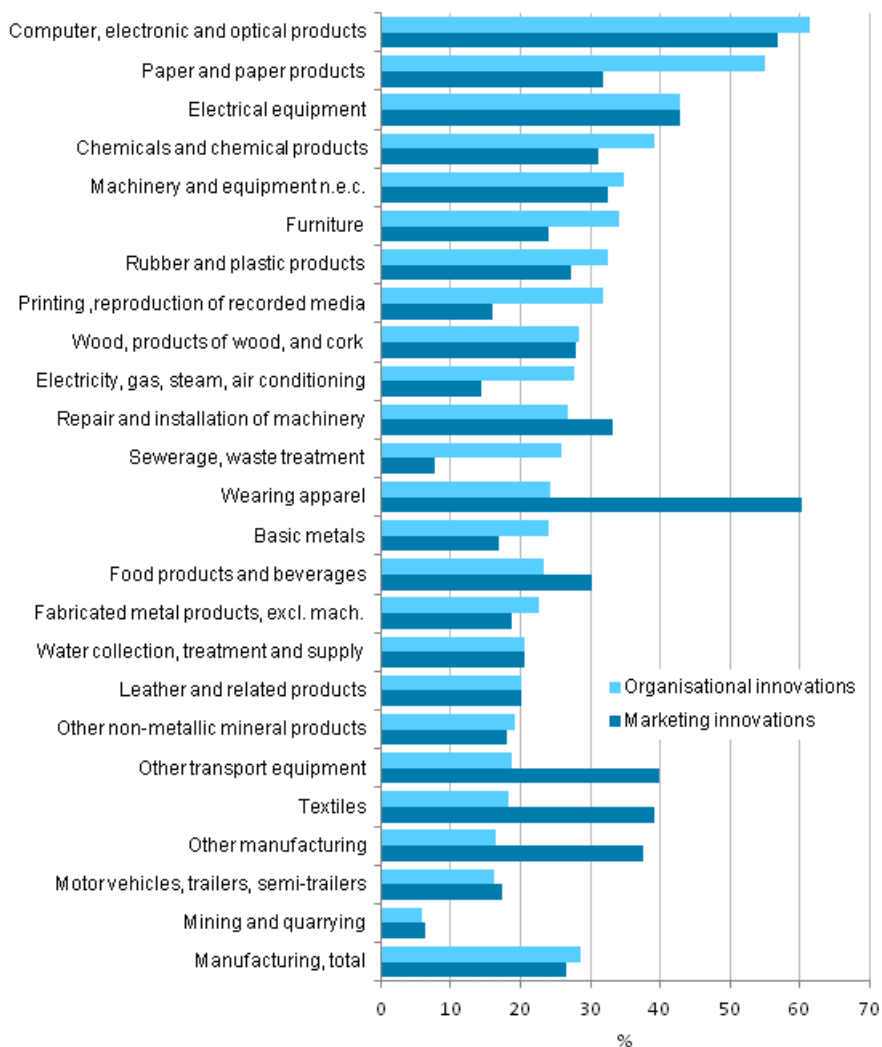
**Figure 12. Prevalence of marketing innovations by size category of personnel 2010–2012, share of enterprises**



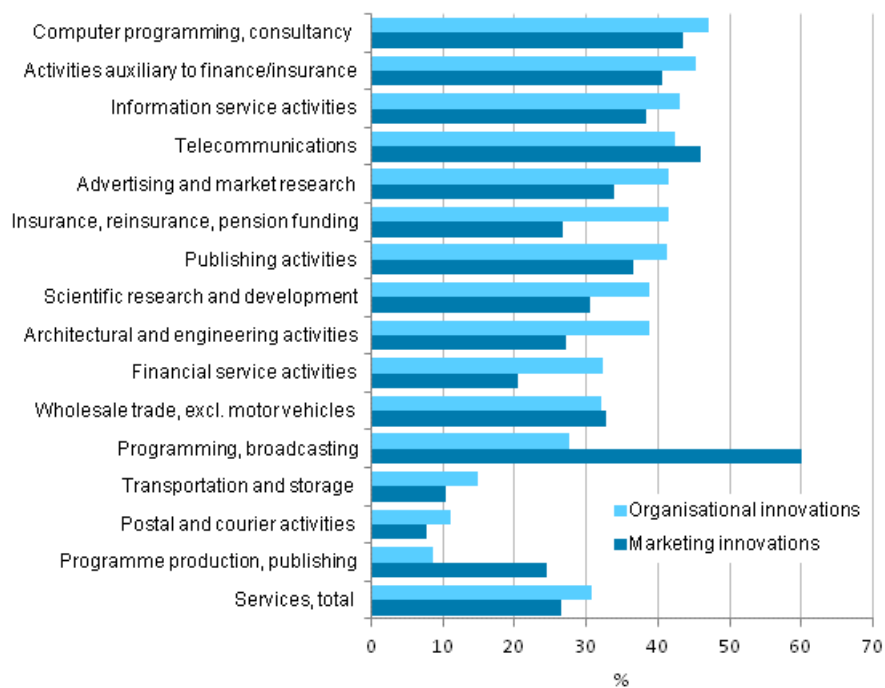
When viewed by industry, for example, paper industry, energy and waste management, and financial intermediation and insurance service enterprises reported implementation of organisational innovations

clearly more often than marketing innovations. By contrast, in the garment and textile industry, as well as, for example, radio and television activities, implementation of marketing innovations was more common than organisational innovations in 2010 to 2012.

**Figure 13. Prevalence of marketing and organisational innovations by industry in manufacturing 2010–2012, share of enterprises**



**Figure 14. Prevalence of marketing and organisational innovations by industry in services 2010–2012, share of enterprises**



## 5. Public procurement and innovation activity

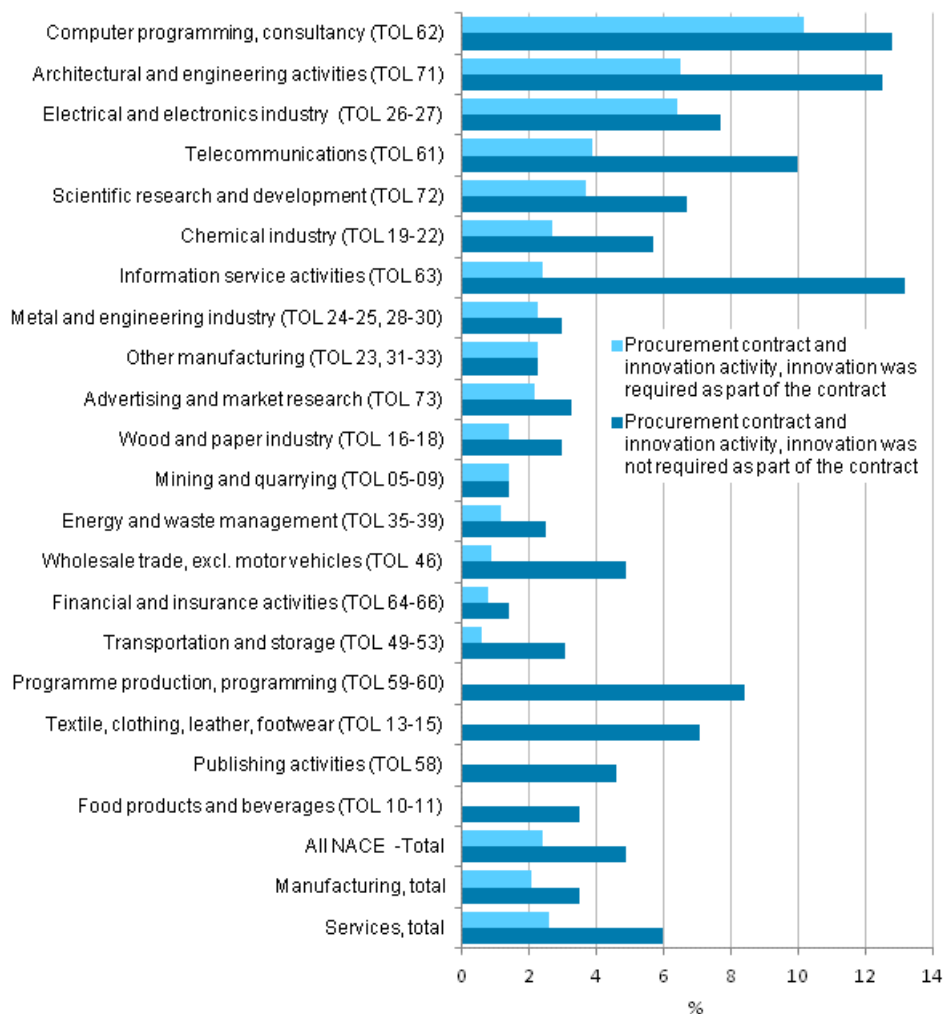
Nearly every third, 31 per cent of the surveyed enterprises reported having had procurement contracts in 2010 to 2012 to provide products to public sector organisations. In manufacturing, one in four enterprises and in services, good one-third of enterprises had procurement contracts.

