



Department  
for Business  
Innovation & Skills

HEADLINE FINDINGS FROM THE  
UK INNOVATION SURVEY 2015

Innovation Analysis

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# Executive summary

Over the survey period of 2012 to 2014, more UK businesses were involved in innovation than in the previous survey period of 2010 to 2012.

- **53 per cent of businesses were innovative<sup>1</sup>**, compared to 45 per cent of businesses in the 2013 survey; **61 per cent of large businesses** (those with more than 250 employees) and **53% of small and medium enterprises** (those with 10 to 250 employees) were innovative.
- **The proportion of all businesses that innovate has increased significantly across sectors**, with the production sector, particularly manufacturing, being the most innovative (71 per cent of ‘Manufacture of Electrical and Optical Equipment’ and 70 per cent of ‘Manufacture of Transport Equipment’). This was followed by the distribution and services sector where 59 per cent of ‘Financial Intermediation’ and 54 per cent of ‘Wholesale Trade, including Motor Vehicles and Motorcycles’ were innovative.
- **All four countries and almost all regions of England also showed increases, although large variations remained** across countries (from 54 per cent in England to 45 per cent in Northern Ireland) and regions (from 65 per cent in Yorkshire and The Humber, and 58 per cent in the South East to 43 per cent in South West which was the only region showing a decrease). The disparities were more pronounced in this survey than they were in the previous survey.
- **28 per cent of innovators were engaged in exports** (compared with 10 per cent of non-innovators); **they reported employing more highly qualified staff, particularly staff with science and engineering degrees** (12 per cent, compared to only four per cent of non-innovators).
- **25 per cent of all businesses used technological (either product or process) innovation**, up from 22 per cent in the previous survey. Product innovation went up from 18 per cent to 19 per cent and process innovation from 10 per cent to 13 per cent.
- **42 per cent of all businesses used non-technological innovation**, up from 37 per cent: 27 per cent reported engaging in ‘new business practices’ (up from 21), 20 per cent in ‘new method of organising work responsibilities’ (up from 18 per cent) and 16 per cent in ‘changes to marketing concept or strategies’ (unchanged).
- **40 per cent of innovative businesses reported having co-operation arrangements with other parties, mostly with industry, on innovation-related activities** (41 per cent in the previous survey). Collaboration with suppliers (67 per

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<sup>1</sup> The UK definition used here follows the definition adopted by Eurostat. The EU-wide definition of ‘innovation active’ is as follows: Introduction of a new or significantly improved product (goods or service) or process; Engagement in innovation projects not yet complete or abandoned; New and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies. It excludes expenditure and activities linked to innovation.

cent, up from 59 per cent), clients from the private sector (59 per cent) and other businesses (44 per cent) were predominant. Twenty three per cent co-operated with universities or higher education institutions and 16 per cent with government or public research institutes.

- **The most frequently reported drivers for innovation activities were ‘product-related’ factors.** ‘Improving the quality of goods and services’ produced or supplied, were cited by over a third (34 per cent, compared to 36 per cent in the previous survey). In both 2013 and 2015 surveys, ‘reducing environmental impact’ (nine per cent) and ‘improving health and safety’ (12 per cent) were the least highly rated innovation factors overall.
- **The most important barriers reported by businesses were availability of finance** (17 per cent), **costs** (15 per cent) **and economic risks** (14 per cent).

# Overview

This headline findings report presents the early analysis of the 2015 UK Innovation Survey (UKIS 2015). This is the third wave since the 2011 survey which uses a sample based on the Standard Industrial Classification 2007 (SIC 2007). The survey is mainly postal but almost a third (29 per cent) of total responses (15,091) were collected by telephone interview. This compares favourably with the UKIS 2013 in which 39 per cent of the survey responses were collected by telephone interview.

Following an overview of the data collection and methodology, this report goes on to discuss the key business innovation statistics. The headline figures look at changes in business innovation for new and improved products and processes (technological innovation) and for business structures, management and marketing practices (non-technological innovation). After examining in which markets and regions innovative UK businesses are operating, the report then discusses collaborations and sources of information and skills for innovations before briefly discussing factors driving innovation and perceived barriers to innovation.

This Headline Findings report will be followed by a full report which will be published in July 2016. The final output will be the Statistical Annex for UKIS 2015. This will contain further analysis and detailed tables and is planned to be published later in the year.

# Introduction

This report presents the headline findings from the UK Innovation Survey 2015, covering the three-year period from 2012 to 2014. The fieldwork for the survey was carried out during 2015. The survey is the UK contribution to a Europe-wide Community Innovation Survey (CIS). This will feed into the ninth Europe-wide CIS. CIS was originally conducted every four years, but since 2005 it has been conducted every two years.

The UK Innovation Survey 2015 sampled 29,732 UK enterprises with ten or more employees. The total sample included a boost element for Scotland which meant including around 1,000 additional firms from Scotland in the sample selected for the survey. This was funded by the Scottish Government. The survey was voluntary, and was conducted through both a postal questionnaire and telephone interview for businesses that had not yet completed a postal response. With 15,091 businesses in the achieved sample, the survey had a 51 per cent response rate. The results in this report are based on weighted data in order to be representative of firms. The responses were weighted back to the total business population of those in the Inter-Departmental Business Registration (IDBR). They were not weighted by factors which would give more weight to larger firms, such as employment or turnover.

As in the 2011 and the 2013 surveys, the 2015 survey also used a sampling format based on SIC 2007 which is an EU legislative requirement regarding the collection of innovation statistics. The sample selection was conducted by ONS and followed very similar sampling methodology to the previous surveys.

The Department for Business, Innovation, and Skills (BIS) would like to thank all the businesses that completed the survey form either over the phone or by post. The UKIS continues to provide a means to measuring the level, types and trends in innovation activity among businesses within the UK. This data source contributes to our understanding of the constraining factors faced by businesses, across various sectors and size classifications, to innovate and other limitations in the system. It provides the empirical evidence to support policy measures.

Through the harmonised questions in CIS, the UK Innovation survey data are also comparable with other countries. This provides useful international benchmarking for the UK performance in this area.

