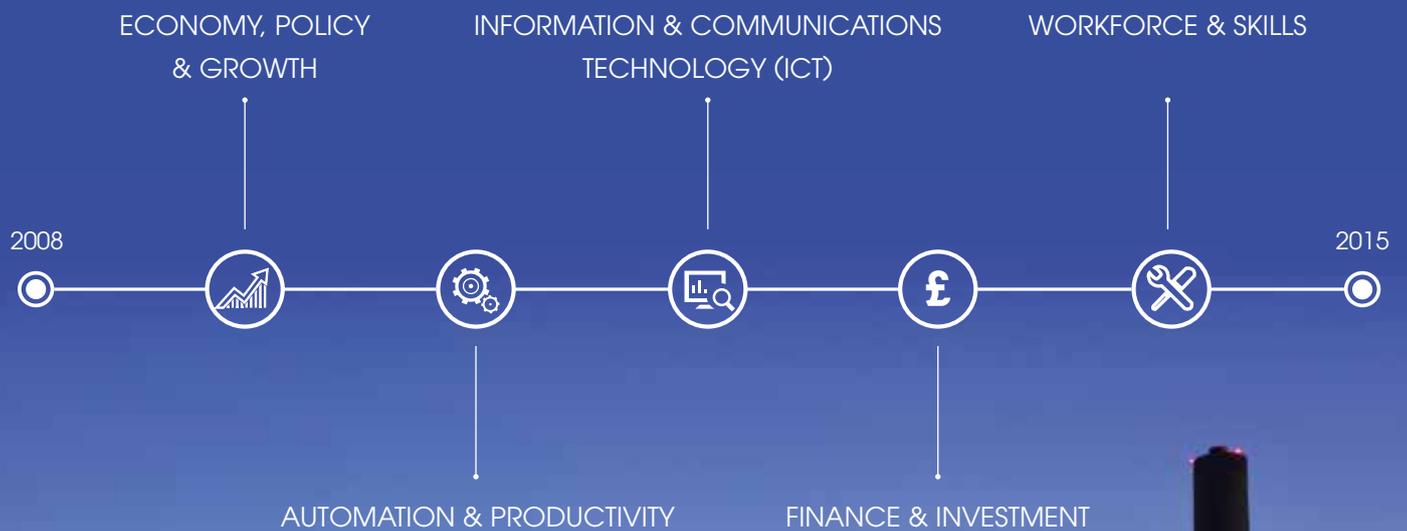


ANNUAL MANUFACTURING REPORT 2015



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ANNUAL MANUFACTURING REPORT 2015

FOREWORD

By Callum Bentley, Editor, The Manufacturer

EXECUTIVE SUMMARY

Ruari McCallion, Analyst, Hennik Research



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FOREWORD

Welcome to the Annual Manufacturing Report 2015.

This year's survey of manufacturers attracted responses from all areas and activities, from automotive, aerospace and agribusiness to plastics, renewables and steel.

Confidence is higher than we have seen for a number of years. Levels of investment are up, as are vacancies. Companies are looking to the future with commitment to more plant, machinery and equipment, and are actively seeking the skills they need to take them forward.

The Eurozone may still be struggling and that is not a good thing for the UK, as the EU as a whole is our largest trading partner by far. What is encouraging is that the response to challenges nearer to home has been to look further afield. The drive is on to expand in existing overseas markets and to develop new ones. The efforts of UKTI and UKEF seem to have been appreciated; they are both rated pretty highly by those who have worked with them.

Concerns about finance – cashflow in particular – are at lower levels than we have seen before. The banking crisis of the last few years has had an effect, though; companies are more likely than ever to look beyond conventional bank loans and overdrafts for their funding.

If there is a cloud on the horizon, then it is about skills. The connection between industry and schools was broken years ago but it has to be remade, if manufacturing is to sustain high-skill, high-wage activities. This is a task for all parties: government, schools and businesses. It is essential that we all work together to build a balanced economy, with UK manufacturing playing a prominent and recognised role.

Responses for the survey were gathered before the collapse in oil prices and the destabilising of Russia's Rouble. The lower oil price is two-edged: it has a positive effect on industry's costs, from transport to heating, but it also impacts on engineering and manufacturing, especially on the East Coast and in Scotland.

So far, over the winter and into 2015, the picture has remained broadly positive. Our sincere thanks to everyone who participated in the survey and to our sponsors, for their support.



