

## Flash Eurobarometer 433

### Summary

## Innobarometer 2016 – EU business innovation trends

Fieldwork  
February 2016  
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Survey requested by the European Commission,  
Directorate-General for Internal Market, Industry, Entrepreneurship and  
SMEs and co-ordinated by the Directorate-General for Communication

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(DG COMM "Strategy, Corporate Communication Actions and Eurobarometer" Unit)

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## INTRODUCTION

In order for Europe to remain competitive in the global economy and improve the quality of life of its citizens, innovation is an essential element. Recognition of this importance is underlined by the work the European Commission is currently undertaking to implement policies and programs to support the development of innovation. Among these initiatives, it is worth mentioning the formation of the Innovation Union to create an innovation-friendly environment, which makes it easier for innovative research and ideas to be turned into products and services that will bring the EU growth and jobs. The Innovation Union is seen as an investment for the EU's future: for instance, investing 3% of EU GDP into research and development by 2020 could potentially create 3.7 million jobs and increase the EU annual GDP by €795 billion by 2025<sup>1</sup>.

As industry accounts for 80% of Europe's exports, the modernisation of industrial processes, technologies and business models, along with improving the commercialisation of innovative goods and services, is key to making progress towards increasing the competitiveness and opportunities for European businesses within the EU. Previous Innobarometer studies have shown that companies that prioritise innovation are also those that experience the highest increase in turnover.

The Flash Innobarometer is a survey on current activities and attitudes related to innovation. Each year it gathers opinions and feedback from European businesses, providing a unique source of information about innovation in the EU for policy makers. The 2016 survey captures the main behaviours and trends in innovation-related activities within EU businesses. Carried out in 28 EU countries, as well as Switzerland and the United States of America, the survey explores the following areas:

- Profiles of companies developing innovations – exploring what types of innovations have been introduced and the proportion of turnover these innovative activities represent, as well as how much has been invested into various business activities;
- Problems encountered with the commercialisation of innovative and non-innovative goods or services – what are the barriers and have they changed since previous surveys;
- Public support for the commercialisation of goods and services – what type of support could have the most positive impact on a company's innovation activities;
- Plans for future investment in innovation by companies and the reasons why;
- The role of design in a company's strategy and use of advanced manufacturing technologies;
- The future of innovation and its impact.

Where possible, comparisons with the previous survey will be made<sup>2</sup>.

This survey was carried out by TNS Political & Social network in the 28 Member States of the European Union, Switzerland and the United States between the 1<sup>st</sup> and 19<sup>th</sup> February, 2016. There were 14,117 companies interviewed, of which 13,117 are from the 28 EU Member states, and 500 each from Switzerland and the United States. The sample comprises companies employing 1 or more persons in manufacturing (NACE category C), services (NACE categories G, H, I, J, K, L, M, N, R) and the industry sector (NACE categories D, E, F). The sample was selected from an international database, with additional sample from local sources where necessary.

<sup>1</sup> [http://ec.europa.eu/research/innovation-union/index\\_en.cfm?pg=why](http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=why) – Why do we need an Innovation Union.

<sup>2</sup> This survey follows the Innobarometer survey conducted in February 2015 [http://ec.europa.eu/growth/industry/innovation/facts-figures/innobarometer/index\\_en.htm](http://ec.europa.eu/growth/industry/innovation/facts-figures/innobarometer/index_en.htm)

Interviews were conducted with key decision makers of companies via telephone in their mother tongue on behalf of the European Commission, DG Internal Market, Industry, Entrepreneurship and SMEs. The methodology used is that of Eurobarometer surveys as carried out by the Directorate-General for Communication (‘Strategy, Corporate Communications Actions and Eurobarometer’ Unit).

A technical note on the manner in which interviews were conducted by the Institutes with the TNS Political & Social network is appended as an annex to this report. Also included are the interview methods and confidence intervals<sup>3</sup>

Note: In this report, countries are referred to by their official abbreviation. The abbreviations used in this report correspond to:

Belgium	BE	Latvia	LV
Czech Republic	CZ	Luxembourg	LU
Bulgaria	BG	Hungary	HU
Denmark	DK	Malta	MT
Germany	DE	The Netherlands	NL
Estonia	EE	Austria	AT
Greece	EL	Poland	PL
Spain	ES	Portugal	PT
France	FR	Romania	RO
Croatia	HR	Slovenia	SI
Ireland	IE	Slovakia	SK
Italy	IT	Finland	FI
Republic of Cyprus	CY *	Sweden	SE
Lithuania	LT	United Kingdom	UK
European Union – weighted average for the 28 Member States			EU28

\* Cyprus as a whole is one of the 28 European Union Member States. However, the ‘acquis communautaire’ has been suspended in the part of the country which is not controlled by the government of the Republic of Cyprus. For practical reasons, only the interviews carried out in the part of the country controlled by the government of the Republic of Cyprus are included in the ‘CY’ category and in the EU28 average.

*We wish to thank the people throughout the European Union  
who have given their time to take part in this survey.  
Without their active participation, this study would not have been possible.*

<sup>3</sup> The results tables are included in the annex. It should be noted that the total of the percentages in the tables of this report may exceed 100% when the respondent has the possibility of giving several answers to the question.

I. PROFILES OF COMPANIES DEVELOPING INNOVATIONS

This section considers the types of innovations<sup>4</sup> companies have introduced since early 2013. In addition, the proportion of a company’s turnover the innovations represent in 2015, and whether there has been a change since earlier Flash Eurobarometer reports conducted in 2015. In the final part, the section addresses the investment in various innovation activities companies have made since January 2013.

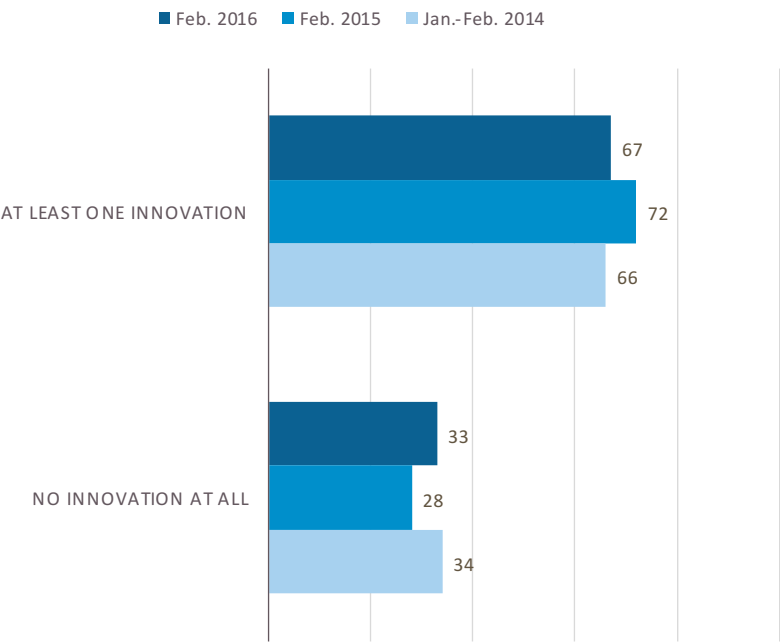
1 What types of innovations

The majority of companies have introduced at least one innovation since January 2013

Companies were asked whether their companies had introduced any type of innovation since January 2013<sup>5</sup>

More than two thirds of companies have introduced at least one innovation since January 2013 (67%) - a decrease of five percentage points since the last survey in February 2015, but slightly ahead of the results during the survey in 2014 (+1 pp).

Q2A Has your company introduced any of the following types of innovation since January 2013?  
(% - EU)



Base: All companies (n =13,112, 100% of base)

<sup>4</sup> This definition of 'innovation' was used in the questionnaire: "Innovation occurs when a company introduces a new or significantly improved good, service, process, marketing strategy or organisational method. The innovation can be developed by the company itself or has been originally developed by other companies or organisations".

<sup>5</sup> Q2. Has your company introduced any of the following types of innovation since January 2013> ANSWER New or significantly improved goods; New or significantly improved services; New or significantly improved processes (eg. Production processes or distribution methods); New or significantly improved marketing strategies (eg. Packaging, product promotion or placement, or pricing strategies); New or significantly improved organisational methods.

**The proportion of companies introducing innovations has decreased across all areas**

Four in ten companies have introduced new or significantly improved goods or services since January 2013 (both 40%). Around two thirds of all companies have implemented new or significantly improved organizational methods (34%) and marketing strategies (33%) whilst slightly less have introduced new or improved processes (30%).