A majority of enterprises with procurement contracts had contracts with domestic public sector organisations. Only five per cent of enterprises had procurement contracts to produce products for foreign public sector organisations – six per cent in manufacturing and five per cent in services.

In addition to procurement contracts being more commonplace in services than in manufacturing, procurement contracts were also more frequent in large enterprises than in small or medium size enterprises.

Even though nearly one-third of enterprises had procurement contracts, only relatively rarely did enterprises report innovation activity related to the implementation of the contracts. A couple of per cent of all enterprises (eight per cent of enterprises with procurement contracts) undertook innovation activity as part of a procurement contract with innovations being required in the contract. Five per cent of enterprises (16 per cent of those with contracts) reported innovation activity related to the implementation of procurement contracts, although innovation was not required as part of the contract.

**Figure 15. Public sector procurement and innovation activity 2010–2012, share of enterprises**



Procurement contracts were reported most commonly in information services activities, architectural and engineering activities, and technical testing and analysis. In these industries, good one-tenth of all enterprises (approximately one-fifth of enterprises with contracts) reported innovation activity related to procurement

contracts, even if innovation was not required as part of the contract. Procurement contracts were quite common also, for example, in the textile, clothing and leather industry, energy and waste management, telecommunications, computer programming, and advertising and market research. For example, in telecommunications and computer programming approximately one in ten reported of innovation activity without the contract requiring it.

## Appendix tables

**Appendix table 1. Prevalence of innovation activity by form of enterprise, 2010–2012, share of enterprises**

Industry	Form of enterprise	Number of enterprises	Product innovations (goods and services)	Process innovations	Product or process innovations	Innovation projects	Innovation activity	All elements
			%	%	%	%	%	%
<b>All NACE - Total</b>	Independent enterprise	4945	25,7	25,7	35,9	23,2	39,3	11,6
	Part of domestic group	2286	35,4	34,5	47,7	34,4	50,5	18,6
	Part of foreign group	1345	42,6	33,4	51,4	32,7	54,1	18,7
<b>Manufacturing</b>	Independent enterprise	2374	28,6	29,6	41,1	27,0	44,4	13,2
	Part of domestic group	1057	41,7	41,5	54,4	44,3	58,4	25,6
	Part of foreign group	450	47,4	40,0	58,5	43,8	61,2	25,3
<b>Services</b>	Independent enterprise	2572	23,1	22,2	31,2	19,6	34,7	10,1
	Part of domestic group	1229	30,0	28,4	42,0	25,9	43,8	12,5
	Part of foreign group	895	40,1	30,2	47,8	27,2	50,5	15,4

**Appendix table 2. Prevalence of innovation activity by enterprise's primary position in the production value chain 2010–2012, share of enterprises**

Industry	Position in production value chain	Number of enterprises	Product innovations (goods and services)	Process innovations	Product or process innovations	Innovation projects	Innovation activity	All elements
			%	%	%	%	%	%
<b>All NACE -Total</b>	Main supplier	4852	37,6	33,2	48,0	31,5	50,8	17,7
	System provider	766	41,9	35,9	52,2	42,5	59,6	20,6
	Subcontractor	2634	17,8	22,4	29,6	18,2	32,2	8,0
	Undefined position	323	13,1	11,4	15,7	12,4	17,3	6,5
	<b>Total</b>	<b>8576</b>	<b>31,0</b>	<b>29,3</b>	<b>41,5</b>	<b>27,7</b>	<b>44,6</b>	<b>14,6</b>
<b>Manufacturing</b>	Main supplier	2162	43,0	38,7	54,7	38,9	57,8	22,3
	System provider	261	39,3	40,6	52,8	49,5	60,7	24,9
	Subcontractor	1338	20,8	27,1	35,3	23,3	38,5	10,1
	Undefined position	120	19,2	13,2	19,2	19,2	19,2	13,2
	<b>Total</b>	<b>3881</b>	<b>34,3</b>	<b>34,0</b>	<b>46,8</b>	<b>33,6</b>	<b>50,1</b>	<b>18,0</b>

Industry	Position in production value chain	Number of enterprises	Product innovations (goods and services)	Process innovations	Product or process innovations	Innovation projects	Innovation activity	All elements
			%	%	%	%	%	%
<b>Services</b>	Main supplier	2691	33,2	28,7	42,7	25,5	45,2	14,1
	System provider	505	43,3	33,4	51,8	38,9	59,1	18,3
	Subcontractor	1296	14,6	17,6	23,7	12,8	25,8	5,8
	Undefined position	204	9,5	10,3	13,6	8,4	16,2	2,5
	<b>Total</b>	<b>4695</b>	<b>28,1</b>	<b>25,3</b>	<b>37,2</b>	<b>22,7</b>	<b>40,1</b>	<b>11,7</b>



**Appendix table 3. Prevalence of innovation activity by enterprise's geographic markets 2010–2012, share of enterprises**

Industry	Selling of products	Number of enterprises	Product innovations (goods and services)	Process innovations	Product or process innovations	Innovation projects	Innovation activity	All elements
			%	%	%	%	%	%
<b>All NACE -Total</b>	In Finland only	4504	20,5	21,2	29,6	16,8	32,4	7,9
	In other European Union or associated countries, not outside	1379	30,7	33,6	46,6	29,1	50,4	14,4
	Outside European Union or associated countries	2532	50,8	42,6	61,6	47,3	65,0	27,1
	Market not defined	162	12,2	9,4	15,0	9,9	15,8	4,6
<b>Manufacturing</b>	In Finland only	1621	18,6	23,8	31,5	17,4	34,3	7,0
	In other European Union or associated countries, not outside	644	31,2	33,9	47,3	34,0	52,0	16,0
	Outside European Union or associated countries	1546	53,1	45,9	63,9	51,6	67,5	30,6
	Market not defined	70	15,2	10,9	16,9	9,2	16,9	9,2
<b>Services</b>	In Finland only	2883	21,6	19,7	28,5	16,4	31,4	8,4
	In other European Union or associated countries, not outside	736	30,4	33,3	45,9	24,9	49,0	12,9
	Outside European Union or associated countries	986	47,2	37,4	58,0	40,6	61,1	21,6
	Market not defined	91	9,9	8,3	13,6	10,4	15,0	1,1

**Appendix table 4. Prevalence of marketing and organisational innovations by form of enterprise, 2010–2012, share of enterprises**