The majority of the survey questions are concerned with innovation through new and improved products and processes (technological innovation) and with the investments that develop and implement them along with changes in business structures, management and marketing practices (non-technological innovation). The survey also asks businesses about the drivers to innovate as well as their perception of barriers to innovation.

The questionnaire used for the survey remained mostly the same as in the 2013 survey. The composition of the 2013 achieved sample was similar to the last survey, with 20 per cent of sample consisting of large firms, 44 per cent coming from businesses with 10 to 49 employees and 36 per cent from businesses with 50 to 249 employees.

# 1. Innovation activity and definitions

Innovation takes place through a wide variety of business practices. A range of indicators can be used to measure the levels of innovation within the enterprise or in the economy as a whole. These include the levels of effort employed (measured through resources allocated to innovation) and of achievement (the introduction of new or improved products and processes). This section reports on the types and levels of innovation activity over the three year period, from 2012 to 2014<sup>2</sup> and makes some comparisons with the results obtained from the previous survey conducted in 2013.

The definition of innovation activity<sup>3</sup> here includes any of the activities described below that enterprises were engaged in during the survey period. These activities are as follows:

1. Introduction of a new or significantly improved product (good or service) or process;
2. Engagement in innovation projects not yet complete or abandoned;
3. New and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies
4. Investment activities in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities<sup>4</sup>.

For the purpose of the UK Innovation Survey and in line with the European-wide Community Innovation Survey, a business that had engaged in any of the activities described in **points 1 to 3** given above is defined as being '**innovation active**'.

For the purpose of this report, a business that has engaged in any of the activities described in **points 1 to 4** given above is defined as a **broader innovator**. The businesses classed as a **wider innovator** are those that have engaged in the activity described in **point 3** given above.

The results, given below in Table 1 below, show notable improvements on all of the innovation activities that businesses had engaged in throughout the reference period of

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<sup>2</sup> All results are grossed up (based on broader sectoral groupings) to the business population, and all figures quoted relate to UK Innovation Survey 2015, unless stated otherwise. Some figures may differ slightly from those in the Statistical Annex (which will be published later in the year) which are based on more detailed sectoral weights.

<sup>3</sup> The UK definition used here follows the definition adopted by Eurostat. The EU-wide definition of 'innovation active' is as follows: Introduction of a new or significantly improved product (goods or service) or process; Engagement in innovation projects not yet complete or abandoned; New and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies. It excludes expenditure and activities linked to innovation.

<sup>4</sup> As in the 2013 UKIS, the questions in the Section C 'Context for Innovation' of the questionnaire are only asked if the respondent said yes to Q3, 4, 6, 10 or 13 (i.e. strategic innovator, innovation activities, product innovator, process innovator or abandoned/incomplete innovation) in Section B 'Innovation Activities' of the questionnaire. This differs from survey routing used in surveys conducted before the UKIS 2011.

2012 and 2014. The number of ‘innovation active’ (defined above) firms increased over the survey period; 53 per cent of enterprises were found to be ‘innovation active’, compared to 45 per cent of businesses in the 2013 survey. The proportion of large firms (those with more than 250 employees) classified as ‘innovation active’ was higher than small and medium enterprises (SMEs, those with 10 to 250 employees): 61 per cent vs 53 per cent of SMEs. The same difference also existed between large firms and SMEs in the 2013 survey.

**Table 1: Enterprises engaging in innovation activity, by size and type of activity, 2012-2014\***

Type of activity	Size of enterprise			Per cent
	10-250 employees	250+ employees	All (10+ employees)	
<b>2015</b>				
Innovation active	53	61	53	
Innovation active (old definition) <sup>5</sup>	50	58	50	
Broader innovator	54	62	54	
Wider innovator	42	45	42	
Activities	44	49	44	
Product innovator	19	27	19	
<i>of which (share with new-to-market products)</i>	32	38	32	
Process innovator	13	20	13	
<i>of which (share with new-to-industry processes)</i>	27	24	27	
Abandoned activities	5	7	5	
On-going activities	18	24	18	
Both product AND process innovator	8	13	8	
Either product OR process innovator	24	34	25	
<b>2013</b>				
Innovation active	45	50	45	
<i>Innovation active (old definition)</i>	42	48	43	
Broader innovator	46	51	46	
Wider innovator	37	39	37	
Activities	39	43	39	
Product innovator	18	23	18	
<i>of which (share with new-to-market products)</i>	44	50	44	
Process innovator	10	15	10	
<i>of which (share with new-to-industry processes)</i>	23	26	23	
Abandoned activities	4	5	4	
On-going activities	15	19	15	
Both product AND process innovator	7	10	7	
Either product OR process innovator	21	28	22	

\* = Unweighted base = 15,091

<sup>5</sup> Different survey routing was applied for surveys conducted before the UKIS 2011 and the proportions reported here refer to the definition used prior to 2011, hence referred as the ‘old definition’. This indicator is kept to enable comparisons with surveys conducted before the UKIS 2011 for further analyses in the full report.



In line with the increase in the proportion of innovation active businesses, the number of firms defined as 'broader innovator' also increased to 54 per cent in this survey from 46 per cent in the 2013 survey, with the same trend existing between large firms and SMEs.

There was also an increase on the wider innovator indicator (firms engaging in wider/non-technological innovations, described in point 3 above) from 37 per cent in the 2013 survey to 42 per cent in this survey (given above in Table 1).

Product innovation also showed a small increase of one percentage point, from 18 per cent to 19 per cent in this survey reporting engagement in product innovations. Almost a third of product innovations (32 per cent) were new to the market over this survey period, as compared to 44 per cent in the previous survey. The share of large firms having products new to the market also showed a decrease from 50 per cent in the previous survey to 38 per cent.