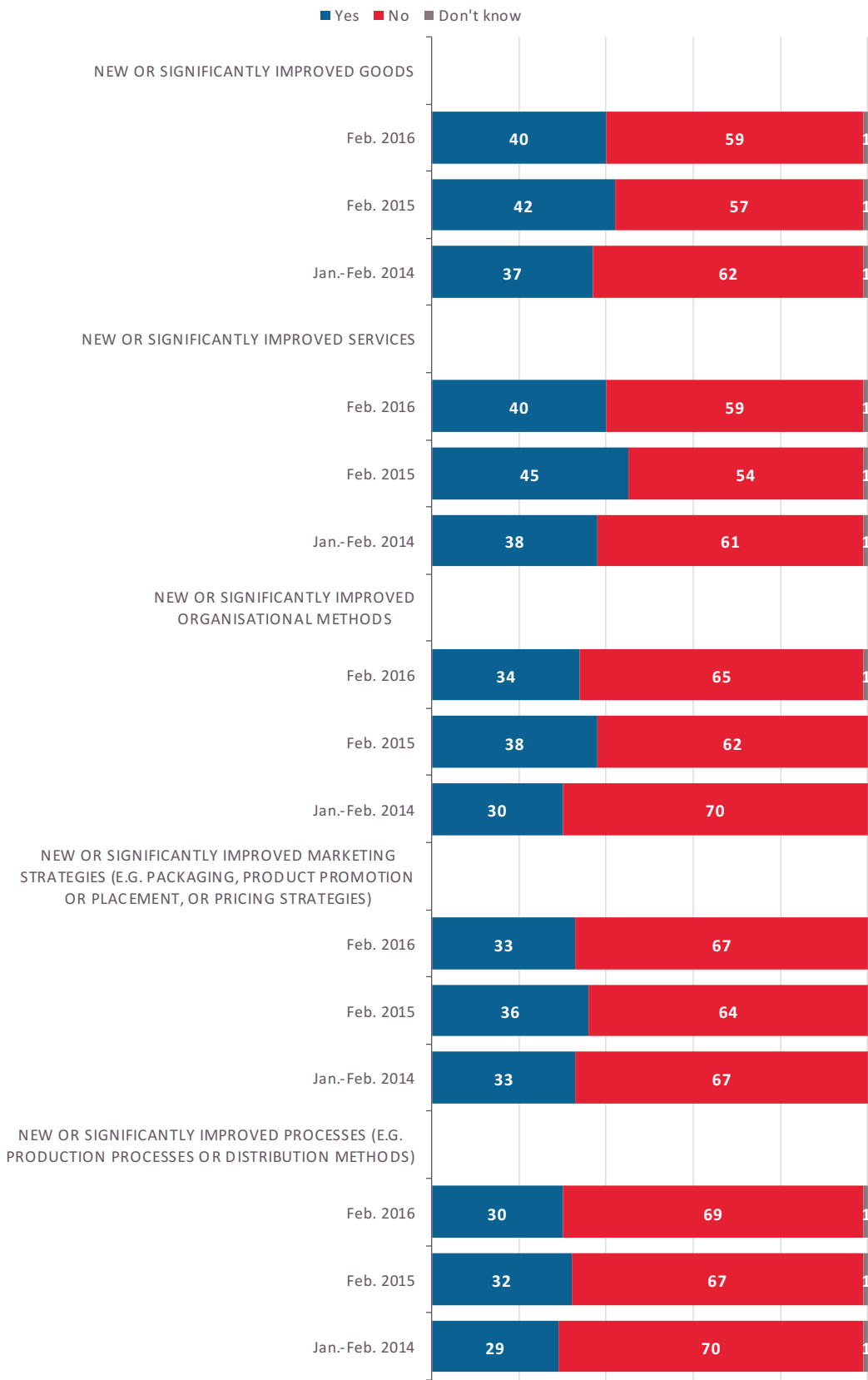
Since the last survey in 2015, there has been a decrease in the proportion of companies introducing the various types of innovation into their businesses. Companies are less likely to have introduced new and significantly improved services (-5 percentage points), organizational methods (-4 pp), marketing strategies (-3 pp), goods (-2 pp) and processes (-2 pp).

However, compared with the earlier survey in 2014, results are equally or slightly larger by a range of four percentage points. The largest difference since 2014 is the proportion of companies introducing new or significantly improved organizational methods (+ 4 pp -; 34% in 2016 vs. 38% in 2015 vs. 30% in 2014).



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**Q2** Has your company introduced any of the following types of innovation since January 2013?  
(% - EU)



Base: All companies (n =13,112, 100% of base)

2 How much innovations represent in the company’s turnover

**For the majority of companies that have introduced an innovative good or service since January 2013, the innovative goods or service represents up to a quarter of their turnover.**

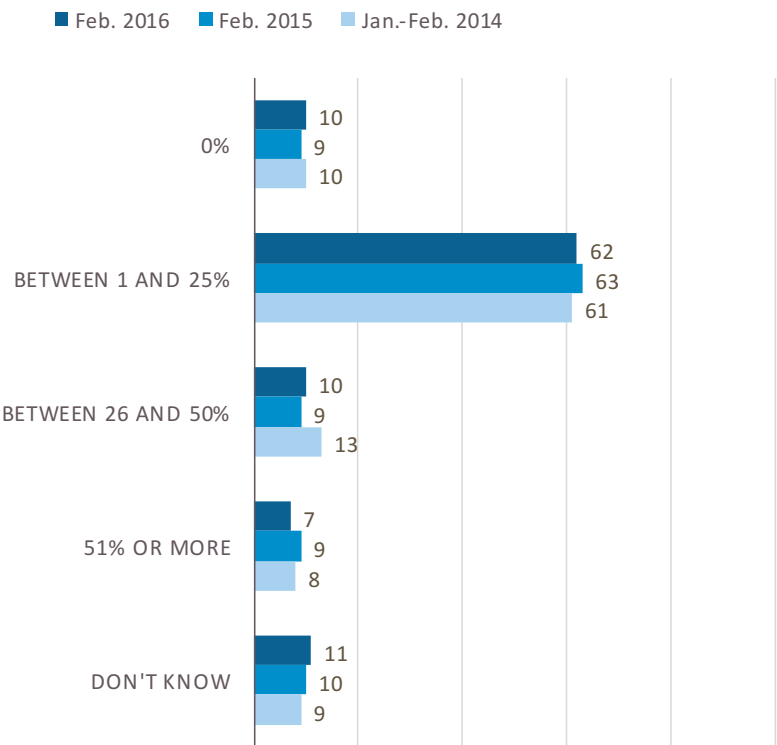
Companies that have introduced an innovative good or service since January 2013, were asked to estimate the share of their innovative goods or services of the company’s turnover in 2015, <sup>6</sup>.

For around two thirds of these companies (62%) innovative goods or services represented between 1 and 25% of their turnover. One in ten say these goods or services accounted for between 26 and 50% of turnover, whilst 7% consider their innovative goods or services to represent more than half of their turnover.

Slightly more than one in ten (11%) don’t know and a further 10% of companies estimate their innovative goods or services did not account for any turnover in 2015.

Results overall are stable compared to previous surveys in 2015 and 2014.

**Q3** Approximately what percentage of your company's turnover in 2015 was due to innovative goods or services that have been introduced since January 2013? (% - EU)



Base: Companies that have introduced innovative goods or services since January 2013 (n =7329, 56% of base)

<sup>6</sup> Q3. Approximately what percentage of your company’s turnover in 2015 was due to innovative goods or services that have been introduced since January 2013. ANSWER 0%; Between 1 and 25%; Between 26 and 50%; 51% or more; Don't know.

### 3 Investment activities

**The majority of businesses have continued to invest a proportion of their turnover into the acquisition of machines, equipment, software or licences.**

Companies were asked to estimate the proportion of revenue, their company has invested in a number of different activities<sup>7</sup>.

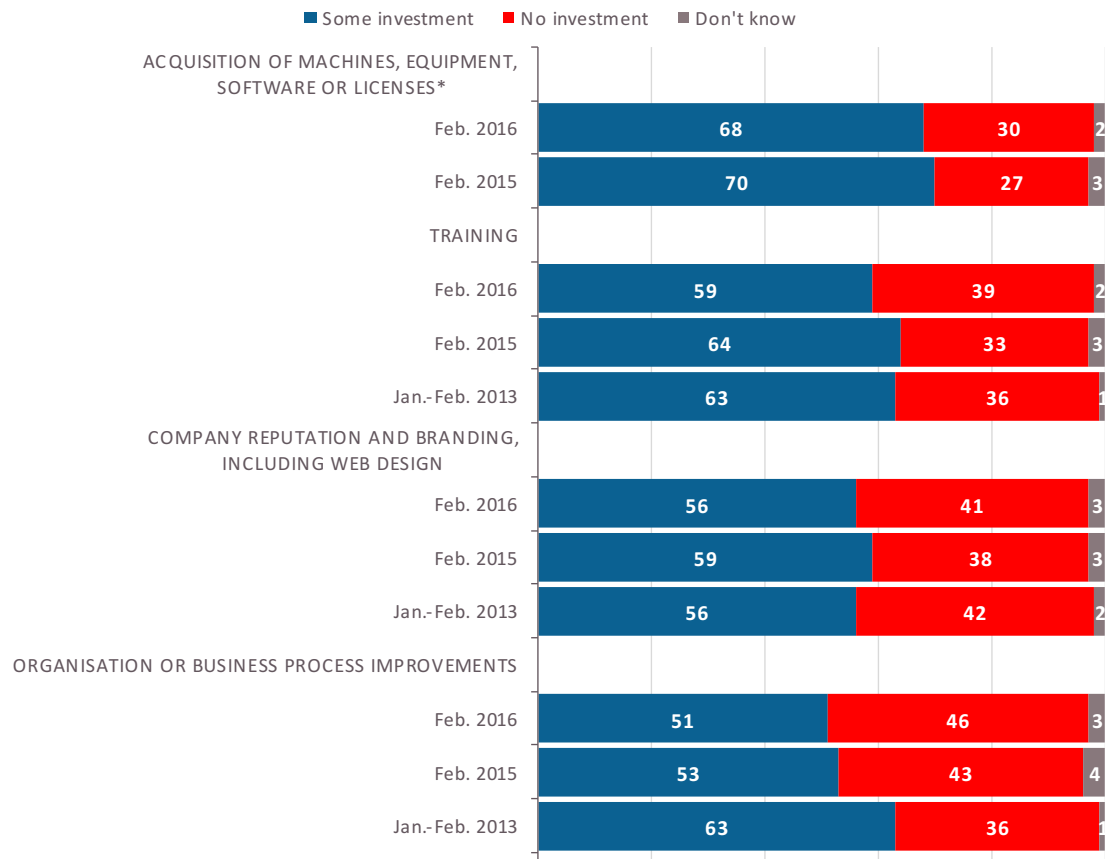
More than two thirds of companies (68%) have invested some turnover in the acquisition of machines, equipment, software or licenses.