Industry	Form of enterprise	Number of enterprises	Organisational innovations	Marketing innovations	Marketing or organisational innovations	Product, process, marketing or organisational innovations	Innovation activity, broadly defined	All elements
			%	%	%	%	%	%
<b>All NACE - Total</b>	Independent enterprise	4945	23,1	22,8	33,2	45,2	47,3	6,3
	Part of domestic group	2286	36,8	30,8	43,0	56,7	58,5	11,0
	Part of foreign group	1345	42,0	33,1	49,5	61,1	62,3	10,4
<b>Manufacturing</b>	Independent enterprise	2374	20,5	22,7	32,4	48,4	50,7	6,0
	Part of domestic group	1057	40,8	33,1	47,1	60,9	64,2	15,4
	Part of foreign group	450	42,1	30,8	49,2	69,2	69,2	11,7
<b>Services</b>	Independent enterprise	2572	25,5	22,9	33,9	42,2	44,1	6,6
	Part of domestic group	1229	33,2	28,8	39,5	53,1	53,6	7,1
	Part of foreign group	895	42,0	34,3	49,7	57,0	58,8	9,7

**Appendix table 5. Prevalence of marketing and organisational innovations by enterprise's primary position in the production value chain 2010–2012, share of enterprises**

Industry	Position in production value chain	Number of enterprises	Organisa-tional innovations	Marketing innovations	Marketing or organisational innovations	Product, process, marketing or organisa-tional innovations	Innovation activity, broadly defined	All elements
			%	%	%	%	%	%
<b>All NACE - Total</b>	Main supplier	4852	33,7	33,4	45,2	57,6	59,2	10,0
	System provider	766	39,5	28,9	44,7	57,6	61,4	14,2
	Subcontractor	2634	21,8	15,5	27,0	40,0	41,7	3,4
	Undefined position	323	10,8	8,3	12,3	20,2	21,8	5,2
	<b>Total</b>	<b>8576</b>	<b>29,7</b>	<b>26,5</b>	<b>38,4</b>	<b>50,8</b>	<b>52,6</b>	<b>8,2</b>
<b>Manufacturing</b>	Main supplier	2162	33,9	35,7	47,0	62,1	63,9	12,5
	System provider	261	36,2	23,4	39,5	58,1	63,1	16,7
	Subcontractor	1338	19,5	13,5	26,0	43,5	46,4	2,2
	Undefined position	120	16,9	12,1	16,9	22,9	22,9	12,1
	<b>Total</b>	<b>3881</b>	<b>28,6</b>	<b>26,5</b>	<b>38,3</b>	<b>54,2</b>	<b>56,5</b>	<b>9,2</b>
<b>Services</b>	Main supplier	2691	33,6	31,5	43,8	53,9	55,5	8,0
	System provider	505	41,1	31,8	47,4	57,4	60,5	12,9
	Subcontractor	1296	24,2	17,6	28,1	36,3	36,9	4,6
	Undefined position	204	7,2	6,0	9,5	18,7	21,2	1,1
	<b>Total</b>	<b>4695</b>	<b>30,7</b>	<b>26,6</b>	<b>38,4</b>	<b>47,9</b>	<b>49,4</b>	<b>7,3</b>

**Appendix table 6. Prevalence of marketing and organisational innovations by enterprise's geographic markets 2010–2012, share of enterprises**

Industry	Selling of products	Number of enterprises	Organi-sational innovations	Marketing innovations	Marketing or organisa-tional innovations	Product, process, marketing or organisational innovations	Innovation activity, broadly defined	All elements
			%	%	%	%	%	%
<b>All NACE - Total</b>	In Finland only	4504	22,6	18,5	28,6	38,8	40,4	4,3
	In other European Union or associated countries, not outside	1379	32,0	29,0	42,8	58,7	60,6	5,8
	Outside European Union or associated countries	2532	42,5	40,6	55,1	69,9	72,3	16,6
	Market not defined	162	7,6	7,6	10,6	15,8	16,6	4,6
<b>Manufacturing</b>	In Finland only	1621	19,7	15,2	26,4	39,5	41,1	2,6
	In other European Union or associated countries, not outside	644	26,2	22,2	36,5	57,2	60,2	4,9
	Outside European Union or associated countries	1546	39,5	40,8	52,8	70,1	72,9	18,0
	Market not defined	70	12,6	9,2	12,6	18,6	18,6	9,2
<b>Services</b>	In Finland only	2883	24,3	20,4	29,8	38,4	40,0	5,3
	In other European Union or associated countries, not outside	736	37,1	35,0	48,3	60,0	60,9	6,7
	Outside European Union or associated countries	986	47,1	40,4	58,8	69,7	71,4	14,3
	Market not defined	91	3,7	6,4	9,0	13,6	15,0	1,1

**Appendix table 7. Developers of goods innovations by size category of personnel, 2010–2012, share of enterprises with goods innovations**

Industry	Size category of personnel	Number of enterprises	Own enterprise by itself	Own enterprise together with others	Own enterprise by adapting or modifying goods developed by others	Other enterprises or institutions
			%	%	%	%
<b>All NACE -Total</b>	10-49	1245	81,4	46,6	27,6	10,8
	50-249	459	80,3	52,4	20,2	13,4
	250-	207	84,6	76,8	24,4	11,6
	<b>Total</b>	<b>1911</b>	<b>81,5</b>	<b>51,2</b>	<b>25,5</b>	<b>11,5</b>
<b>Manufacturing</b>	10-49	701	88,0	48,9	25,1	5,5
	50-249	347	83,4	51,9	16,9	8,5
	250-	156	91,2	80,2	25,3	10,3
	<b>Total</b>	<b>1204</b>	<b>87,1</b>	<b>53,8</b>	<b>22,7</b>	<b>7,0</b>
<b>Services</b>	10-49	545	72,8	43,5	30,8	17,7
	50-249	112	70,5	54,0	30,2	28,6
	250-	51	64,2	66,5	21,7	15,4
	<b>Total</b>	<b>707</b>	<b>71,9</b>	<b>46,8</b>	<b>30,1</b>	<b>19,3</b>

**Appendix table 8. Developers of goods innovations by industry, 2010–2012, share of enterprises with goods innovations**

Industry	Number of enterprises	Own enterprise by itself	Own enterprise together with others	Own enterprise by adapting or modifying goods developed by others	Other enterprises or institutions
		%	%	%	%
Mining and quarrying	.. <sup>1)</sup>	..	..	..	..
Food products and beverages	153	90,3	44,5	28,8	8,0
Textiles	6	76,7	59,3	76,7	82,6
Wearing apparel	23	100,0	22,1	15,6	0,0
Leather and related products	8	100,0	50,0	0,0	0,0
Wood, products of wood, and cork	76	94,2	53,3	19,1	1,9
Paper and paper products	24	100,0	47,0	5,5	16,5
Printing and reproduction of recorded media	14	100,0	8,6	41,6	8,6
Chemicals and chemical products	65	88,4	64,0	31,0	11,8
Rubber and plastic products	91	87,1	70,4	26,4	3,4
Other non-metallic mineral products	37	90,6	58,1	28,9	5,9
Basic metals	22	75,6	48,1	9,6	4,6
Fabricated metal products, except machinery and equipment	164	74,1	71,3	24,8	12,7
Computer, electronic and optical products	96	96,8	60,5	30,8	9,9
Electrical equipment	64	82,4	73,8	14,4	5,2
Machinery and equipment n.e.c.	191	85,2	40,4	13,4	1,3
Motor vehicles, trailers and semi-trailers	32	100,0	25,3	28,2	0,0
Other transport equipment	29	89,2	74,5	24,1	18,7
Furniture	39	94,9	22,4	22,7	0,0
Other manufacturing	38	87,4	38,2	14,9	4,2
Repair and installation of machinery and equipment	19	73,5	66,7	26,5	0,0
Electricity, gas, steam and air conditioning supply	..	..	..	..	..
Water collection, treatment and supply	.. <sup>2)</sup>	-	-	-	-
Sewerage, waste treatment	6	82,7	82,7	0,0	17,3
Wholesale trade, except of motor vehicles and motorcycles	325	56,6	52,8	30,8	29,7
Transportation and storage	19	52,7	14,2	60,8	0,0
Postal and courier activities	-	-	-	-	-
Publishing activities	39	83,4	45,1	36,3	6,0
Programme production, sound recording and music publishing activities	16	80,0	80,0	40,0	0,0
Programming and broadcasting activities	..	..	..	..	..
Telecommunications	..	..	..	..	..
Computer programming, consultancy and related activities	158	94,6	32,7	33,0	18,0
Information service activities	..	..	..	..	..
Financial service activities	..	..	..	..	..
Insurance, reinsurance and pension funding	6	100,0	23,4	38,3	0,0
Activities auxiliary to financial services and insurance activities	9	100,0	44,4	0,0	0,0