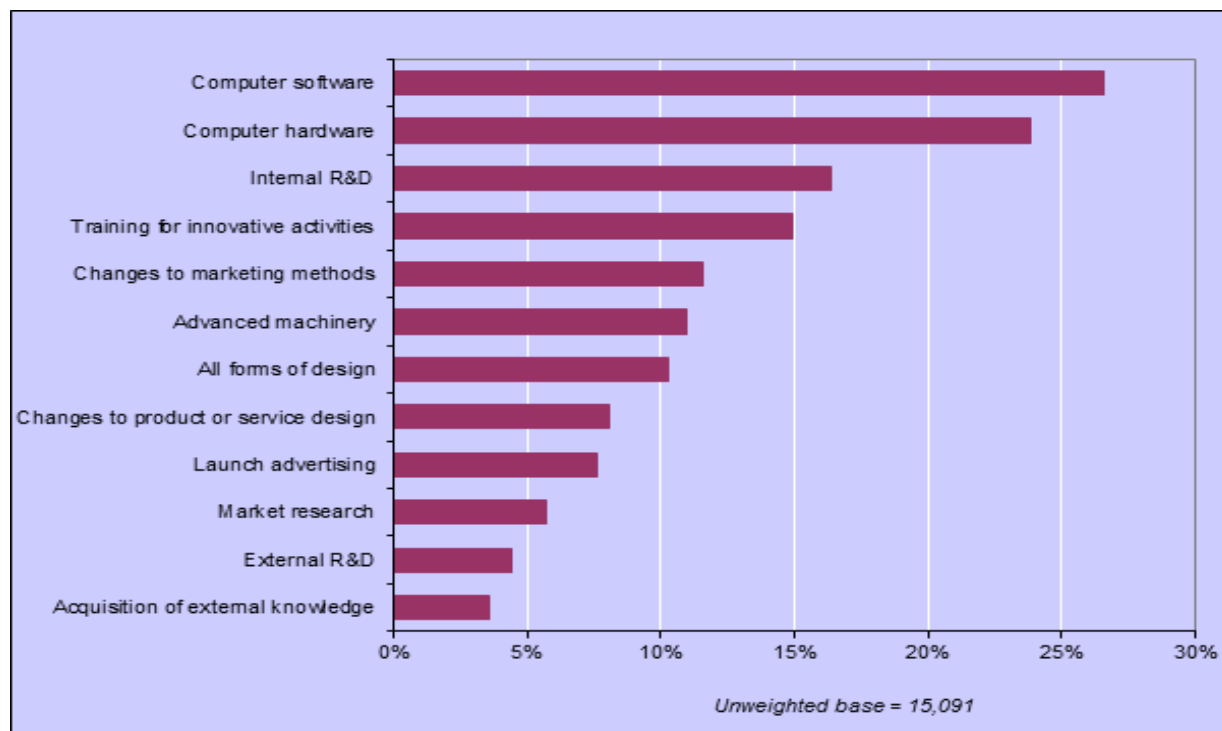
Process innovation showed an increase from 10 per cent to 13 per cent in this survey, with 20 per cent of large firms reporting engagement in process innovations, as compared to 15 per cent in the 2013 survey. Over a quarter (27 per cent) of process innovations were new to the industry processes, showing an increase from 23 per cent in the previous survey. Whilst there was a decline for large firms having process innovations new to the industry, from 26 per cent in the previous survey to 24 per cent in this survey, the share of SMEs having process innovations new to the industry showed an increase from 23 per cent to 27 per cent.

The findings showed that the proportion of businesses engaged in on-going innovation activities went up from 15 per cent to 18 per cent, with the share of large firms reporting higher proportions of on-going activities (24 per cent). This is an increase from 19 per cent of large firms in the 2013 survey. A discussion of the details of the innovation activities follows in the next section.

## 1.1 Breakdown of innovation activities

As shown below in Figure 1, the most commonly reported activities were acquisition of computer software and computer hardware (27 per cent and 24 per cent, respectively). These proportions went up from 23 per cent of computer software and 20 per cent of hardware in the previous survey. The proportions in other categories reported in Figure 1 remained broadly unchanged.

**Figure 1: Innovation related activities businesses invested in (all enterprises)**



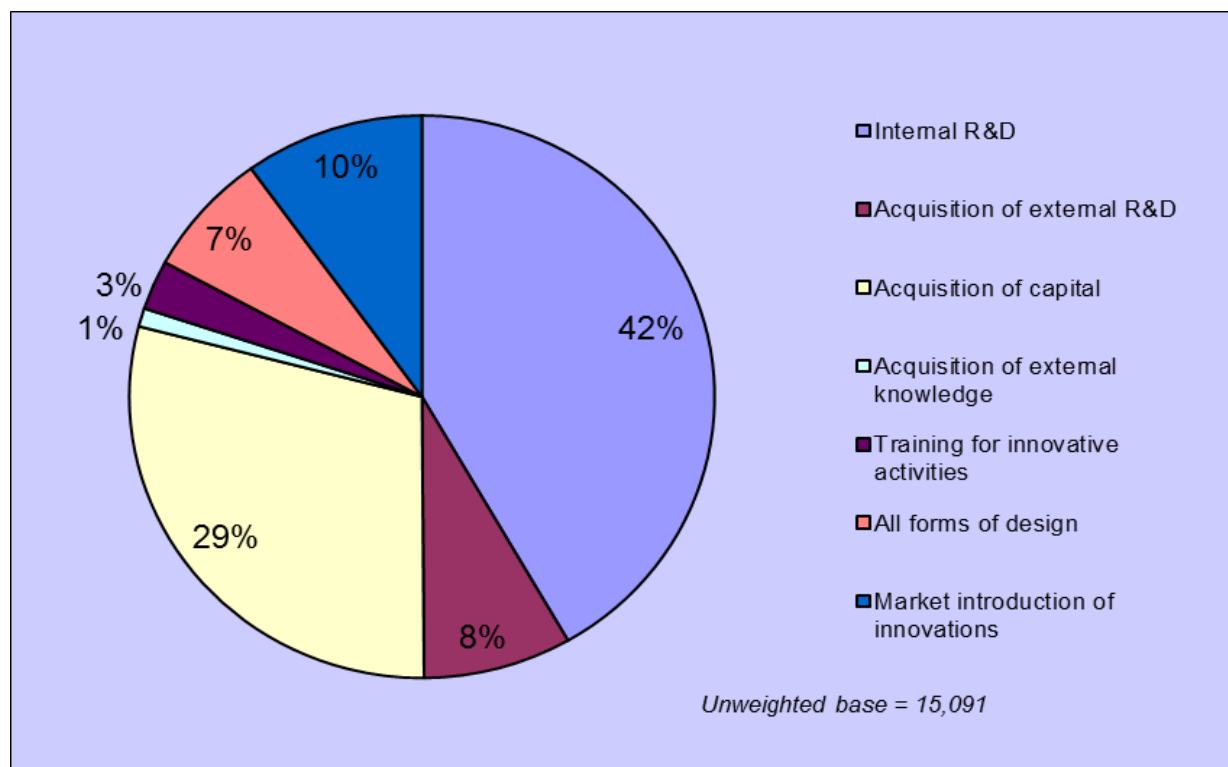
The estimates of expenditure provided for each of the main innovation-related activities given in Figure 2 had been rather volatile in the survey series. Measures have been taken since the 2013 survey to address this issue and to ensure fluctuations in the figures provided were not due to questionnaire wording or the reference year used in the survey. The 2013 survey findings showed that the expenditures provided were broadly in line with the corresponding Business Enterprise Research and Development Expenditure (BERD) statistics for 2012 and 2013. The 2015 Innovation Survey results also indicated that the overall innovation expenditure of £18.7 billion was broadly in line with the total expenditure for 'internal R&D' reported by the BERD statistics for the years 2013 and 2014, which were £18.8 and 19.9 billion<sup>6</sup>, respectively.