More than half of the businesses have invested some turnover into training (59%), company reputation and branding (56%) and organization or business process improvements (51%).

Less than half of companies say they have invested some of their turnover into design of products and services (42%) or software development (40%).

The proportion of companies investing some turnover in research and development relating to the total turnover has been in decline since 2013 (35% in 2013, vs. 31% in 2015, vs. 28% in 2016).

**Q4B** Since January 2013, what percentage of its total turnover has your company invested in each of the following activities?  
(% - EU)



Base: All companies (n =13,112, 100% of base)

<sup>7</sup> Q4B Since January 2013, what percentage of its total turnover has your company invested in each of the following activities? ANSWER: Acquisition of machines, equipment, software or licences; Training; Company reputation and branding including web design; Organisation or business process improvements; Design of products and services; Software development; Research and development (R&D).

II. PROBLEMS AND PUBLIC SUPPORT RELATED TO THE COMMERCIALISATION OF (INNOVATIVE) GOODS OR SERVICES

This section analyses the types of problems faced by companies that are attempting to commercialize their goods or services and determines the types of intervention that would have the most positive impacts on companies.

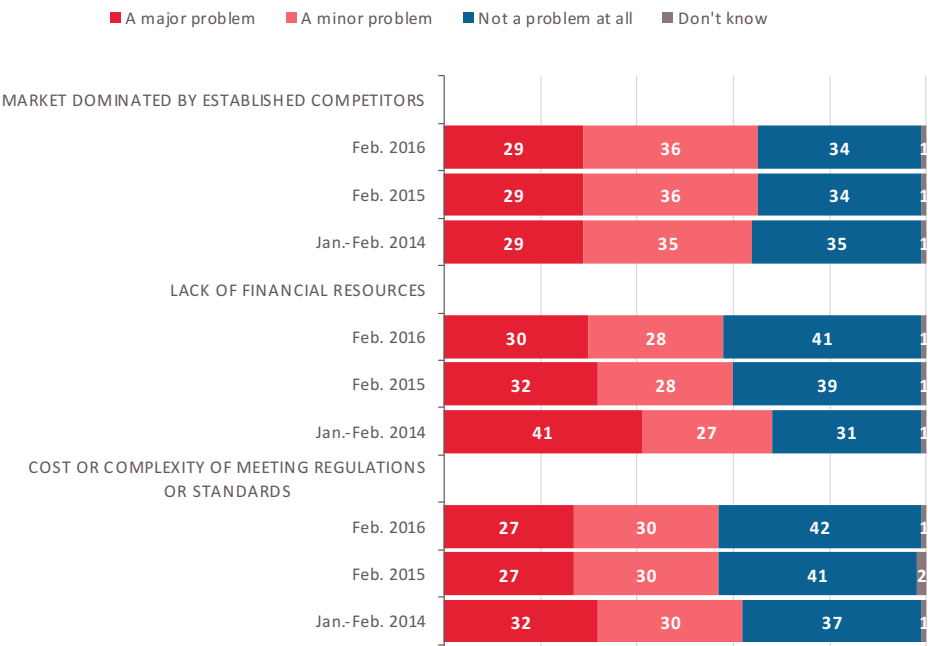
1 Problems related to the commercialisation of goods and services for companies that have introduced innovations

Majority of companies say a market dominated by established competitors is a problem.

Companies that have introduced **innovative** goods or services since January 2013 were asked to think about the commercialization of their company’s **innovative** goods or services since January 2013, and determine what types of problems they had faced and their respective importance<sup>8</sup>.

Almost two thirds of companies say a market dominated by established competitors (65%) is a problem in the commercialization of innovative goods or services. More than half of the companies surveyed say the lack of financial resources (58%) or the cost or complexity of meeting regulations or standards (57%) are problems faced in the commercialization process. More than a quarter of companies say each of these issues is a major problem.

Q5A Thinking about the commercialisation of your company’s innovative goods or services since January 2013, have any of the following been a major problem, a minor problem or not a problem at all? (% - EU)



Base: Companies that have introduced innovative goods or services since January 2013 (n = 7329, 56% of base)

<sup>8</sup> Q5A. Thinking about the commercialisation of your company’s innovative goods or services since January 2013, have any of the following been a major problem, a minor problem or not a problem at all. ANSWERS: Market dominated by established competitors; Lack of financial resources; Cost or complexity of meeting regulations or standards; Lack of human resources; Administrative or legal issues; Low demand for your innovative goods or services; Lack of marketing expertise; Weak distribution channels; Finding or using new technologies; Difficulties in maintaining intellectual property rights.

## 2 Problems related to the commercialisation of goods and services for companies that have not introduced any innovations

### A market dominated by established competitors & lack of financial resources are also problems for the commercialization of non-innovative goods or services

Companies that have not introduced any innovative goods or services since January 2013 were also asked about the problems they faced commercializing their goods or service.

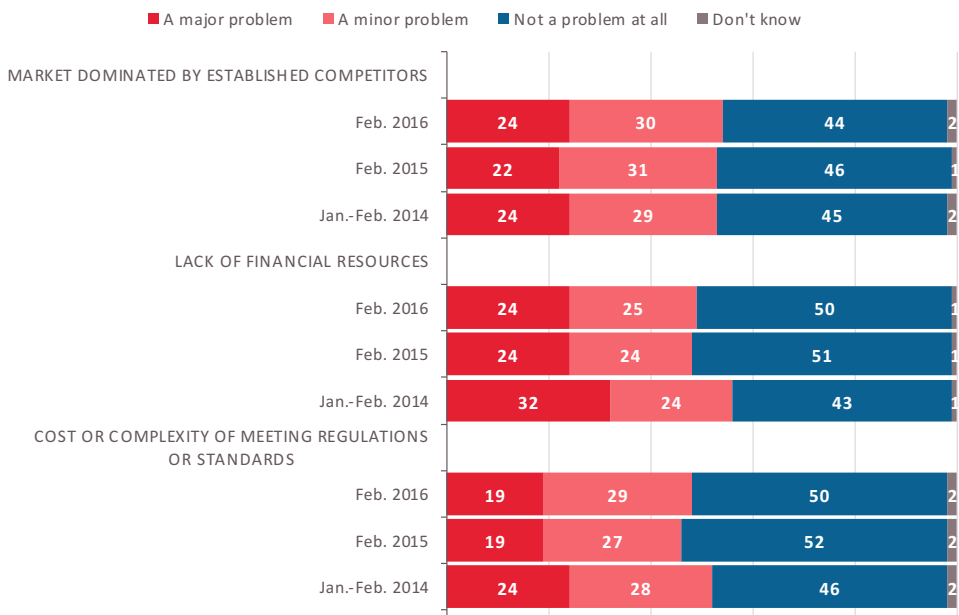
Similar to the last survey in 2015, overall companies are less likely to consider these issues as problems, compared with companies introducing innovative goods or services. For example, 54% of companies that have not introduced any innovative goods or services consider established competitors as a problem compared to almost two thirds of companies that have introduced an innovative goods or service (65%).

The problem most mentioned by the absolute majority of non-innovative companies is a market dominated by established competitors (54%); 24% of companies (+2 percentage points) consider it a major problem, (30%, -1 pp) consider it a minor problem.

Slightly less than half of companies mentioned lack of financial resources (49%) as a problem with very little change from the last survey (+1 pp); 24% of the companies consider it a major problem, 25% consider it a minor problem.

The third most mentioned problem, by 48% of companies, is cost and complexity of meeting regulations or standards – a slight increase from the last survey (+2 pp) – followed by low demand for goods or services (46%, +2 pp).

**Q5B** Thinking about the commercialisation of your company's goods or services since January 2013, have any of the following been a major problem, a minor problem or not a problem at all?  
(% - EU)



Base: Companies that have not introduced innovative goods or services since January 2013 (n = 5783), 44% of base

### 3 Public support for the commercialisation of goods and services for companies that have introduced innovation

#### Supporting the training of staff in how to promote and market innovative goods or services would have the most impact on a company

Companies that have introduced an innovative good or service since January 2013 were asked to think about possible public support for commercialization of their innovative good or service and nominate which two types of intervention would have the most impact on their company<sup>9</sup>. The results below are compared with those from the last survey in 2015.

Slightly less than three in ten companies that have introduced an innovative good or service think support for **training of staff in how to promote and market innovative goods or services** (29%, -1 pp) would be the type of public support that would have the most positive impact.

At least a quarter say **accessing or reinforcing online selling** (26%, +3 pp) and only slightly less say **participating in conferences, trade fairs, exhibitions** (24%, +2 pp) would have the most positive impact.

**Meeting regulations or standards** is mentioned by 19% of innovative companies (-1 pp). At least one in ten companies think public support which **accesses or reinforces your presence in export markets** (14%, -3 pp) and **market testing a product or service before launch** (10%, +1 pp) would have the most positive impact on the commercialization of their innovative goods or services. Only a small proportion of companies think public support in the form of **applying for, managing or protecting intellectual property rights** (5%, -1pp) would have a positive impact.