By **Callum Bentley** Editor, *The Manufacturer*



EXECUTIVE SUMMARY

Welcome to the Annual Manufacturing Report 2015, which is sponsored by Truphone, the Automation Advisory Board, Barclay's Bank and Pera Training. The survey on which it is based was conducted during October and November 2014.

This year's survey has found that the UK's manufacturers continue to look forward with confidence. Investment, in machinery, automation, IT and training, is sustaining the high levels of last year and even increasing, in some areas.

While manufacturers expressed confidence in the government's handling of the economy overall, they are less enthusiastic about its policy for the manufacturing sector specifically. It is generally believed that other countries, including competitor territories like Germany, provide more state support to industry than does the UK.

Looking more widely, the global economic situation generates caution – and these results came before the oil price collapse and the increased level of sanctions on Russia. Nonetheless, the country's manufacturers are looking overseas for growth in sales and profitability and it is worth noting that UKTI (UK Trade & Investment) and UKEF (UK Export Finance) were both positively rated by those who had experience with them.

Pretty much all agencies, public and private, have improved their performance over the past three years – with the

exception of Local Enterprise Partnerships, which still have work to do in persuading manufacturers of their value.

Manufacturers have been focusing on new product development/innovation and improving customer relationship management. Customer satisfaction and quality reputation are regarded as the most important KPIs.

The leading objectives driving investment in automation are business efficiency, reduced cycle time and improved quality. Improving health and safety and the working environment are also key concerns.

Investment in ICT appears to have rebounded strongly in the past 12 months. Upgrading existing infrastructure leads the field and the key drivers for investment are improving productivity, along with innovation and product development. On the whole, recent projects seem to have worked satisfactorily and to have delivered the hoped-for improvements. Expectations appear to be better managed and delivery is pretty close to promise.

Financially, UK manufacturing is generally in pretty good shape. The sheer day-to-

day grind of managing cashflow, for so long one of the top two concerns, is now a major focus for less than a quarter of those surveyed. Reducing costs is the main preoccupation but we have recorded rising concerns about raising funds. Companies seem to be looking beyond traditional sources for required finance.

There is continuing concern over skills, education and training and the 'suitability for work' of young school and College leavers appears to be unacceptably low. University graduates are much more highly rated. The majority of respondents say that they have multiple vacancies and that attracting and retaining people of the right calibre, with the right skills, remains a headache.

We hope you find the annual Manufacturing Report 2015 to be useful, informative and interesting, and we wish you a very successful year.



Ruari McCallion Analyst, Hennik Research





ECONOMY POLICY & GROWTH

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Analysis by Rob Jones
Managing Director, Europe
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The trend of near-shoring to reduce costs and drive productivity is proving successful for many manufacturers. This is driving the need to build and maintain connected frameworks of field-based employees, clients, and partners, across the globe.

Recent Truphone research reveals more than a quarter (26%) of businesses with global ambitions are held back by insufficient communications infrastructure. Time spent struggling to contact international elements of the supply chain is an entirely avoidable drain on valuable resource.

Plans for the future

If British manufacturers are going to invest in policies that support their global ambitions, they should consider how people within successful businesses communicate.

Our research reveals that 95% of business people use email, 57% communicate via a company Intranet and 54% use instant messenger services, which highlights the need for consistent and high quality international mobile voice and data service across multiple channels.

It is telling that of the businesses that have previously tried, and failed, to go

global, only 64% use email and 34% use instant messengers to communicate. Clearly, solid connectivity makes a big difference.

Roaming Regulation

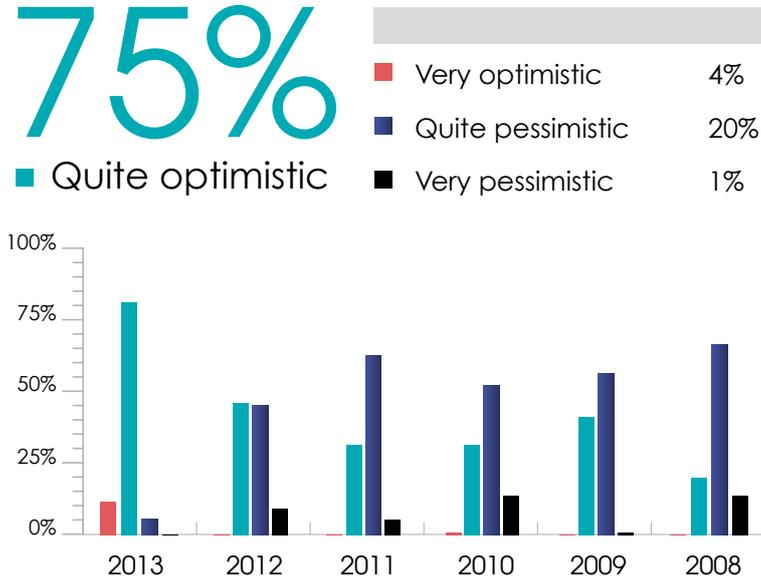
In July 2014 the EU capped data roaming costs for mobile users, but international manufacturers need to be able to communicate globally with the assurance of predictable costs and, most importantly, a reliable mobile service.