The ranking of the top three highest expenditure categories, given below in Figure 2, remained unchanged. The largest share of innovation expenditure belonged to 'internal R&D' (42 per cent, compared to 40 per cent in the 2013 survey), followed by 'acquisition of capital' (i.e., advanced machinery, equipment and software), with 29 per cent, compared to 25 per cent in the previous survey and 'acquisition of external R&D' (with eight per cent,

<sup>6</sup> [www.ons.gov.uk/ons/rel/rdit1/bus-ent-res-and-dev/index.html](http://www.ons.gov.uk/ons/rel/rdit1/bus-ent-res-and-dev/index.html)

compared to 14 per cent in the 2013 survey). The category for the ‘market introduction of innovations’ remained the same with ten per cent. There was an increase in spending for ‘all forms of design’ as this went up from four per cent in the 2013 survey to seven per cent. There was, however, a decrease in spending for ‘acquisition of external knowledge’ as it went down to only one per cent from four per cent in the previous survey.

**Figure 2: Innovation expenditure in 2014 (proportion of total expenditure)**



## 1.2 Non-technological or wider forms of innovation

Innovation is not just about the development or use of technology or other forms of product (goods and services) and process change. There are also non-technological forms of innovation, such as new business practices for organising procedures or changes to marketing concepts and strategies.

An ‘organisational innovation’ is a new organisational method within an enterprise’s business practices (including knowledge management), workplace organisation or external relations which have not been previously used.

Enterprises were asked whether they had made any major changes to their business structure and practices in the three-year period from 2012 to 2014. The organisational innovation questions were revised to match the version found in the CIS harmonised questionnaire.

As summarised in Table 2 below, 42 per cent of businesses engaged in one or more types of non-technological innovation over the latest survey period. Over a quarter (27 per cent) mentioned the implementation of *new business practices* for organising procedures, compared to 21 per cent of businesses in the 2013 survey. As in the 2013 survey, a higher

share of large firms (30 per cent) reported this, compared to SMEs (27 per cent). The least frequently reported wider innovation was the implementation of *new methods of organising external relationships*. This was mentioned by only seven per cent of businesses (eight per cent in the previous survey), with SMEs slightly less likely to report this activity than large firms (seven per cent, compared to 11 per cent of large firms).

**Table 2: Enterprises that introduced wider forms of innovation\***

Forms of innovation	Size of enterprise			Per cent
	10-250 employees	250+ employees	All (10+ employees)	
Wider Innovator	42	45	42	
New business practices	27	30	27	
New method of organising work responsibilities	19	25	20	
New method of organising external relationships	7	11	7	
Changes to marketing concepts or strategies	16	16	16	

\* = Unweighted base = 15,091

The proportions of businesses that reported the implementation of *new methods of organising work responsibilities* showed an increase from 18 per cent to 20 per cent since the 2013 survey. The proportions reporting *changes to marketing concepts or strategies* remained the same at 16 per cent over both survey periods. Furthermore, there was no difference in the take up of changes to marketing concepts or strategies between SMEs and large firms.

## 2. Markets and exports

### 2.1 Geographical markets

The businesses surveyed were asked to which geographical markets they had sold goods and/or services. As Figure 3 shows, the UK regional markets were still the most dominant market for UK enterprises; 75 per cent of firms reported operating in regional markets, compared to 68 per cent in the 2013 survey. Over half (54 per cent) operated at national level, showing a decrease from 57 per cent in the previous survey. The proportions of businesses operating in European countries and all other countries showed an increase, with 24 per cent reporting to operate in European markets (compared to 23 per cent in the 2013 survey), whilst 18 per cent were operating in world-wide markets (compared to 16 per cent in the previous survey).

**Figure 3: Geographical markets (valid responses only)**



### 2.2 Exports

Twenty per cent of businesses provided an estimate of exports for the year 2014. This compares to 16 per cent in the 2013 survey providing estimates for the year 2012. The findings indicated that as compared to non-innovators, innovators are more likely to export. While 28 per cent of broader innovators reported engaging in exports, only 10 per cent of non-innovators did so.