Industry	Number of enterprises	Own enterprise by itself	Own enterprise together with others	Own enterprise by adapting or modifying goods developed by others	Other enterprises or institutions
		%	%	%	%
Architectural and engineering activities; technical testing and analysis	79	76,6	47,8	11,6	5,8
Scientific research and development	18	93,0	35,1	7,0	7,0
Advertising and market research	21	100,0	80,0	60,0	0,0
<b>All NACE - Total</b>	<b>1911</b>	<b>81,5</b>	<b>51,2</b>	<b>25,5</b>	<b>11,5</b>
<b>Manufacturing, total</b>	<b>1204</b>	<b>87,1</b>	<b>53,8</b>	<b>22,7</b>	<b>7,0</b>
<b>Services, total</b>	<b>707</b>	<b>71,9</b>	<b>46,8</b>	<b>30,1</b>	<b>19,3</b>

1) .. = data subject to secrecy

2) - = none

**Appendix table 9. Developers of service innovations by size category of personnel, 2010–2012, share of enterprises with service innovations**

Industry	Size category of personnel	Number of enterprises	Own enterprise by itself	Own enterprise together with others	Own enterprise by adapting or modifying services developed by others	Other enterprises or institutions
			%	%	%	%
<b>All NACE - Total</b>	10-49	1012	79,3	51,8	36,9	12,5
	50-249	367	74,4	51,0	27,6	9,9
	250-	171	76,6	64,9	25,5	17,9
	<b>Total</b>	<b>1550</b>	<b>77,8</b>	<b>53,1</b>	<b>33,5</b>	<b>12,5</b>
<b>Manufacturing</b>	10-49	307	74,9	51,8	35,7	12,9
	50-249	141	68,1	55,3	25,6	16,5
	250-	83	81,8	59,8	19,4	14,0
	<b>Total</b>	<b>531</b>	<b>74,1</b>	<b>54,0</b>	<b>30,5</b>	<b>14,0</b>
<b>Services</b>	10-49	705	81,3	51,8	37,5	12,3
	50-249	226	78,2	48,4	28,9	5,8
	250-	88	71,7	69,7	31,2	21,6
	<b>Total</b>	<b>1019</b>	<b>79,8</b>	<b>52,6</b>	<b>35,0</b>	<b>11,7</b>

**Appendix table 10. Developers of service innovations by industry, 2010–2012, share of enterprises with service innovations**

Industry	Number of enterprises	Own enterprise by itself	Own enterprise together with others	Own enterprise by adapting or modifying services developed by others	Other enterprises or institutions
		%	%	%	%
Mining and quarrying	6	35,6	80,8	35,6	16,4
Food products and beverages	56	63,6	43,2	32,8	27,8
Textiles	8	100,0	43,6	56,4	43,6
Wearing apparel	.. <sup>1)</sup>	..	..	..	..
Leather and related products	..	..	..	..	..
Wood, products of wood, and cork	28	94,9	33,5	0,0	0,0
Paper and paper products	8	65,0	67,5	0,0	0,0
Printing and reproduction of recorded media	15	83,3	68,6	85,3	7,9
Chemicals and chemical products	18	77,4	51,5	42,4	11,0
Rubber and plastic products	31	86,8	47,8	23,2	20,0
Other non-metallic mineral products	20	61,1	64,1	47,0	11,1
Basic metals	..	..	..	..	..
Fabricated metal products, except machinery and equipment	93	76,7	66,4	30,8	21,5
Computer, electronic and optical products	22	95,5	57,4	57,1	9,7
Electrical equipment	33	66,2	63,2	31,6	7,0
Machinery and equipment n.e.c.	62	63,1	63,0	12,7	10,2
Motor vehicles, trailers and semi-trailers	16	87,4	0,0	43,7	12,6
Other transport equipment	11	85,5	74,5	54,3	39,7
Furniture	17	94,0	12,0	34,6	0,0
Other manufacturing	..	..	..	..	..
Repair and installation of machinery and equipment	33	78,3	55,6	30,0	0,0
Electricity, gas, steam and air conditioning supply	19	27,1	34,3	43,8	10,3
Water collection, treatment and supply	6	44,0	44,0	0,0	28,0
Sewerage, waste treatment	18	79,0	88,7	11,3	0,0
Wholesale trade, except of motor vehicles and motorcycles	174	75,3	44,7	28,8	20,0
Transportation and storage	103	73,2	49,3	33,7	10,0
Postal and courier activities	..	..	..	..	..
Publishing activities	76	79,6	65,2	49,5	7,7
Programme production, sound recording and music publishing activities	7	100,0	43,2	43,2	0,0
Programming and broadcasting activities	..	..	..	..	..
Telecommunications	38	79,9	57,7	38,1	2,6
Computer programming, consultancy and related activities	262	86,7	42,0	28,6	6,7
Information service activities	15	82,4	42,2	24,5	0,0
Financial service activities	66	51,9	62,9	41,1	26,3
Insurance, reinsurance and pension funding	14	72,8	47,8	10,3	10,3
Activities auxiliary to financial services and insurance activities	37	89,4	71,3	50,0	31,9



Industry	Number of enterprises	Own enterprise by itself	Own enterprise together with others	Own enterprise by adapting or modifying services developed by others	Other enterprises or institutions
		%	%	%	%
Architectural and engineering activities; technical testing and analysis	145	87,3	59,8	38,5	9,5
Scientific research and development	23	76,4	45,9	0,0	0,0
Advertising and market research	50	83,3	75,0	54,2	8,3
<b>All NACE -Total</b>	<b>1550</b>	<b>77,8</b>	<b>53,1</b>	<b>33,5</b>	<b>12,5</b>
<b>Manufacturing, total</b>	<b>531</b>	<b>74,1</b>	<b>54,0</b>	<b>30,5</b>	<b>14,0</b>
<b>Services, total</b>	<b>1019</b>	<b>79,8</b>	<b>52,6</b>	<b>35,0</b>	<b>11,7</b>

1) .. = data subject to secrecy

**Appendix table 11. Enterprises with product innovations by degree of novelty of innovations and size category of personnel, 2010–2012, share of enterprises with product innovations**