**Q6A** Thinking about possible public support for commercialisation of your innovative goods or services, which of the following two types of intervention would have the most positive impact on your company? Support for: (MAX. 2 ANSWERS)  
(% - EU)



Base: Companies that have introduced innovative goods or services since January 2013 (n = 7329), 56% of base

<sup>9</sup> Q6A. Thinking about possible public support for commercialisation of your innovative goods or services, which of the following two types of intervention would have the most positive impact on your company? ANSWERS: Meeting regulations of standards; Accessing or reinforcing online selling; Participating in conferences, trade fairs, exhibitions; Training staff in how to promote and market innovative goods or services; Applying for, managing or protecting intellectual property rights; Market-testing a product or service before launch; Accessing or reinforcing your presence in export markets. Other; None; Don't know/not applicable.

#### 4 Public support for the commercialisation of goods and services for companies that have not introduced any innovations

**Similar to the previous question, non-innovative companies think training staff in how to promote and market innovative goods or services would have the most positive impact on their company.**

Companies that have not introduced any innovative goods or services since January 2013 were asked a similar question about the commercialization of their non-innovative goods or services. They were asked to think about which types of intervention would have the most positive impact on their companies<sup>10</sup>. The results below are compared with the last survey results conducted in 2015.

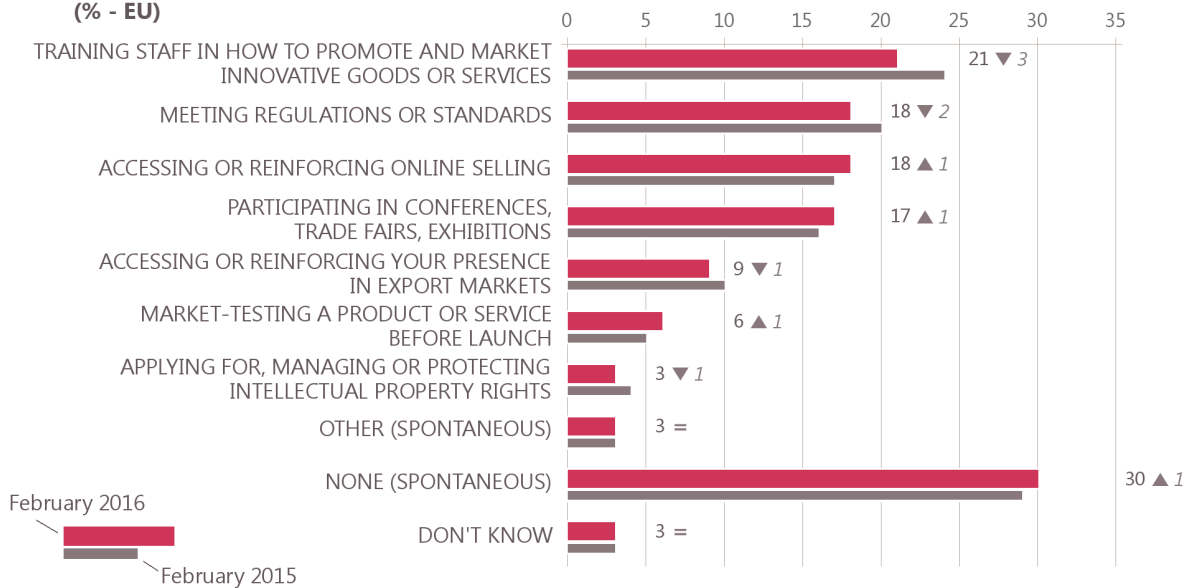
Generally, the non-innovative businesses are less likely mention all of these types of interventions as being able to make a positive impact on their companies. It is also interesting to see a large proportion of non-innovative companies say none of these interventions would have a positive impact on their business, compared with the proportion of innovative businesses (30% vs. 15%).

Similar to innovative companies, non-innovative companies also think intervention in the **training of staff to promote and market innovative goods or services** (21%, -3 pp) would have the most positive impact on their businesses, slightly less compared to the last survey.

The second most mentioned intervention by non-innovative businesses is **meeting regulations or standards** (18%, -2 pp).

There have been only minimal changes between -3% and 2% across most interventions since the survey in 2015.

**Q6B** Thinking about possible public support for commercialisation of your goods or services, which of the following two types of intervention would have the most positive impact on your company? Support for: (MAX. 2 ANSWERS)  
(% - EU)



Base: Companies that have not introduced innovative goods or services since January 2013 (n = 5783), 44% of base

<sup>10</sup> Q6B. Thinking about possible public support for commercialisation of your goods or services, which of the following two types of intervention would have the most positive impact on your company? ANSWERS: Meeting regulations of standards; Accessing or reinforcing online selling; Participating in conferences, trade fairs, exhibitions; Training staff in how to promote and market innovative goods or services; Applying for, managing or protecting intellectual property rights; Market-testing a product or service before launch; Accessing or reinforcing your presence in export markets. Other; None; Don't know/not applicable.

III. INVESTMENT IN INNOVATION

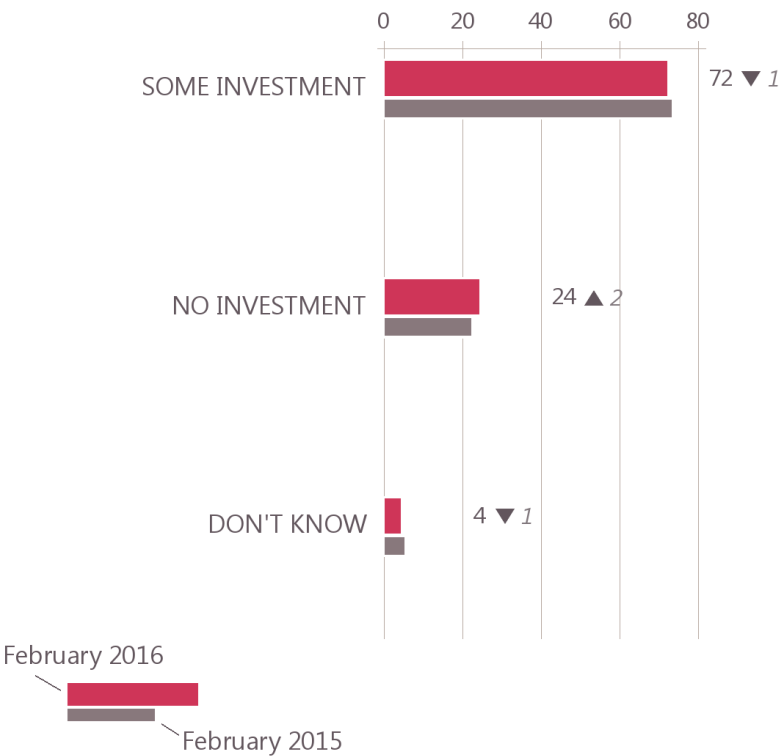
This section analyses the proportion of turnover, companies have invested in innovation activities, and whether there are plans to change this level of investment over the next 12 months. It also addresses the planned focus areas for that investment in innovation whether it be in goods, services or other internal processes. There will also be an exploration of the reasons why companies decide to invest in innovation in the future.

1 Investment in innovation in 2015

The relative majority of businesses invest between 1 and 5% of their turnover in innovation activities.

Companies that have introduced at least one innovation since January 2013, were asked to estimate the proportion of their company’s turnover in 2015 that was invested towards innovation activities<sup>11</sup>. Overall, more than seven out of ten businesses that have introduced at least one innovation have made some investment towards innovative activities (72%). There is little change from the results during the last survey (-1 pp).

**Q7B** Approximately what percentage of your company's turnover in 2015 was invested in innovation activities? (% - EU)



Base : Companies that have introduced innovation activities since January 2013 (n = 8726), 67% of base

<sup>11</sup> Q7. Approximately what percentage of your company's turnover in 2015 was invested in innovation activities? ANSWER: 0%; Less than 1%; Between 1 and 5%; Between 6 and 10%; 11% or more; Don't know.



## 2 Planned future investment in innovation

### The majority of businesses plan to maintain or increase the level of investment in innovation over the next 12 months

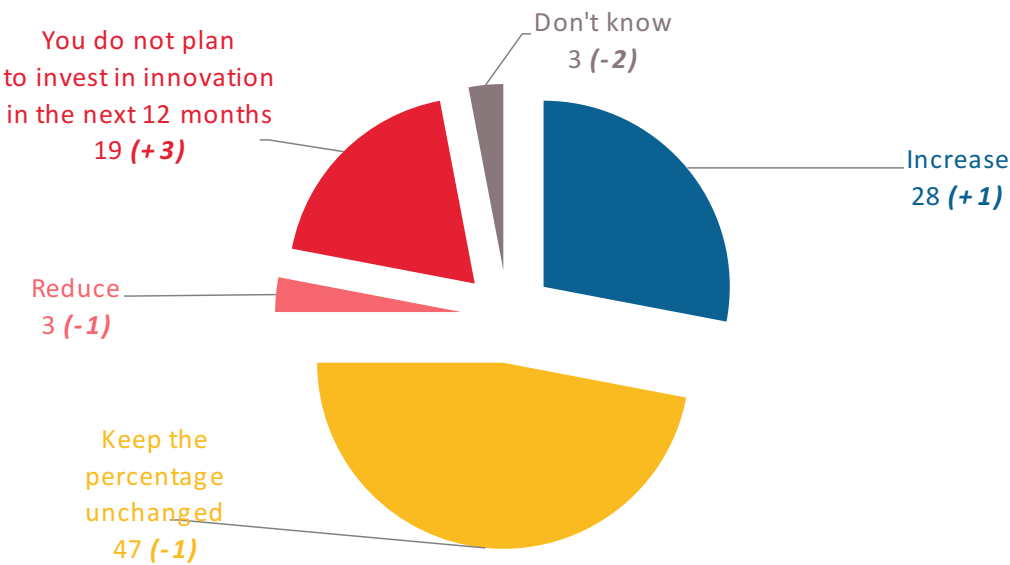
Companies that have introduced at least one innovation since January 2013, were asked what their plans were with regard to investing in innovation over the next 12 months<sup>12</sup>.