## 3. Context for innovation

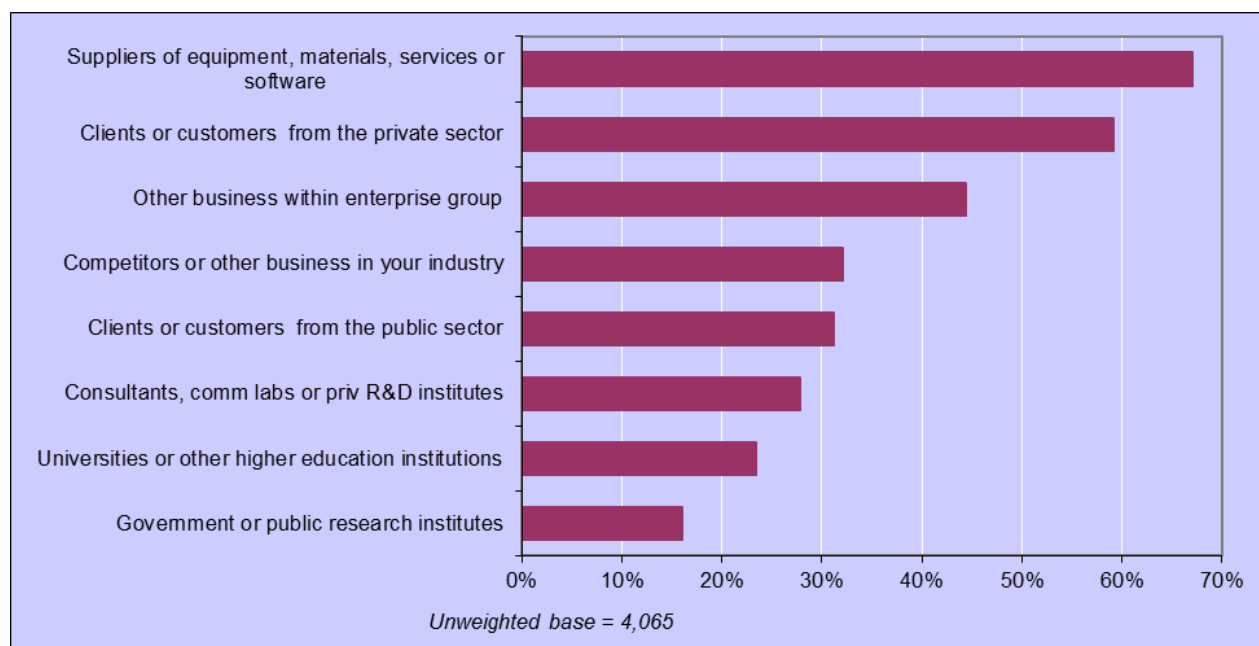
The survey asked questions about various aspects of the context relevant to business innovation behaviour. The following sections include statistics which refer to the businesses that had engaged in any of the four types of innovation behaviour described earlier as ‘broader innovators’.<sup>7</sup>

### 3.1 Co-operation arrangements

The proportion of broader innovators who reported having co-operation arrangements on some innovation activities remained similar to the previous survey (40 per cent, compared to 41 per cent in the 2013 survey).

As shown in Figure 4, the most frequently mentioned partners of businesses with co-operation agreements were *suppliers of equipment, materials, services or software* (67 per cent, compared to 59 per cent in the 2013 survey). This was followed by *clients or customers from the private sector* (59 per cent, compared to 61 per cent previously).

**Figure 4: Co-operation partners (broader innovating businesses, collaborative firms only)**



Over four in ten (44 per cent) cited other businesses within enterprise group as their partners of businesses with co-operation agreements. This was 46 per cent in the previous survey. There was also a sizable proportion (31 per cent) of businesses that cited clients

<sup>7</sup> 1) Introduction of a new or significantly improved product (good or service) or process; 2) engagement in innovation projects not yet complete or abandoned; 3) New and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies; 4) Activities in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities.

or customers from the public sector (also 31 per cent in the 2013 survey), while almost a third (32 per cent) said competitors or other business in their industry, an increase from 29 per cent in the previous survey.

## 3.2 Sources of information

Table 3 provides the details of the extent to which businesses use external resources in their innovation activities. Businesses were asked to rank information sources on a scale from “no relationship” to “high importance”. The sources presented were:

- **internal:** from within the enterprise itself or other enterprises within the enterprise group;
- **market:** from suppliers, customers, clients, consultants, competitors, commercial laboratories or research and development enterprises;
- **institutional:** from the public sector such as government research organisations and universities or private research institutes; and
- **other sources:** from conferences, trade fairs and exhibitions; scientific journals, trade/technical publications; professional and industry associations; technical industry or service standards

**Table 3: Sources of information (% of all firms with some innovation activity rating “high”)\***

Information sources	Size of enterprise			Per cent
	10-250 employees	250+ employees	All (10+ employees)	
<b>Internal</b>				
Within the enterprise itself or within the enterprise group	47	59	47	
<b>Market</b>				
Suppliers of equipment	25	23	25	
Clients or customers from private sector	20	26	20	
Clients or customers from public sector	9	12	9	
Competitors or other enterprises in your industry	13	16	13	
Consultants, commercial labs or private R&D institutes	5	7	5	
<b>Institutional</b>				
Universities or other higher education institutes	3	2	3	
Government or public research institutes	2	3	2	
<b>Other sources</b>				
Technical, industry or service standards	6	7	6	
Conferences, trade fairs, exhibitions	5	5	5	
Scientific journals and trade/technical publications	2	2	2	
Professional and industry associations	6	7	6	

\* = Unweighted base = 8,735

The ranking of information sources has been fairly consistent throughout the history of the survey. Overall, internal sources (within the enterprise itself or within their enterprise group) were rated as the most important source of information for innovation. Almost half (47 per cent) cited this, which was a decrease from 51 per cent from the previous survey.

Historically, market sources, such as suppliers, customers, clients, consultants, competitors, commercial laboratories or research and development institutes, are also given as important information sources and that was still the case in this survey. A quarter of businesses (25 per cent) cited 'suppliers' in this survey, an increase from 20 per cent in the 2013 survey, whilst 20 per cent mentioned 'clients or customers from private sector' (a decrease from 24 per cent in the previous survey). There was also an increase in the proportions citing the category of 'competitors' from 11 per cent previously to 13 per cent.