Industry	Size category of personnel	Number of enterprises	Only new to market	Only new to enterprise	Both new to market and to enterprise	New to market	New to enterprise
			%	%	%	%	%
<b>All NACE -Total</b>	10-49	1742	30,4	38,1	31,5	61,9	69,6
	50-249	647	21,6	42,4	36,0	57,6	78,4
	250-	266	22,0	22,9	55,2	77,1	78,0
	<b>Total</b>	<b>2655</b>	<b>27,4</b>	<b>37,6</b>	<b>34,9</b>	<b>62,4</b>	<b>72,6</b>
<b>Manufacturing</b>	10-49	786	30,9	39,6	29,6	60,4	69,1
	50-249	382	21,7	40,0	38,3	60,0	78,3
	250-	165	18,2	21,4	60,4	78,6	81,8
	<b>Total</b>	<b>1333</b>	<b>26,7</b>	<b>37,4</b>	<b>35,9</b>	<b>62,6</b>	<b>73,3</b>
<b>Services</b>	10-49	956	30,0	36,9	33,0	63,1	70,0
	50-249	265	21,5	45,7	32,8	54,3	78,5
	250-	100	28,2	25,3	46,6	74,7	71,8
	<b>Total</b>	<b>1322</b>	<b>28,2</b>	<b>37,8</b>	<b>34,0</b>	<b>62,2</b>	<b>71,8</b>

**Appendix table 12. Enterprises with product innovations by degree of novelty of innovations and industry, 2010–2012, share of enterprises with product innovations**

Industry	Number of enterprises	Only new to market	Only new to enterprise	Both new to market and to enterprise	New to market	New to enterprise
		%	%	%	%	%
Mining and quarrying	8	73,8	26,2	0,0	73,8	26,2
Food products and beverages	154	17,7	41,8	40,4	58,2	82,3
Textiles	9	14,6	37,2	48,2	62,8	85,4
Wearing apparel	23	15,6	31,2	53,2	68,8	84,4
Leather and related products	8	50,0	50,0	0,0	50,0	50,0
Wood, products of wood, and cork	79	55,4	14,1	30,5	85,9	44,6
Paper and paper products	24	34,7	27,1	38,1	72,9	65,3
Printing and reproduction of recorded media	26	17,1	57,5	25,4	42,5	82,9
Chemicals and chemical products	67	30,4	29,9	39,7	70,1	69,6
Rubber and plastic products	95	26,0	36,1	37,9	63,9	74,0
Other non-metallic mineral products	41	33,3	27,7	38,9	72,3	66,7
Basic metals	22	36,5	53,9	9,6	46,1	63,5
Fabricated metal products, except machinery and equipment	191	23,7	31,6	44,7	68,4	76,3
Computer, electronic and optical products	97	23,9	29,3	46,7	70,7	76,1
Electrical equipment	66	20,5	23,5	55,9	76,5	79,5
Machinery and equipment n.e.c.	199	23,9	52,1	24,0	47,9	76,1
Motor vehicles, trailers and semi-trailers	34	17,8	55,7	26,5	44,3	82,2
Other transport equipment	29	4,0	34,3	61,7	65,7	96,0
Furniture	45	22,0	38,5	39,5	61,5	78,0
Other manufacturing	38	40,5	40,5	19,1	59,5	59,5
Repair and installation of machinery and equipment	36	37,7	55,2	7,2	44,8	62,3
Electricity, gas, steam and air conditioning supply	19	62,7	32,2	5,1	67,8	37,3
Water collection, treatment and supply	6	0,0	84,0	16,0	16,0	100,0
Sewerage, waste treatment	18	15,4	42,3	42,3	57,7	84,6
Wholesale trade, except of motor vehicles and motorcycles	376	24,8	29,7	45,6	70,3	75,2
Transportation and storage	109	39,5	47,9	12,6	52,1	60,5
Postal and courier activities	.. <sup>1)</sup>	..	..	..	..	..
Publishing activities	82	9,1	56,1	34,8	43,9	90,9
Programme production, sound recording and music publishing activities	17	56,4	5,9	37,6	94,1	43,6
Programming and broadcasting activities	.. <sup>1)</sup>	..	..	..	..	..
Telecommunications	38	51,9	30,2	18,0	69,8	48,1
Computer programming, consultancy and related activities	286	28,1	36,1	35,8	63,9	71,9
Information service activities	15	8,8	52,5	38,7	47,5	91,2
Financial service activities	66	18,5	56,3	25,2	43,7	81,5
Insurance, reinsurance and pension funding	16	15,1	52,8	32,1	47,2	84,9

Industry	Number of enterprises	Only new to market	Only new to enterprise	Both new to market and to enterprise	New to market	New to enterprise
		%	%	%	%	%
Activities auxiliary to financial services and insurance activities	41	28,9	45,2	26,0	54,8	71,1
Architectural and engineering activities; technical testing and analysis	179	35,6	37,2	27,3	62,8	64,4
Scientific research and development	31	62,4	6,5	31,2	93,5	37,6
Advertising and market research	59	14,3	50,0	35,7	50,0	85,7
<b>All NACE -Total</b>	<b>2655</b>	<b>27,4</b>	<b>37,6</b>	<b>34,9</b>	<b>62,4</b>	<b>72,6</b>
<b>Manufacturing, total</b>	<b>1333</b>	<b>26,7</b>	<b>37,4</b>	<b>35,9</b>	<b>62,6</b>	<b>73,3</b>
<b>Services, total</b>	<b>1322</b>	<b>28,2</b>	<b>37,8</b>	<b>34,0</b>	<b>62,2</b>	<b>71,8</b>

1) .. = data subject to secrecy

**Appendix table 13. Proportions of product innovations and unchanged products of turnover by size category of personnel, 2012**

Industry	Size category of personnel	Proportions of the total turnover of enterprises with product innovations			Proportions of the total turnover of all enterprises		
		Products new to the market	Products new only to the enterprise	Unchanged products	Products new to the market	Products new only to the enterprise	Unchanged products
		%	%	%	%	%	%
<b>All NACE -Total</b>	10-49	8,2	10,8	81,0	2,4	3,1	94,4
	50-249	5,3	6,2	88,5	2,2	2,6	95,2
	250-	6,8	11,2	82,0	5,8	9,5	84,7
	<b>Total</b>	<b>6,7</b>	<b>10,4</b>	<b>83,0</b>	<b>4,4</b>	<b>6,8</b>	<b>88,9</b>
<b>Manufacturing</b>	10-49	8,8	9,1	82,1	2,5	2,5	95,0
	50-249	5,6	9,1	85,4	2,4	3,9	93,7
	250-	8,9	14,8	76,3	8,3	13,7	78,0
	<b>Total</b>	<b>8,6</b>	<b>14,0</b>	<b>77,5</b>	<b>6,6</b>	<b>10,7</b>	<b>82,7</b>
<b>Services</b>	10-49	7,9	11,7	80,4	2,4	3,5	94,1
	50-249	5,1	4,3	90,6	2,1	1,7	96,2
	250-	2,2	3,2	94,6	1,6	2,3	96,1
	<b>Total</b>	<b>3,6</b>	<b>4,5</b>	<b>91,9</b>	<b>1,9</b>	<b>2,3</b>	<b>95,7</b>