More than a quarter of businesses that have already introduced at least one innovation plan to increase the level of investment dedicated to innovation during the next 12 months (28%, +1 pp). This is slightly higher than results observed in the last survey.

Less than half of all businesses (47%, -1 pp) plan to keep the percentage unchanged while only 3% plan to reduce spend in this area across the next 12 months (-1 pp).

An increasing proportion of businesses, however, do not plan to invest in innovation during the next 12 months (19%, +3 pp).

**Q8** Do you plan to increase, reduce or keep unchanged the percentage of investment dedicated to innovation in the next 12 months?  
(% - EU)



(February 2016 - February 2015)

Base : Companies that have introduced innovation activities since January 2013 (n = 8726), 67% of base

<sup>12</sup> Q8. Do you plan to increase, reduce or keep unchanged the percentage of investment dedicated to innovation in the next 12 months?  
ANSWER: Increase, Reduce, Keep the percentage unchanged, You do Not plan to invest in innovation in the next 12 months, Don't know/Not applicable.

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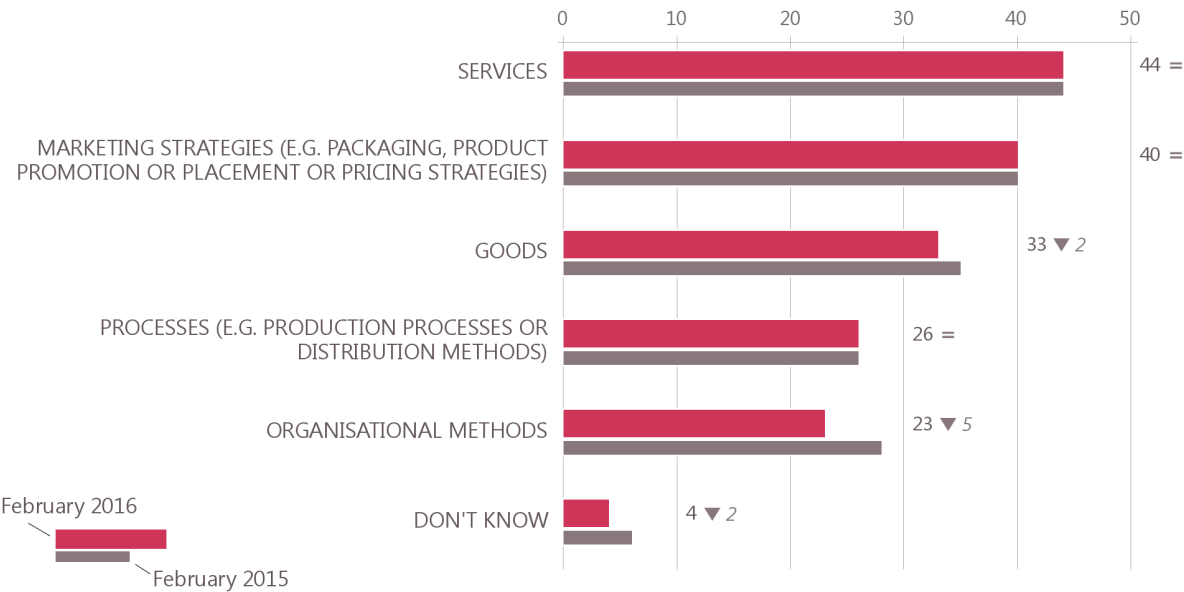
**A majority of businesses will be investing in services and/or marketing strategies in the next 12 months.**

Companies that have already invested in innovative activities, were asked about the focus of their planned investment in innovation in the coming 12 months<sup>13</sup>.

At least four in ten businesses will be focusing their investment on innovative services (44%) and marketing strategies (40%). Both proportions remain unchanged since the last survey. A third of companies will be focusing their investment towards innovative goods (33%, -2 pp) over the next 12 months while more than a quarter of businesses will focus their investments on processes (26%, same as in 2015).

The proportion of companies planning to focus their investment on organisational methods has declined by five percentage points since the last survey (23%).

**Q9** What will be the focus of your planned investment in innovation in the next 12 months?  
(MULTIPLE ANSWERS POSSIBLE)  
(% - EU)



Base : Companies that have invested and plans to invest in the next 12 months (n = 6400, 49% of base)

<sup>13</sup> Q9. What will be the focus of your planned investment in innovation in the next 12 months? ANSWERS: Goods; Services; Processes (eg. Production processes or distribution methods); Marketing strategies (eg. Packaging, product promotion or placement or pricing strategies); Organisational methods; Don't know/not applicable.

### 3 Reasons to invest in innovation

**Two main reasons for investing in innovation are to capitalize on market potential and due to customer request.**

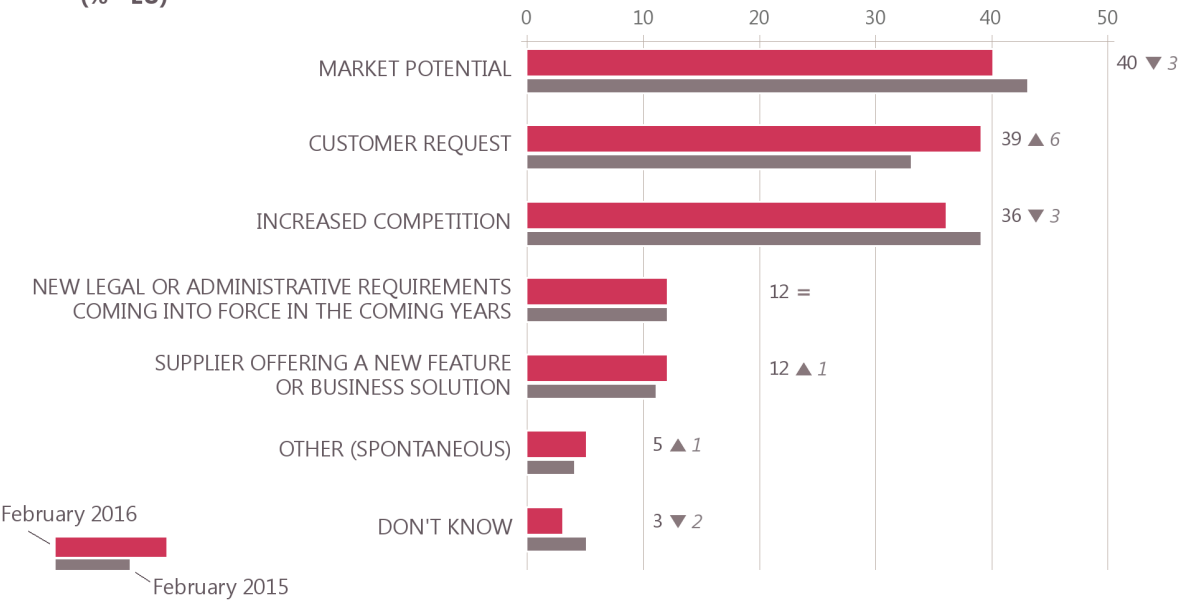
Companies that have invested in innovation were asked to nominate their two main reasons for choosing to invest in innovation over the next 12 months<sup>14</sup>.

Overall there are three main reasons most mentioned by companies. Around four in ten companies say their reasons for deciding to invest in innovation are to meet **market potential** (40%) and due to **customer request** (39%). More than two thirds of companies also mentioned **increased competition** (36%) as one of their main reasons for deciding to invest in innovation over the next 12 months.

Slightly more than one in ten companies are investing because new **legal or administrative requirements** coming into force in coming years are requiring them to do so (12%) and a similar proportion mention their reason to be due to **a supplier offering a new feature or business solution** (12%).

Since the last survey in 2015, there is an increasing proportion of companies deciding to invest as a response to customer requests (+ 6 percentage points), whilst slightly less have decided to invest due to market potential (- 3 pp) and increased competition (-3 pp).

**Q10A** What are the two main reasons why your company decided to invest in innovation in the next 12 months? (MAX. 2 ANSWERS) (% - EU)



Base : Companies that have invested and plans to invest in the next 12 months (n = 6400, 49% of base)

<sup>14</sup> Q10A. What are the two main reasons why your company decided to invest in innovation in the next 12 months? ANSWERS: Market potential; Customer request; Increased competition; Supplier offering a new feature or business solution; New legal or administrative requirements coming into force in the coming years; Other; Don't know/non applicable.

## 4 Reasons not to invest in innovation

### A relative majority of companies say they decided NOT to invest in innovation because the investment would not be profitable

Companies that do not invest in innovation or plan not to continue investing in innovation over the next 12 months, were asked to consider their main reasons for not doing so<sup>15</sup>.

Three out of ten companies thought the investment would not be profitable (30%), while slightly less suggested lack of financial resources (28%) to be their reason for not investing in innovation. Less than a quarter of companies felt lack of demand (23%) to be their main reason for not investing.

Less than one in ten companies mention the complexity of legal or administrative requirements (9%) or the lack of human resources (8%) as a deciding factor for not investing. A smaller proportion blame lack of skills (3%) as a reason for not investing in innovation.