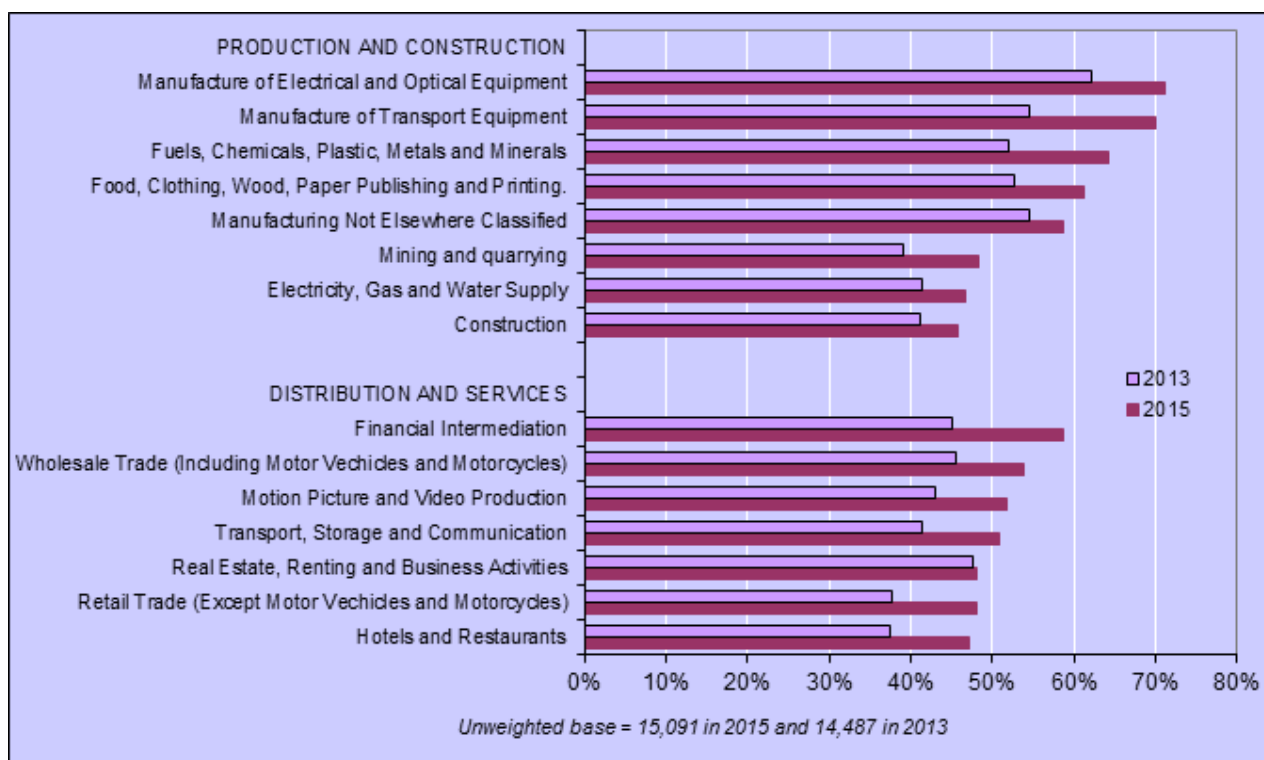
The least frequently cited sources were 'institutional' sources. Three per cent mentioned 'universities or other higher education institutes' (two per cent in the previous survey), while two per cent cited 'Government or public research institutes' (also two per cent in the previous survey). In terms of 'other' sources cited, the category of 'technical, industry or service standards' was mentioned by only six per cent, a decline from nine per cent in the 2013 survey.



## 4. Innovation in sectors

The proportions of businesses that are ‘innovation active’ across all the surveyed industrial and commercial sectors are presented in Figure 5.

**Figure 5: Innovation active businesses by industry over two survey periods (% of all enterprises)**



As can be seen above in Figure 5, the production sector, particularly manufacturing industry was the most innovation active: 71 per cent of businesses in the ‘manufacture of electrical and optical equipment’ group were innovation active (an increase from 62 per cent in the 2013 survey). This was followed by ‘manufacture of transport equipment’ (70 per cent, an increase from 55 per cent). All industries in the Production and Construction industry showed significant increases since the previous survey.

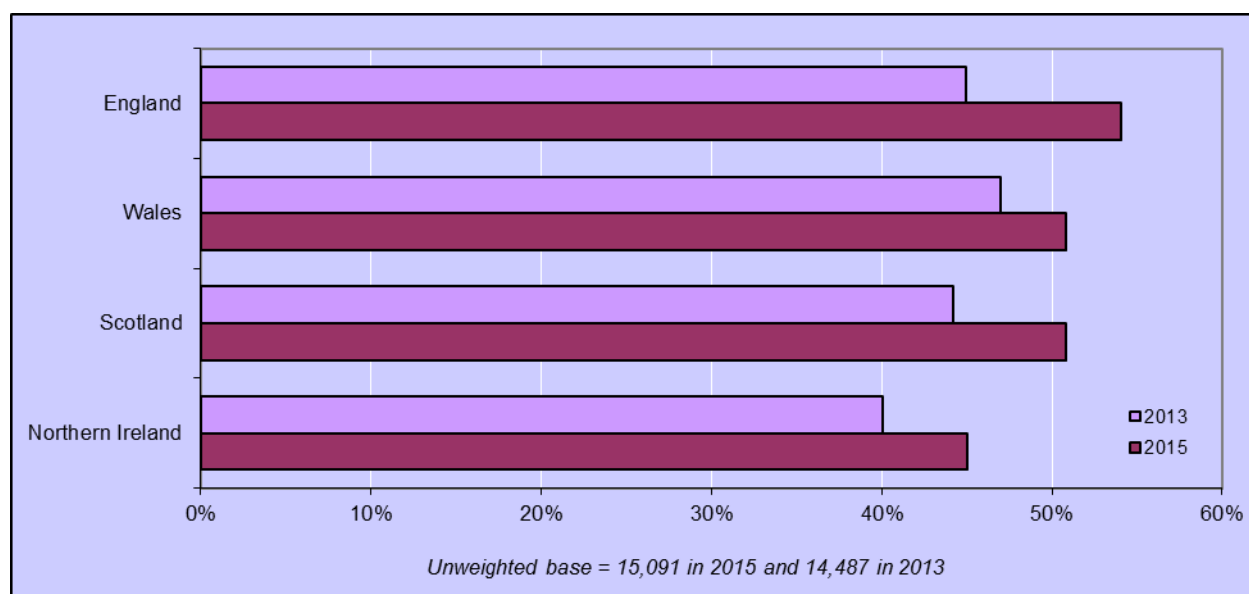
The groups within the Distribution and Services sectors also showed significant increases. The top three groups with the highest proportions of businesses who were innovation active were: financial intermediation (59 per cent, an increase from 45 per cent), wholesale trade (54 per cent, an increase from 46 per cent) and motion picture and video production (52 per cent, an increase from 43 per cent). The transport, storage and communication group also showed an increase from 41 per cent to 51 per cent in the previous survey. The only category that stayed broadly the same was the real estate, renting and business activities group (48 per cent in both surveys). Yet this group had the highest proportion of businesses who were innovation active in the 2013 survey

## 5. Geography of innovation

### 5.1 Country level differences

Figure 6 presents the proportions of innovation active businesses across the countries and shows a comparison with the 2013 data based on the innovation active definition. There were nine percentage points between the least and most 'innovation active' country (seven percentage point in the previous survey), with England having the highest proportion (54 per cent) and Northern Ireland lowest (45 per cent). The previous survey showed Wales having the highest proportion of innovation active businesses with 47 per cent (51 per cent in this survey). Scotland showed the second highest increase from 44 per cent to 51 per cent and shared the second highest place alongside Wales. However, it is worth noting that the proportions for all four countries were notably higher in this survey.