**Appendix table 14. Proportions of product innovations and unchanged products of turnover by industry, 2012**

Industry	Proportions of the total turnover of enterprises with product innovations			Proportions of the total turnover of all enterprises		
	Products new to the market	Products new only to the enterprise	Unchanged products	Products new to the market	Products new only to the enterprise	Unchanged products
	%	%	%	%	%	%
Mining and quarrying	0,9	1,0	98,1	0,3	0,3	99,5
Food products and beverages	4,8	7,6	87,5	4,2	6,7	89,0
Textiles	5,6	12,8	81,6	0,3	0,6	99,2
Wearing apparel	9,2	24,2	66,6	5,6	14,7	79,8
Leather and related products	0,4	0,0	99,6	0,1	0,0	99,9
Wood, products of wood, and cork	4,6	2,5	92,9	3,0	1,6	95,4
Paper and paper products	10,5	8,2	81,4	8,3	6,5	85,2
Printing and reproduction of recorded media	8,8	7,9	83,4	2,6	2,3	95,0
Chemicals and chemical products	3,5	3,3	93,1	3,1	3,0	93,9
Rubber and plastic products	12,1	7,5	80,4	9,5	5,8	84,7
Other non-metallic mineral products	6,1	8,9	85,1	3,7	5,4	90,9
Basic metals	1,2	1,9	96,9	0,9	1,4	97,7
Fabricated metal products, except machinery and equipment	14,2	4,6	81,2	6,4	2,0	91,6
Computer, electronic and optical products	15,4	43,2	41,4	15,0	42,0	43,1
Electrical equipment	15,6	17,8	66,6	13,5	15,4	71,1
Machinery and equipment n.e.c.	9,0	10,2	80,9	7,7	8,7	83,7
Motor vehicles, trailers and semi-trailers	25,8	15,1	59,1	16,9	9,9	73,1
Other transport equipment	8,1	38,1	53,8	6,2	29,3	64,5
Furniture	5,4	10,7	83,9	3,4	6,6	90,0
Other manufacturing	12,1	3,5	84,4	6,5	1,9	91,6
Repair and installation of machinery and equipment	4,4	1,0	94,7	2,2	0,5	97,3
Electricity, gas, steam and air conditioning supply	1,3	1,6	97,1	0,5	0,6	98,9
Water collection, treatment and supply	43,5	43,6	12,9	30,6	30,7	38,7
Sewerage, waste treatment	0,6	1,0	98,4	0,4	0,6	99,0
Wholesale trade, except of motor vehicles and motorcycles	4,2	2,2	93,6	2,2	1,1	96,7
Transportation and storage	0,8	1,0	98,2	0,3	0,3	99,4
Postal and courier activities	1,0	1,0	98,0	0,8	0,8	98,4
Publishing activities	0,5	4,5	95,0	0,3	2,8	96,9
Programme production, sound recording and music publishing activities	29,5	31,7	38,8	7,1	7,6	85,3
Programming and broadcasting activities	0,9	2,6	96,5	0,7	2,1	97,2
Telecommunications	1,2	1,5	97,3	1,2	1,4	97,4
Computer programming, consultancy and related activities	10,6	18,6	70,8	7,7	13,5	78,9
Information service activities	1,3	5,2	93,4	0,8	3,1	96,1

Industry	Proportions of the total turnover of enterprises with product innovations			Proportions of the total turnover of all enterprises		
	Products new to the market	Products new only to the enterprise	Unchanged products	Products new to the market	Products new only to the enterprise	Unchanged products
	%	%	%	%	%	%
Financial service activities	1,1	6,0	92,8	0,7	3,7	95,6
Insurance, reinsurance and pension funding	2,7	8,1	89,3	1,2	3,5	95,3
Activities auxiliary to financial services and insurance activities	2,0	3,8	94,2	1,7	3,2	95,1
Architectural and engineering activities; technical testing and analysis	6,8	5,7	87,5	2,9	2,4	94,7
Scientific research and development	13,9	49,9	36,2	10,4	37,5	52,1
Advertising and market research	5,6	19,0	75,4	1,6	5,3	93,1
<b>All NACE -Total</b>	<b>6,7</b>	<b>10,4</b>	<b>83,0</b>	<b>4,4</b>	<b>6,8</b>	<b>88,9</b>
<b>Manufacturing, total</b>	<b>8,6</b>	<b>14,0</b>	<b>77,5</b>	<b>6,6</b>	<b>10,7</b>	<b>82,7</b>
<b>Services, total</b>	<b>3,6</b>	<b>4,5</b>	<b>91,9</b>	<b>1,9</b>	<b>2,3</b>	<b>95,7</b>

**Appendix table 15. Developers of process innovations by size category of personnel, 2010–2012, share of enterprises with process innovations**

Industry	Size category of personnel	Number of enterprises	Own enterprise by itself	Own enterprise together with others	Own enterprise by adapting or modifying processes developed by others	Other enterprises or institutions
			%	%	%	%
<b>All NACE - Total</b>	10-49	1709	56,4	48,3	23,3	16,9
	50-249	575	56,4	55,0	28,4	16,0
	250-	227	68,7	76,0	37,0	15,6
	<b>Total</b>	<b>2511</b>	<b>57,5</b>	<b>52,4</b>	<b>25,7</b>	<b>16,6</b>
<b>Manufacturing</b>	10-49	849	58,6	47,7	17,8	15,8
	50-249	330	58,0	60,1	26,7	14,3
	250-	143	67,0	79,0	38,8	19,8
	<b>Total</b>	<b>1321</b>	<b>59,4</b>	<b>54,2</b>	<b>22,3</b>	<b>15,9</b>
<b>Services</b>	10-49	860	54,3	49,0	28,7	17,9
	50-249	245	54,2	48,3	30,8	18,4
	250-	84	71,6	71,0	33,9	8,5
	<b>Total</b>	<b>1189</b>	<b>55,5</b>	<b>50,4</b>	<b>29,5</b>	<b>17,3</b>

**Appendix table 16. Developers of process innovations by industry, 2010–2012, share of enterprises with process innovations**

Industry	Number of enterprises	Own enterprise by itself	Own enterprise together with others	Own enterprise by adapting or modifying processes developed by others	Other enterprises or institutions
		%	%	%	%
Mining and quarrying	19	60,1	39,9	29,6	7,2
Food products and beverages	133	60,2	49,2	32,6	17,9
Textiles	8	56,4	87,2	43,6	43,6
Wearing apparel	.. <sup>1)</sup>	..	..	..	..
Leather and related products	..	..	..	..	..
Wood, products of wood, and cork	96	66,7	54,6	20,3	15,7
Paper and paper products	27	64,2	55,8	30,9	3,8
Printing and reproduction of recorded media	52	28,1	21,5	15,6	47,9
Chemicals and chemical products	55	64,9	58,7	35,1	6,0
Rubber and plastic products	81	58,9	73,2	7,7	3,8
Other non-metallic mineral products	41	47,9	66,9	19,2	11,1
Basic metals	17	37,0	68,2	18,6	18,6
Fabricated metal products, except machinery and equipment	264	59,8	58,7	16,5	15,5
Computer, electronic and optical products	58	72,7	70,9	38,5	18,2
Electrical equipment	57	58,1	45,1	31,2	18,4
Machinery and equipment n.e.c..	177	60,4	51,7	18,1	14,2
Motor vehicles, trailers and semi-trailers	26	73,0	53,9	7,8	0,0
Other transport equipment	13	88,3	80,7	36,9	8,8
Furniture	37	73,3	13,8	15,5	0,0
Other manufacturing	24	75,9	65,4	17,3	17,3
Repair and installation of machinery and equipment	58	58,5	44,0	30,4	21,1
Electricity, gas, steam and air conditioning supply	36	30,9	63,2	32,0	21,4
Water collection, treatment and supply	6	28,0	72,0	0,0	44,0
Sewerage, waste treatment	29	42,2	42,2	15,3	37,9
Wholesale trade, except of motor vehicles and motorcycles	305	48,1	57,6	31,8	15,1
Transportation and storage	197	47,9	50,5	28,4	19,9
Postal and courier activities	10	44,2	55,8	10,4	10,4
Publishing activities	54	51,9	47,7	29,8	21,1
Programme production, sound recording and music publishing activities	19	66,7	50,0	0,0	33,3
Programming and broadcasting activities	..	..	..	..	..
Telecommunications	18	23,1	94,5	0,0	5,5
Computer programming, consultancy and related activities	213	72,3	33,7	32,8	21,4
Information service activities	20	74,6	32,9	32,9	12,7
Financial service activities	60	45,1	58,1	24,3	18,2
Insurance, reinsurance and pension funding	17	72,4	30,6	21,7	14,1
Activities auxiliary to financial services and insurance activities	36	46,5	62,3	29,5	21,9