A proportion of companies that didn't invest and don't plan to invest in innovation, don't know (10%) why they decided not to, while 15% of companies have other reasons not mentioned in this survey.

**Q10B** What are the two main reasons why your company decided NOT to invest in innovation in the next 12 months? (MAX. 2 ANSWERS) (% - EU)



Base: Companies that have not invested and no plans to invest in the next 12 months (n = 6678), 51% of base

<sup>15</sup> Q10B. What are the two main reasons why your company decided NOT to invest in innovation in the next 12 months? ANSWERS Lack of human resources; Lack of financial resources; Lack of skills; Lack of demand; The investment would not be profitable; The legal or administrative requirements are too complicated; Other; Don't know/not applicable. (Max 2 answers).

IV. THE ROLE OF DESIGN

**In more than six out of ten companies, design plays a role in some way.**

This section explores the role of design in a company’s strategy.

During the survey, companies were given a definition of what design means – “Design is defined as covering a range of applications within companies, providing a means to integrate functionality, appearance and user experience, for goods or services. Design can also provide a means to build corporate identity and brand recognition.”

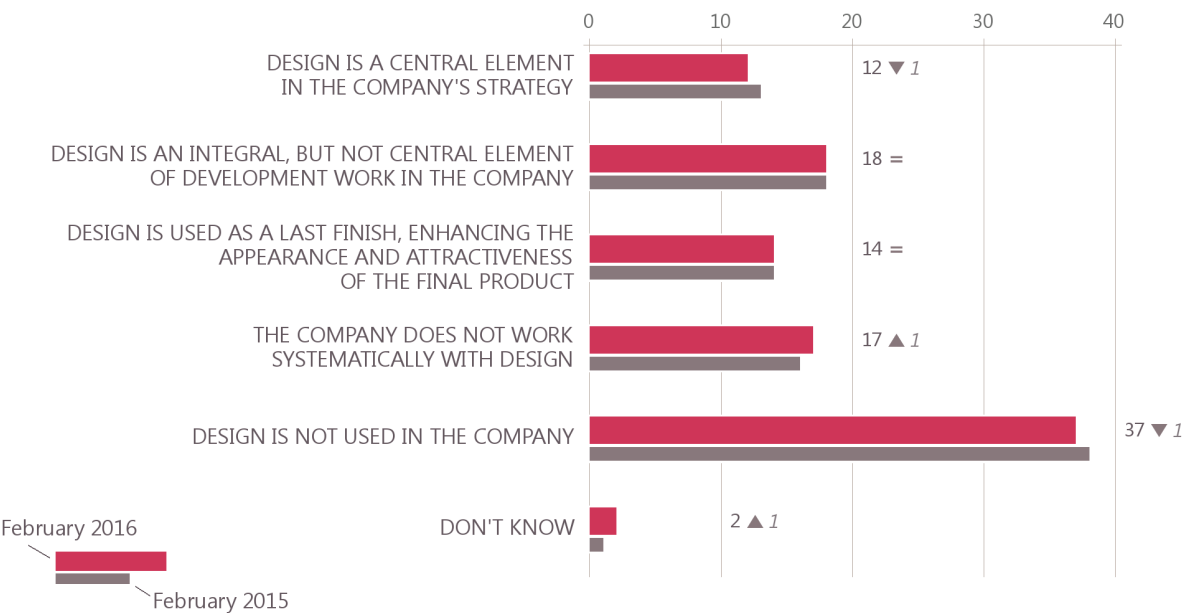
Companies were then asked which statement best described the activities of their company with regards to design<sup>16</sup>.

Less than a fifth of companies say design is an integral, but not central element of development work within the company (18%), while 17% say it is not used systematically within the company. For 14%, design is used as a last finish, and 12% say it is a central element in the company’s strategy.

More than a third of companies say design is not used in the company (37%).

There is very little change in results since the last survey in 2015.

**Q1** Which of the following statements best describes the activities of your company with regard to design?  
(% - EU)



Base : All companies (n = 13,112, 100% of base)

<sup>16</sup> Q1. Which of the following statements best describes the activities of your company with regard to design? ANSWERS: Design is a central element in the company's strategy; Design is integral, but not central element of development work in the company; Design is used as a last finish, enhancing the appearance and attractiveness of the final product; The company does not work systematically with design; Design is not used in the company.

V. USE OF ADVANCED MANUFACTURING TECHNOLOGIES

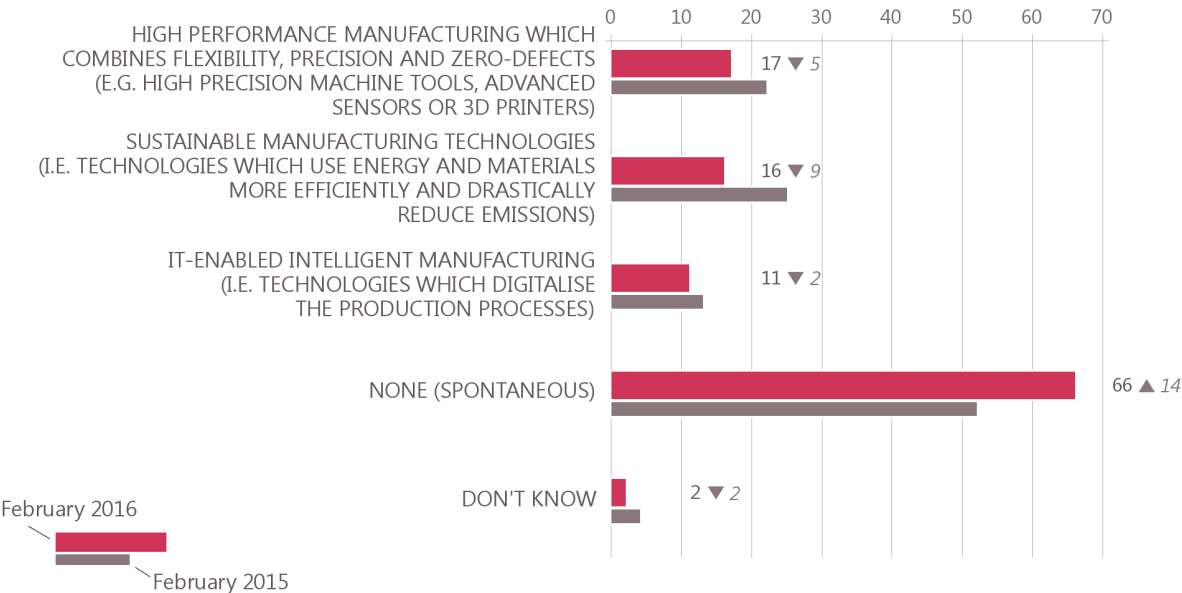
Less than a fifth of manufacturing companies use high performance manufacturing or sustainable technologies.

Manufacturing companies were asked whether they have used a range of specific technologies<sup>17</sup>.

Less than one in five manufacturing companies have used high performance manufacturing technologies (17%, -5 pp), and slightly less companies (16%, - 9 pp) say they have used sustainable manufacturing technologies. More than one in ten manufacturing companies have used IT-enabled intelligent manufacturing (11%, -2 pp). With all three technologies there have been declines since the last survey.

Around two thirds of manufacturing companies have not used any of these technologies (66%), and this proportion has increased considerably since the last survey (+14 percentage points).

Q11A Have you used any of the following technologies? (MULTIPLE ANSWERS POSSIBLE)  
(% - EU)



Base: All manufacturing companies (n = 1151), 9% of base

<sup>17</sup> Q11A Have you used any of the following technologies? ANSWERS Sustainable manufacturing technologies (i.e. technologies which use energy and materials more efficiently and drastically reduce emissions); IT-enabled intelligent manufacturing digitalise the production processes); High performance manufacturing which combines flexibility, precision and zero defects (eg. High precision machine tools, advanced sensors or 3D printers); None; Don't know/not applicable.

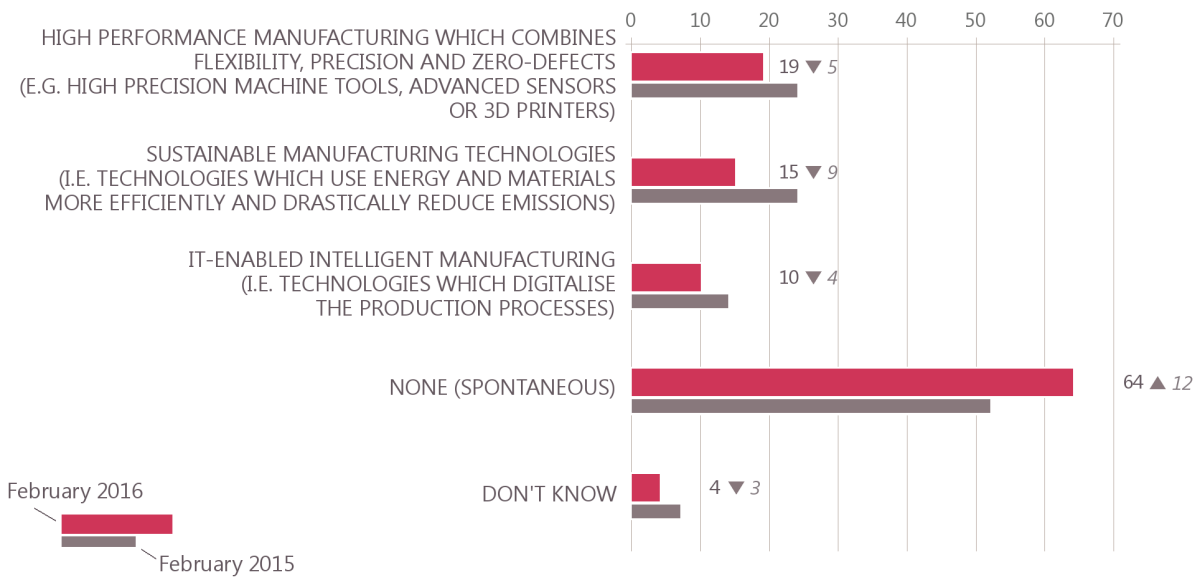
Less than one fifth of manufacturing companies plan to use high performance or sustainable manufacturing technologies

Manufacturing companies were also asked whether they planned to use any of the abovementioned technologies during the next 12 months<sup>18</sup>.