**Figure 6: Shares of innovation active businesses by country (all enterprises)**

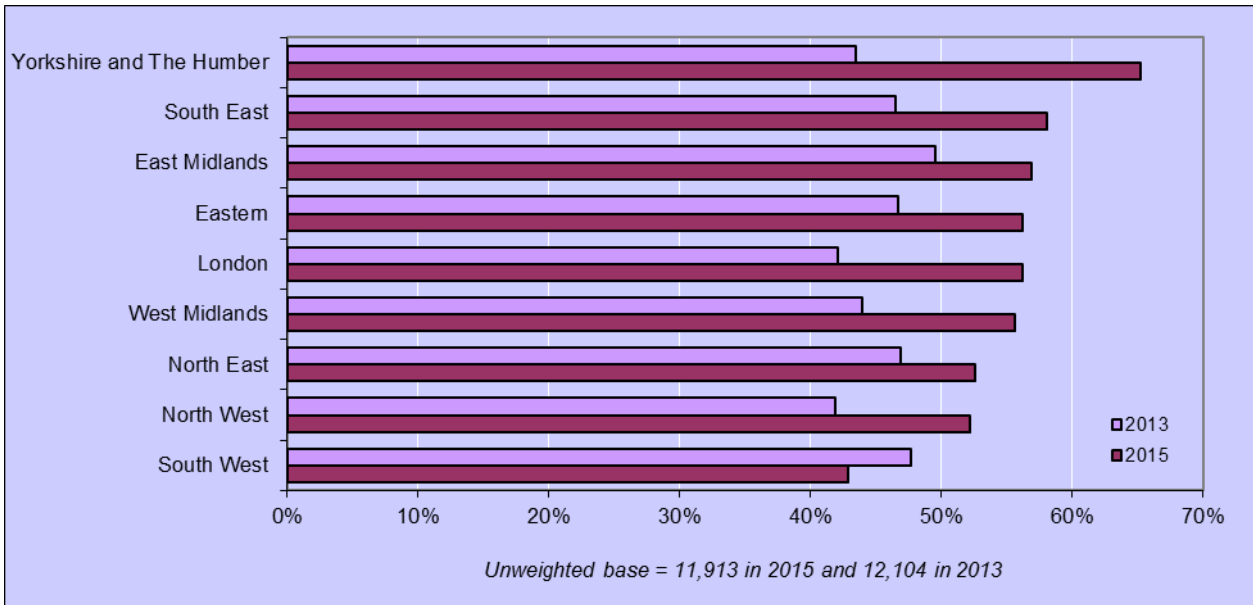


### 5.2 Regional level differences

Figure 7 shows the proportions of innovation active businesses across the regions of the UK, again compared with the 2013 data.

There were 22 percentage points between the least and most 'innovation active' region (eight percentage point in the previous survey). The Yorkshire and The Humber region was leading the way with 65 per cent, an increase from 43 per cent in the 2013 survey. This was followed by South East with 58 per cent (an increase from 47 per cent). East Midlands (57 per cent, from 50 per cent), Eastern (56 per cent, from 47 per cent), London (56 per cent, from 42 per cent) and West Midlands (56 per cent, from 44 per cent) all showed significant increases since the previous survey. The increase over the two survey periods was more notable for the North West region (from 42 per cent to 52 per cent) than it was for the North East region (from 47 per cent to 53 per cent). The only region which showed a decline was South West, from 48 per cent to 43 per cent in this survey.

**Figure 7: Shares of innovation active businesses by region (all enterprises)**



## 6. Factors driving innovation

Businesses defined as ‘broader innovators’ were asked to rank a variety of drivers for innovating on a scale from no impact to low, medium or high impact. Table 4 gives the proportion of businesses that had rated ‘high’ in each of the innovation factors presented to them. Quality enhancement was again the most motivating factor, rated high by over a third (34 per cent) of broader innovators.

**Table 4: Innovation factors (% of all broader innovators rating “high”)\***

Innovation factors	Size of enterprise			Per cent
	10-250 employees	250+ employees	All (10+ employees)	
Improving quality of goods or services	33	43		34
Replacing outdated products or processes	31	34		31
Increase range of goods or services	29	35		29
Increasing market share	25	37		26
Increasing value added	24	32		24
Entering new markets	19	22		20
Improving capacity for producing goods or services	18	23		18
Reducing costs per unit produced or provided	18	26		18
Improving flexibility for producing goods or services	17	22		17
Meeting regulatory requirements (including standards)	16	22		17
Improving health and safety	12	17		12
Reducing environmental impact	9	14		9

\* = Unweighted base = 8,735

While nearly a third (29 per cent) mentioned ‘increasing range of good or services’ (which was 28 per cent previously), just over a quarter (26 per cent) cited ‘increasing market share’ as their highly rated factor for innovating. This was 29 per cent in the previous survey. Almost a quarter (24 per cent) said ‘increasing value added’ which showed an increase from 21 per cent in the 2013 survey.

## 7. Factors constraining innovation

Businesses were asked to rank constraining factors on a scale from having no importance to low, medium or high importance on their innovation activities (Table 5).