Industry	Number of enterprises	Own enterprise by itself	Own enterprise together with others	Own enterprise by adapting or modifying processes developed by others	Other enterprises or institutions
		%	%	%	%
Architectural and engineering activities; technical testing and analysis	160	61,2	59,2	34,4	14,3
Scientific research and development	19	27,3	66,0	34,0	0,0
Advertising and market research	57	70,4	25,9	22,2	11,1
<b>All NACE - Total</b>	<b>2511</b>	<b>57,5</b>	<b>52,4</b>	<b>25,7</b>	<b>16,6</b>
<b>Manufacturing, total</b>	<b>1321</b>	<b>59,4</b>	<b>54,2</b>	<b>22,3</b>	<b>15,9</b>
<b>Services, total</b>	<b>1189</b>	<b>55,5</b>	<b>50,4</b>	<b>29,5</b>	<b>17,3</b>

1) .. = data subject to secrecy

**Appendix table 17. Innovation expenditure, 2012, EUR million**

Industry	In-house R&D	External R&D	Acquisition of machinery, equipment, software and buildings	Acquisition of existing knowledge	Other innovation expenditure	Total innovation expenditure
Mining and quarrying (TOL 05-09)	3,4	0,9	5,5	0,2	0,1	10,1
Food products and beverages (TOL 10-11)	75,7	7,9	88,8	1,3	7,8	181,6
Textile, clothing, leather and footwear industry (TOL 13-15)	2,9	0,3	0,5	0,0	0,2	4,0
Wood and paper industry (TOL 16-18)	103,8	27,1	119,5	7,2	2,3	259,9
Chemical industry (TOL 19-22)	349,8	56,0	52,2	1,9	3,9	463,7
Metal and engineering industry (TOL 24-25, 28-30)	674,9	69,3	153,7	6,1	12,8	916,9
Electrical and electronics industry (TOL 26-27)	2158,5	124,7	98,3	16,5	70,3	2468,3
Other manufacturing (TOL 23, 31-33)	63,9	7,0	38,0	1,4	3,9	114,2
Energy and waste management (TOL 35-39)	17,9	41,5	58,1	0,8	0,8	119,2
Wholesale trade, except of motor vehicles and motorcycles (TOL 46)	101,9	25,1	45,5	15,8	9,5	197,8
Transportation and storage (TOL 49-53)	16,2	13,3	46,7	6,0	5,5	87,7
Publishing activities (TOL 58)	78,2	17,6	4,0	0,4	6,0	106,2
Programme production and publishing, programming and broadcasting (TOL 59-60)	7,0	3,5	3,4	0,4	5,2	19,6
Telecommunications (TOL 61)	28,2	0,8	14,4	0,3	0,9	44,5
Computer programming, consultancy and related activities (TOL 62)	428,3	65,3	6,6	4,5	13,3	518,0
Information service activities (TOL 63)	11,4	3,8	1,6	0,2	0,6	17,6
Financial and insurance activities (TOL 64-66)	109,7	59,9	40,3	2,1	11,0	223,0
Architectural and engineering activities; technical testing and analysis (TOL 71)	110,9	17,4	8,6	1,2	3,0	141,2
Scientific research and development (TOL 72)	270,3	9,9	6,3	0,6	0,1	287,3
Advertising and market research (TOL 73)	3,0	10,0	2,5	4,6	0,3	20,3
<b>All NACE - Total</b>	<b>4616,1</b>	<b>561,4</b>	<b>794,7</b>	<b>71,6</b>	<b>157,4</b>	<b>6201,2</b>
<b>Manufacturing, total</b>	<b>3450,9</b>	<b>334,9</b>	<b>614,7</b>	<b>35,5</b>	<b>101,9</b>	<b>4538,0</b>
<b>Services, total</b>	<b>1165,2</b>	<b>226,5</b>	<b>180,0</b>	<b>36,1</b>	<b>55,5</b>	<b>1663,2</b>



**Appendix table 18. Co-operation in innovation activity by location of co-operating partner, 2010–2012, share of enterprises with innovation activity relating to products and processes**

Industry	Co-operation partner	Location of co-operation partner							Co-operation
		Finland	Other Europe	United States	China	India	All other countries		
		%	%	%	%	%	%		
<b>All NACE -Total</b>	Other enterprises within your enterprise group <sup>1)</sup>	26,6	20,9	6,1	3,4	1,8	4,3	41,3	
	Suppliers of equipment, materials, components or software	23,6	15,1	4,6	1,6	0,6	2,5	30,7	
	Clients or customers from the private sector	26,8	12,9	3,7	2,3	1,2	3,2	30,4	
	Clients or customers from the public sector	20,4	4,5	1,3	0,8	0,4	1,6	22,1	
	Competitors or other enterprises in your sector	20,1	13,9	4,8	1,6	1,0	2,6	25,9	
	Consultants, commercial labs or private R&D institutes	20,8	6,8	1,5	0,2	0,1	0,9	23,0	
	Universities or other higher education institutions	25,3	6,0	1,3	0,3	0,2	0,9	26,2	
	Government or public research institutes	21,6	5,4	1,2	0,2	0,1	0,6	22,8	
<b>Manufacturing</b>	Other enterprises within your enterprise group	32,4	26,0	8,7	5,8	2,0	5,8	50,8	
	Suppliers of equipment, materials, components or software	29,2	20,7	4,5	2,5	0,9	3,1	37,5	
	Clients or customers from the private sector	30,2	17,7	5,6	3,1	1,6	4,7	34,9	
	Clients or customers from the public sector	22,4	6,9	2,1	1,3	0,7	2,2	24,6	
	Competitors or other enterprises in your sector	21,4	17,2	5,5	2,1	1,2	4,1	29,6	
	Consultants, commercial labs or private R&D institutes	25,8	9,3	1,6	0,4	0,2	1,5	28,4	
	Universities or other higher education institutions	31,3	8,5	1,8	0,6	0,3	1,1	32,1	
	Government or public research institutes	28,0	8,1	1,2	0,4	0,1	1,2	29,6	
<b>Services</b>	Other enterprises within your enterprise group	21,4	16,4	3,7	1,4	1,6	2,8	32,6	
	Suppliers of equipment, materials, components or software	17,8	9,3	4,6	0,7	0,3	1,8	23,6	
	Clients or customers from the private sector	23,3	7,9	1,6	1,5	0,7	1,6	25,7	
	Clients or customers from the public sector	18,3	2,0	0,5	0,3	0,2	0,9	19,4	
	Competitors or other enterprises in your sector	18,7	10,4	4,0	1,1	0,7	1,1	22,1	
	Consultants, commercial labs or private R&D institutes	15,6	4,3	1,4	0,0	0,0	0,3	17,4	
	Universities or other higher education institutions	19,1	3,3	0,8	0,0	0,0	0,7	20,0	
	Government or public research institutes	15,0	2,6	1,1	0,0	0,0	0,0	15,8	

1) Enterprise groups and enterprises belonging to the group (same in manufacturing and in services).