Less than one in five manufacturing companies are planning to use high performance manufacturing technologies in the next 12 months (19%, -5 pp). Slightly less propose to use sustainable manufacturing technologies (15%, -9 pp) and one in ten companies plan to use IT-enabled intelligent manufacturing (10%, -4 pp). Since the last survey, there have been declines across all three types of technologies.

Almost two thirds of companies do not plan to use any of the technologies mentioned (64%) which has increased considerably since the last survey by 12 percentage points.

Q11B Do you plan to use any of the following technologies in the next 12 months?  
(MULTIPLE ANSWERS POSSIBLE)  
(% - EU)



Base: All manufacturing companies (n = 1151, 9% of base)

<sup>18</sup> Q11B Do you plan to use any of the following technologies in the next 12 months? ANSWERS: Sustainable manufacturing technologies (i.e. technologies which use energy and materials more efficiently and drastically reduce emissions); IT-enabled intelligent manufacturing digitalise the production processes); High performance manufacturing which combines flexibility, precision and zero defects (eg. High precision machine tools, advanced sensors or 3D printers); None; Don't know/not applicable.

VI. SKILLS REQUIRED TO HELP COMPANIES’ INNOVATION ACTIVITIES

The most mentioned skills required over the next two years to help improve and support innovation are marketing and technical skills

Those companies that have introduced innovation were asked about the sort of skills that could help improve and support their innovation activities over the next two years<sup>19</sup>.

More than a quarter of all companies that have introduced innovation since 2013 say they will require **marketing skills** (28%) to help improve and support their innovation activities over the next two years. A slightly lower proportion require **technical skills** (24%) and 22% say they need **financial skills** related to investment and access to finance.

Slightly less than two in ten companies say they require **creativity, inventiveness and experimentation** (19%), **IT and the digital economy skills** (17%), and 15% say they need to develop skills in **flexibility, relationship building, resilience**.

**Organisational and leadership** skills are required by 14% of the innovative companies, while less than one in ten say **engineering skills** (7%) can help improve and support their innovation activities over the next two years.

Q12A Which two of the following skills could help improve and support your company’s innovation activities over the next two years? (MAX. 2 ANSWERS) (% - EU)



Base: All companies that have introduced an innovation activity since January 2013 (n = 8276, 63% of base)

<sup>19</sup> Q12A Which two of the following skills could help improve and support your company’s innovation activities over the next two years? ANSWERS: Technical skills needed in your sector; Engineering skills; Organisational and leadership skills; Skills linked to IT and the digital economy; Creativity, inventiveness, experimentation; Soft skills like flexibility, relationship building, resilience; Marketing skills; Financial skills relating to investment and access to finance; Other; None; Don't know/not applicable.



**Financial skills most mentioned as a skill by companies that have not innovated, as something that could kick-start and support a company's innovation activities**

Companies that have not introduced any innovation were then asked to determine which of the skills could help kick-start and support their innovation activities over the next two years<sup>20</sup>.

The top three skills mentioned in the previous question are the same top three skills mentioned in this question, yet in a slightly different order.

More than two in ten companies that have not innovated say financial skills relating to investment and access to finance (22%) could kick-start and support their activities. Technical skills remain the second most mentioned skill, with 17% of non-innovative companies saying this, followed by marketing skills (16%).

A quarter of all companies responded that none of the skills would actually kick-start and support their company's innovation activities over the next two years (25%).

Skills linked to IT and the digital economy (11%), creativity, inventiveness and experimentation (11%) and soft skills like flexibility and relationship building (10%) are mentioned by around one in ten non-innovative companies as kick starters to support their activities in the next two years.

Less than one in ten non-innovative companies feel that having organisational and leadership skills (8%) or engineering skills (5%) will help kick-start and support their innovation activities.

**Q12B** Which two of the following skills could help kick start and support your company's innovation activities over the next two years? (MAX. 2 ANSWERS)  
(% - EU)



Base: All companies that have not introduced an innovation activity since January 2013 (n = 4386), 33% of base

<sup>20</sup> Q12B Which two of the following skills could help kick start and support your company's innovation activities over the next two years? ANSWERS: Technical skills needed in your sector; Engineering skills; Organisational and leadership skills; Skills linked to IT and the digital economy; Creativity, inventiveness, experimentation; Soft skills like flexibility, relationship building, resilience; Marketing skills; Financial skills relating to investment and access to finance; Other; None; Don't know/not applicable.

Companies think marketing, financial and technical skills could help improve/kick-start company’s innovation activities in next two years

The chart below displays the combination of results from the two previous questions (Q12A and Q12B), analysing the skills that could improve or kick start and support their company’s innovation activities over the next two years.

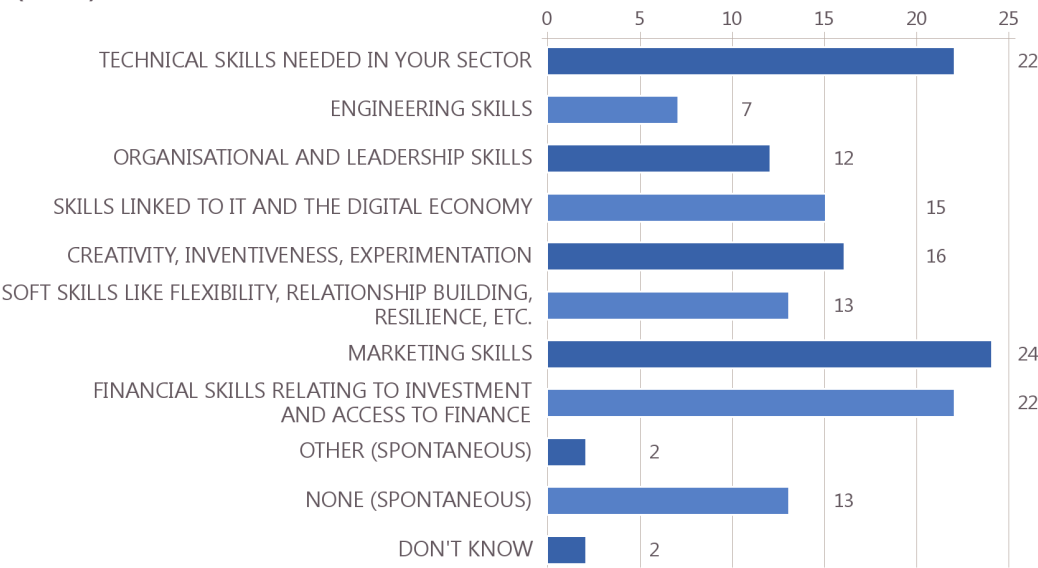
Overall, just less than a quarter say **marketing skills** (24%) could help improve or kick start and support their company’s innovation activities, followed by **financial** and **technical** skills (both 22%).

Less than one fifth of companies say, **creativity, inventiveness, experimentation** (16%) and **skills linked to IT and the digital economy** (15%) will improve or kick-start their innovation activities.

Slightly more than one in ten companies hold the view that **soft skills such as flexibility and relationship building** (13%) and **organisational and leadership skills** (12%) could improve or kick start their innovation activities.

Very few businesses hold the opinion that **engineering skills** (7%) could improve or kick start their company’s innovation activities over the next two years.

**Q12T** Which two of the following skills could help improve/kick start and support your company’s innovation activities over the next two years? (MAX. 2 ANSWERS)  
(% - EU)



Base: All companies (n = 13,112), 100%

VII. THE POSITIVE IMPACT OF INNOVATION

Almost one in five believe their innovations will help job creation in 5 years from now.

This section explores areas where companies believe their innovations could make a positive impact. Companies were asked to consider their company’s innovation activities 5 years from now, and nominate the areas in which they could make a positive impact<sup>21</sup>.

A quarter of companies say they **do not plan to introduce any innovations** over the next 5 years, while from other companies the response is more varied.