**Table 5: Broader innovators' perception of potential barriers to innovation**

Self-reported potential barriers	Size of enterprise			Per cent
	10-250 employees	250+ employees	All (10+ employees)	
<b>Cost factors</b>				
Availability of finance	17	9		17
Direct innovation cost too high	15	11		14
Excessive perceived economic risks	14	9		14
Cost of finance	14	8		14
<b>Knowledge factors</b>				
Lack of qualified personnel	8	6		8
Lack of information on markets	3	2		3
Lack of information on technology	3	3		3
<b>Market factors</b>				
Market dominated by established businesses	10	6		10
Uncertain demand for innovative goods or services	8	7		8
<b>Other factors</b>				
UK Government regulations	7	6		7
EU regulations	6	6		6

\* = Unweighted base = 8,735

Table 5 above presents the proportion of businesses that had provided a 'high' rating to each of the constraint categories. These are self-reported responses. The cost factors category was the most highly rated, with 17 per cent of businesses indicated 'availability of finance'. A further 15 per cent cited 'direct innovation cost too high', followed by 'excessive perceived economic risks (14 per cent) and 'cost of finance' (14 per cent). One in ten businesses mentioned 'market dominated by established businesses' as their important constraining factor.

The constraints question was not included in the 2013 survey and therefore, it is not possible to compare these figures with the previous survey's findings. However, this question was included in the 2011 survey. The top five self-reported constraining factors were still the same factors provided from the cost factors category and the market factor. The proportions of businesses were also much higher in the 2011 survey: 25 per cent of businesses indicated 'availability of finance', 21 per cent cited 'direct innovation cost too high', followed by 'excessive perceived economic risks (21 per cent) and 'cost of finance' (24 per cent). One in ten businesses in the 2011 survey also mentioned 'market dominated by established businesses' as their important constraining factor.<sup>8</sup>

<sup>8</sup> The 2011 survey findings on the constraining factors may change slightly as these figures were taken from the 2011 report and haven't been checked against the survey data for consistency in the use of the 'broader innovators' group. The outcome of the revisions for the Full report may produce some changes.

## 8. Skills for innovation

Businesses were asked to provide the proportion of their employees for the year 2014 who hold a first degree or postgraduate degree in Science or Engineering or ‘Other’ subjects (Table 6).

**Table 6: Average proportion (%) of 2014 employees who hold a degree or higher\***

	Size of enterprise			Per cent
	10-250 employees	250+ employees	All (10+ employees)	
<b>All</b>				
Science or engineering subjects	9	9	9	
Other subjects	13	13	13	
<b>Broader innovators</b>				
Science or engineering subjects	11	12	12	
Other subjects	14	15	15	
<b>Non- innovators</b>				
Science or engineering subjects	4	4	4	
Other subjects	10	10	10	

\* = Unweighted base = 15,091

Table 6 presents the results from this question and gives the average proportion of employees who hold a first degree or a higher degree. Comparisons with the 2013 results showed that the average proportions remained broadly the same for both ‘science or engineering’ subjects (nine per cent, compared to 10 per cent in the previous survey) and ‘other’ subjects (13 per cent in both surveys). The findings indicated that as compared to non-innovators, broader innovators were more likely to employ highly qualified staff (those with a first degree or postgraduate). The difference in proportions was more pronounced when it came to employing staff with STEM degrees (12 per cent of innovators employing STEM graduates/postgraduates vs four per cent of non-innovators doing so) than employing staff with degrees in ‘other’ subjects (15 per cent of innovators employing graduates or postgraduates vs 10 per cent of non-innovators doing so).

## 9. Conclusions and next steps

This Headline findings report presents some top-line results of the latest Innovation Survey (UKIS 2015). It provides information on some dimensions of the changes in business innovation behaviour in the UK relative to the 2013 survey.

The UK Innovation Survey represents a major source of data for the research community. The data feeds into the economic analyses and other policy related work. It provides both a periodic snapshot of innovation behaviour and has the additional benefit of the panel dataset alongside<sup>9</sup>, which facilitates longitudinal studies and evaluations of innovation policy. The data is also comparable with other countries, which provides useful international benchmarking for the UK performance in this area.

The Department for Business, Innovation and Skills will publish more extensive, detailed survey results in the form of a Full report and the Statistical Annex of the UKIS 2015 data later in the year.

As with previous surveys, it is expected that there would be a substantial body of further research using the survey results and publications in various forms over the next few years. Data will be available for researchers in the Virtual Micro-Data Laboratory (VML) and from the Secure Data Service (SDS)<sup>10</sup> once the Full report is published and the further checks are completed.

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<sup>9</sup> Due to time constraints, the panel data analysis wasn't possible for this report. It will be available in the Full report which is due to be published in July 2016.

<sup>10</sup> Details on how to access the VML and SDS can be found here: [www.ons.gov.uk/ons/about-ons/business-transparency/freedom-of-information/what-can-i-request/virtual-microdata-laboratory--vml-/index.html](http://www.ons.gov.uk/ons/about-ons/business-transparency/freedom-of-information/what-can-i-request/virtual-microdata-laboratory--vml-/index.html) and [www.data-archive.ac.uk/home](http://www.data-archive.ac.uk/home).

# Annex: Methodology

The UK Innovation Survey is funded by the Department of Business, Innovation and Skills (BIS). The survey was conducted on behalf of the BIS by the Office for National Statistics (ONS).

The UK Innovation Survey is part of a wider Community Innovation Survey (CIS) covering EU countries. The survey is based on a core questionnaire developed by the European Commission (Eurostat) and Member States. This is the ninth iteration of the survey (CIS9). CIS8, covering the period 2010 to 2012, was carried out in 2013 and the results form part of various EU benchmarking exercises for international comparisons.

The UK Innovation Survey 2015 sampled almost 30 thousand UK enterprises. The survey was voluntary and conducted by means of both a postal questionnaire and telephone interview for businesses that had not yet completed a postal response.

## Coverage and sampling

The survey covered enterprises with 10 or more employees in sections C-K of the Standard Industrial Classification (SIC) 2007. This was the third time survey data was collected using a sample based on the Standard Industrial Classification 2007 (SIC 2007).

The sample was drawn from the ONS Inter-Departmental Business Register (IDBR) in January 2015.

## Response and weighting

The questionnaires for the survey were dispatched between 23 and 25 February 2015 and the survey was in the field until November 2015.

Valid responses were received from 15,091 enterprises which gives a response rate of 51 per cent.

The results in this report are based on weighted data in order to be representative of the population of firms. The responses were weighted back to the total business population of those in the IDBR. On average each respondent represents 12 enterprises in the population.





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