**Appendix table 19. Methods for maintaining or increasing competitiveness of product and process innovations, 2010–2012, importance of methods, share of enterprises with product or process innovations**

Industry	Method	Degree of effectiveness			
		High	Medium	Low	Not used
		%	%	%	%
<b>All NACE -Total</b>	Patents	10,5	11,7	11,6	66,3
	Utility models	3,1	10,2	13,0	73,7
	Design registration	4,1	10,2	14,0	71,7
	Copyright	6,9	16,2	15,2	61,7
	Trademarks	16,1	23,5	15,2	45,3
	Lead time advantages	45,8	33,8	8,1	12,3
	Complexity of goods and services	20,5	37,8	20,4	21,3
	Secrecy (include non-disclosure agreements)	19,1	34,3	25,5	21,1
<b>Manufacturing</b>	Patents	13,7	16,1	14,3	55,9
	Utility models	4,7	13,7	17,5	64,1
	Design registration	6,3	13,4	19,0	61,3
	Copyright	5,1	14,4	19,1	61,4
	Trademarks	16,5	24,6	16,9	42,0
	Lead time advantages	47,3	34,6	8,3	9,7
	Complexity of goods and services	20,9	40,9	20,5	17,7
	Secrecy (include non-disclosure agreements)	18,4	36,7	26,2	18,7
<b>Services</b>	Patents	7,2	7,0	8,8	77,0
	Utility models	1,4	6,6	8,3	83,7
	Design registration	1,8	6,9	8,7	82,6
	Copyright	8,8	18,1	11,1	62,0
	Trademarks	15,6	22,3	13,4	48,8
	Lead time advantages	44,2	32,9	7,8	15,1
	Complexity of goods and services	20,1	34,7	20,2	25,1
	Secrecy (include non-disclosure agreements)	19,7	31,9	24,7	23,6

**Appendix table 20. Methods for maintaining or increasing competitiveness of product and process innovations with high or medium importance by size category of personnel, 2010–2012, share of enterprises with product or process innovations**

Industry	Size category of personnel	Number of enterprises	Patent	Utility model	Design registration	Copyright	Trade-mark	Leadtime advantages	Complexity of goods and services	Secrecy (including non-disclosure agreements)
			%	%	%	%	%	%	%	%
<b>All NACE - Total</b>	10-49	2437	17,8	11,4	12,0	21,3	34,8	77,9	56,1	50,3
	50-249	833	27,2	16,1	19,1	23,8	46,0	80,9	62,1	54,2
	250-	289	44,0	21,2	20,8	37,1	61,0	89,2	66,1	77,4
	<b>Total</b>	<b>3559</b>	<b>22,1</b>	<b>13,3</b>	<b>14,3</b>	<b>23,1</b>	<b>39,5</b>	<b>79,5</b>	<b>58,3</b>	<b>53,4</b>
<b>Manufacturing</b>	10-49	1153	21,9	15,4	15,7	15,9	33,3	79,4	58,1	48,8
	50-249	489	37,5	21,0	26,3	22,8	50,4	84,2	67,0	60,1
	250-	173	60,2	31,4	28,5	34,5	67,0	91,0	70,9	83,5
	<b>Total</b>	<b>1815</b>	<b>29,8</b>	<b>18,4</b>	<b>19,8</b>	<b>19,5</b>	<b>41,1</b>	<b>81,8</b>	<b>61,7</b>	<b>55,1</b>
<b>Services</b>	10-49	1283	14,1	7,8	8,6	26,1	36,1	76,5	54,2	51,7
	50-249	345	12,6	9,3	8,8	25,1	39,7	76,3	55,1	45,9
	250-	117	20,0	6,2	9,5	40,9	52,2	86,6	59,0	68,3
	<b>Total</b>	<b>1745</b>	<b>14,2</b>	<b>8,0</b>	<b>8,7</b>	<b>26,9</b>	<b>37,9</b>	<b>77,1</b>	<b>54,7</b>	<b>51,6</b>

**Appendix table 21. Public sector procurement and innovations 2010–2012, share of enterprises**

Industry	Size category of personnel	Procurement contracts	Procurement contracts to provide products for domestic public sector organisations	Procurement contracts to provide products for foreign public sector organisations	Innovation activity, innovation was required as part of the contract	Innovation activity, innovation was not required as part of the contract
		%	%	%	%	%
<b>All NACE - Total</b>	10-49	29,5	28,8	4,4	1,9	4,0
	50-249	32,4	31,8	6,2	3,1	5,9
	250-	48,3	47,7	15,2	7,7	14,6
	<b>Total</b>	<b>30,9</b>	<b>30,2</b>	<b>5,3</b>	<b>2,4</b>	<b>4,9</b>
<b>Manufacturing</b>	10-49	24,2	23,9	4,0	1,8	2,3
	50-249	26,9	26,1	7,2	2,0	4,5
	250-	43,4	42,3	21,7	7,9	15,2
	<b>Total</b>	<b>25,9</b>	<b>25,4</b>	<b>5,7</b>	<b>2,1</b>	<b>3,5</b>
<b>Services</b>	10-49	33,4	32,3	4,7	2,0	5,3
	50-249	39,4	39,0	4,9	4,5	7,7
	250-	53,3	53,3	8,5	7,6	14,0
	<b>Total</b>	<b>35,1</b>	<b>34,2</b>	<b>4,9</b>	<b>2,6</b>	<b>6,0</b>

**Appendix table 22. Public sector procurement and innovations by industry, 2010–2012, share of enterprises**

Industry	Number of enterprises	Procurement contracts	Procurement contracts to provide products for domestic public sector organisations	Procurement contracts to provide products for foreign public sector organisations	Innovation activity, innovation was required as part of the contract	Innovation activity, innovation was not required as part of the contract
		%	%	%	%	%
Mining and quarrying (TOL 05-09)	74	21,8	21,8	6,7	1,4	1,4
Food products and beverages (TOL 10-11)	346	25,0	25,0	3,0	0,0	3,5
Textile, clothing, leather and footwear industry (TOL 13-15)	104	44,3	44,3	8,6	0,0	7,1
Wood and paper industry (TOL 16-18)	480	25,2	25,2	4,1	1,4	3,0
Chemical industry (TOL 19-22)	305	23,7	23,7	6,3	2,7	5,7
Metal and engineering industry (TOL 24-25, 28-30)	1440	23,8	22,8	6,7	2,3	3,0
Electrical and electronics industry (TOL 26-27)	281	26,1	25,0	9,5	6,4	7,7
Other manufacturing (TOL 23, 31-33)	553	20,8	20,8	5,5	2,3	2,3
Energy and waste management (TOL 35-39)	298	43,5	43,5	1,2	1,2	2,5
Wholesale trade, except of motor vehicles and motorcycles (TOL 46)	1292	31,9	31,2	3,2	0,9	4,9
Transportation and storage (TOL 49-53)	1327	31,6	30,1	3,9	0,6	3,1
Publishing activities (TOL 58)	176	16,3	16,3	3,2	0,0	4,6
Programme production and publishing, Programming and broadcasting (TOL 59-60)	73	18,5	18,5	0,0	0,0	8,4
Telecommunications (TOL 61)	56	47,7	47,7	6,4	3,9	10,0
Computer programming, consultancy and related activities (TOL 62)	506	46,6	43,8	14,2	10,2	12,8
Information service activities (TOL 63)	54	58,7	58,7	1,9	2,4	13,2
Financial and insurance activities (TOL 64-66)	409	17,3	17,3	1,3	0,8	1,4
Architectural and engineering activities; technical testing and analysis (TOL 71)	547	56,0	55,8	5,2	6,5	12,5
Scientific research and development (TOL 72)	62	37,3	37,3	21,8	3,7	6,7
Advertising and market research (TOL 73)	192	42,6	42,6	4,4	2,2	3,3
<b>All NACE - Total</b>	<b>8576</b>	<b>30,9</b>	<b>30,2</b>	<b>5,3</b>	<b>2,4</b>	<b>4,9</b>
<b>Manufacturing, total</b>	<b>3881</b>	<b>25,9</b>	<b>25,4</b>	<b>5,7</b>	<b>2,1</b>	<b>3,5</b>
<b>Services, total</b>	<b>4695</b>	<b>35,1</b>	<b>34,2</b>	<b>4,9</b>	<b>2,6</b>	<b>6,0</b>

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