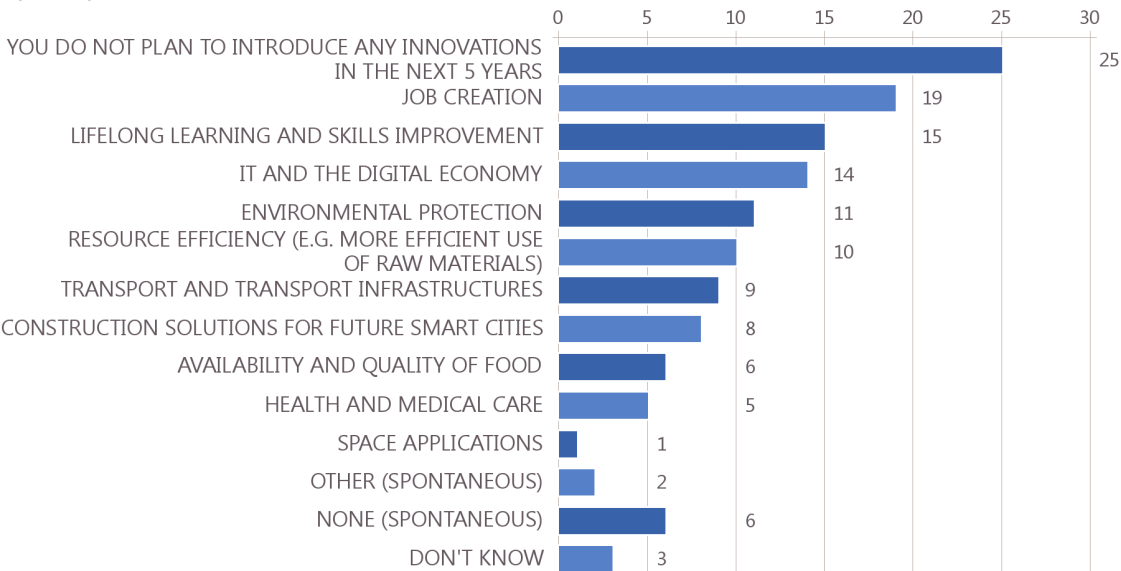
The two most mentioned areas where companies thought they could make a positive impact with their company’s innovation activities over the next 5 years are **job creation** (19%) and **lifelong learning and skills development** (15%).

More than one in ten companies, felt they could make a positive impact on IT and the digital economy (14%).

**Environmental protection** (11%) and **resource efficiency** (10%) are mentioned as areas where companies could make a positive impact with their innovations by around one in ten companies.

Less than 10% of companies consider their company’s innovation over the next 5 years having a positive impact on **transport or transport infrastructures** (9%), **construction solutions for future smart cities** (8%), **availability and quality of food** (6%), **health and medical care** (5%) or even **space applications** (1%).

Q13 Thinking about your company's innovation activities 5 years from now, in which of the following areas do you think your innovations could make a positive impact? (MAX. 2 ANSWERS)  
(% - EU)



Base: All companies (n = 13,112), 100% of base

<sup>21</sup> Q13. Thinking about your company's innovations activities 5 years from now, in which of the following areas do you think your innovations could make a positive impact? ANSWERS: Job creation; IT and the digital economy; Resource efficiency (e.g. more efficient use of raw materials); Lifelong learning and skills improvement; Environmental protection; Construction solutions for future smart cities; space applications; Health and medical care; Transport and transport infrastructures; Availability and quality of food; You do not plan to introduce any innovations in the next 5 years; Other; None; Don't know/not applicable.

TECHNICAL SPECIFICATIONS

Between the 1<sup>st</sup> and 19<sup>th</sup> February 2016, TNS Political & Social, a consortium created between TNS political & social, TNS UK and TNS opinion, carried out the FLASH EUROBAROMETER 433 survey on request of the EUROPEAN COMMISSION, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs. It is a business survey co-ordinated by the Directorate-General for Communication, “Strategy, Corporate Communication Actions and Eurobarometer” Unit.

The FLASH EUROBAROMETER 433 survey covers covers businesses employing one or more persons in manufacturing (NACE category C), services (NACE categories G, H, I, J, K, L, M, N, R) and the industry sector (NACE categories D, E, F) in the 28 Member States of the European Union, Switzerland and the USA.

All interviews were carried using the TNS e-Call centre (our centralised CATI system). The sample was selected from an international business database, with some additional sample from local sources in countries where necessary.

Quotas were applied on both company size and sectors. These quotas were adjusted according to the country’s universe but were also reasoned in order to ensure that the sample was large enough in every cell.

	COUNTRIES	INSTITUTES	N° INTERVIEWS	DATES FIELDWORK		BUSINESSES	PROPORTION EU28
BE	Belgium	TNS Dimarso	500	1/02/2016	16/02/2016	572.068	2,06%
BG	Bulgaria	TNS BBSS	500	1/02/2016	12/02/2016	340.628	1,22%
CZ	Czech Rep.	TNS Aisa	500	1/02/2016	17/02/2016	1.005.971	3,61%
DK	Denmark	TNS Gallup DK	501	1/02/2016	19/02/2016	2.021.401	7,26%
DE	Germany	TNS Infratest	500	1/02/2016	19/02/2016	3.116.134	11,20%
EE	Estonia	TNS Emor	500	1/02/2016	12/02/2016	76.007	0,27%
IE	Ireland	IMS Millward Brown	500	1/02/2016	19/02/2016	205.492	0,74%
EL	Greece	TNS ICAP	500	1/02/2016	18/02/2016	56.001	0,20%
ES	Spain	TNS Demoscopia	500	1/02/2016	17/02/2016	3.313.013	11,90%
FR	France	TNS Sofres	500	1/02/2016	19/02/2016	3.110.259	11,18%
HR	Croatia	HENDAL	500	1/02/2016	17/02/2016	330.279	1,19%
IT	Italy	TNS Italia	500	1/02/2016	17/02/2016	4.202.388	15,10%
CY	Rep. Of Cyprus	CYMAR	200	1/02/2016	11/02/2016	60.452	0,22%
LV	Latvia	TNS Latvia	502	1/02/2016	16/02/2016	85.245	0,31%
LT	Lithuania	TNS LT	500	1/02/2016	13/02/2016	127.351	0,46%
LU	Luxembourg	TNS Dimarso	202	1/02/2016	11/02/2016	28.974	0,10%
HU	Hungary	TNS Hoffmann	500	1/02/2016	12/02/2016	615.404	2,21%
MT	Malta	MISCO	200	1/02/2016	16/02/2016	47.403	0,17%
NL	Netherlands	TNS NIPO	500	1/02/2016	17/02/2016	909.180	3,27%
AT	Austria	TNS Austria	503	1/02/2016	19/02/2016	359.727	1,29%
PL	Poland	TNS OBOP	501	1/02/2016	19/02/2016	1.957.966	7,03%
PT	Portugal	TNS Euroteste	500	1/02/2016	18/02/2016	1.035.493	3,72%
RO	Romania	TNS CSOP	501	1/02/2016	18/02/2016	516.314	1,86%
SI	Slovenia	RM PLUS	501	1/02/2016	18/02/2016	129.795	0,47%
SK	Slovakia	TNS AISA Slovakia	500	1/02/2016	17/02/2016	383.232	1,38%
FI	Finland	TNS Gallup Oy	501	1/02/2016	18/02/2016	303.233	1,09%
SE	Sweden	TNS Sifo	500	1/02/2016	18/02/2016	694.757	2,50%
UK	United Kingdom	TNS UK	500	1/02/2016	18/02/2016	2.228.126	8,01%
	TOTAL EU28					27.832.293	100%*
CH	Switzerland	Demo Scope AG	500	2/02/2016	17/02/2016	283.601	
US	United States	TNS Custom Research Inc.	500	1/02/2016	18/02/2016	13.657.524	
	TOTAL					41.773.418	

Readers are reminded that survey results are estimations, the accuracy of which, everything being equal, rests upon the sample size and upon the observed percentage. With samples of about 1,000 interviews, the real percentages vary within the following confidence limits:

Statistical Margins due to the sampling process  
(at the 95% level of confidence)

various sample sizes are in rows

various observed results are in columns

	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	
	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	
N=50	6,0	8,3	9,9	11,1	12,0	12,7	13,2	13,6	13,8	13,9	N=50
N=500	1,9	2,6	3,1	3,5	3,8	4,0	4,2	4,3	4,4	4,4	N=500
N=1000	1,4	1,9	2,2	2,5	2,7	2,8	3,0	3,0	3,1	3,1	N=1000
N=1500	1,1	1,5	1,8	2,0	2,2	2,3	2,4	2,5	2,5	2,5	N=1500
N=2000	1,0	1,3	1,6	1,8	1,9	2,0	2,1	2,1	2,2	2,2	N=2000
N=3000	0,8	1,1	1,3	1,4	1,5	1,6	1,7	1,8	1,8	1,8	N=3000
N=4000	0,7	0,9	1,1	1,2	1,3	1,4	1,5	1,5	1,5	1,5	N=4000
N=5000	0,6	0,8	1,0	1,1	1,2	1,3	1,3	1,4	1,4	1,4	N=5000
N=6000	0,6	0,8	0,9	1,0	1,1	1,2	1,2	1,2	1,3	1,3	N=6000
N=7000	0,5	0,7	0,8	0,9	1,0	1,1	1,1	1,1	1,2	1,2	N=7000
N=7500	0,5	0,7	0,8	0,9	1,0	1,0	1,1	1,1	1,1	1,1	N=7500
N=8000	0,5	0,7	0,8	0,9	0,9	1,0	1,0	1,1	1,1	1,1	N=8000
N=9000	0,5	0,6	0,7	0,8	0,9	0,9	1,0	1,0	1,0	1,0	N=9000
N=10000	0,4	0,6	0,7	0,8	0,8	0,9	0,9	1,0	1,0	1,0	N=10000
N=11000	0,4	0,6	0,7	0,7	0,8	0,9	0,9	0,9	0,9	0,9	N=11000
N=12000	0,4	0,5	0,6	0,7	0,8	0,8	0,9	0,9	0,9	0,9	N=12000
N=13000	0,4	0,5	0,6	0,7	0,7	0,8	0,8	0,8	0,9	0,9	N=13000
N=14000	0,4	0,5	0,6	0,7	0,7	0,8	0,8	0,8	0,8	0,8	N=14000
N=15000	0,3	0,5	0,6	0,6	0,7	0,7	0,8	0,8	0,8	0,8	N=15000
	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	
	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	