With data usage on personal and business-regulated devices soaring, businesses are waking up to the associated costs of working globally. Cisco estimates that last year mobile data usage increased 81% globally, a figure backed up by some of Truphone's customers whose data usage spiked by up to 1200% percent in some regions.

Alongside sufficient communications and technology infrastructures, achieving a transparent and well-oiled global supply chain is about having a mindset that matches practical moves. Adequately equipping and enabling staff with the right technology and fostering a corporate culture that embraces this empowerment of employees makes all the difference.

1 How confident are you about the UK economy over the next 12-36 months?

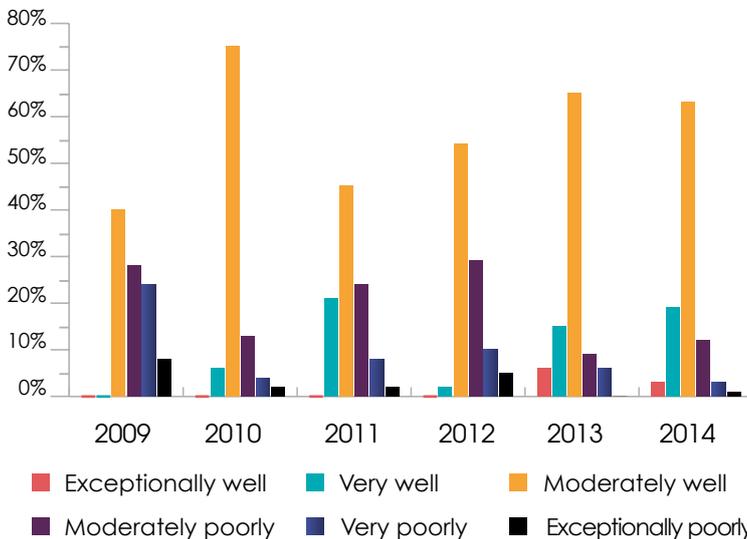
2014



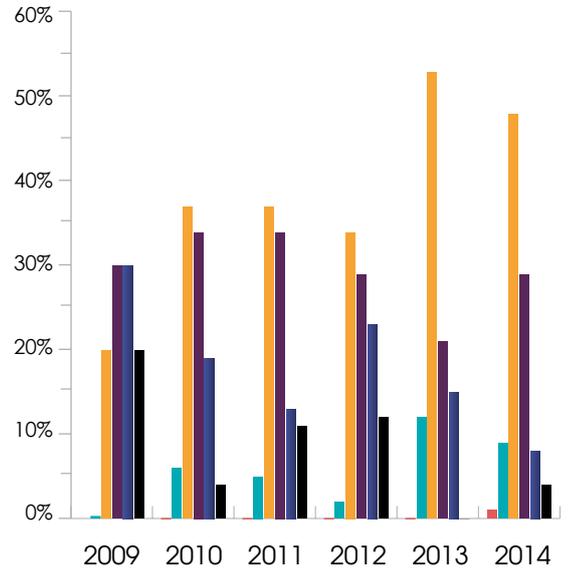
Manufacturers remain confident although the levels have slipped from last year, when we recorded the highest proportion of positive responses since we began the survey in 2008. In 2014, 79% said they were either "very" or "quite" optimistic (2013: 94%). Last year, no-one was reported themselves as "very pessimistic"; this year, some pessimism has returned but the number is still very small indeed. However, one in five reported some level of pessimism, which maybe could be taken as a warning for the years ahead.

The positive mood is supported by the fact that the UK's economy is the fastest-growing of the G7 nations and we are expected to remain so into 2015.

2 How well do you think the government is managing the economy as a whole, across the country and all business sectors?



3 How well do you think the government is managing the manufacturing sector of the UK economy?

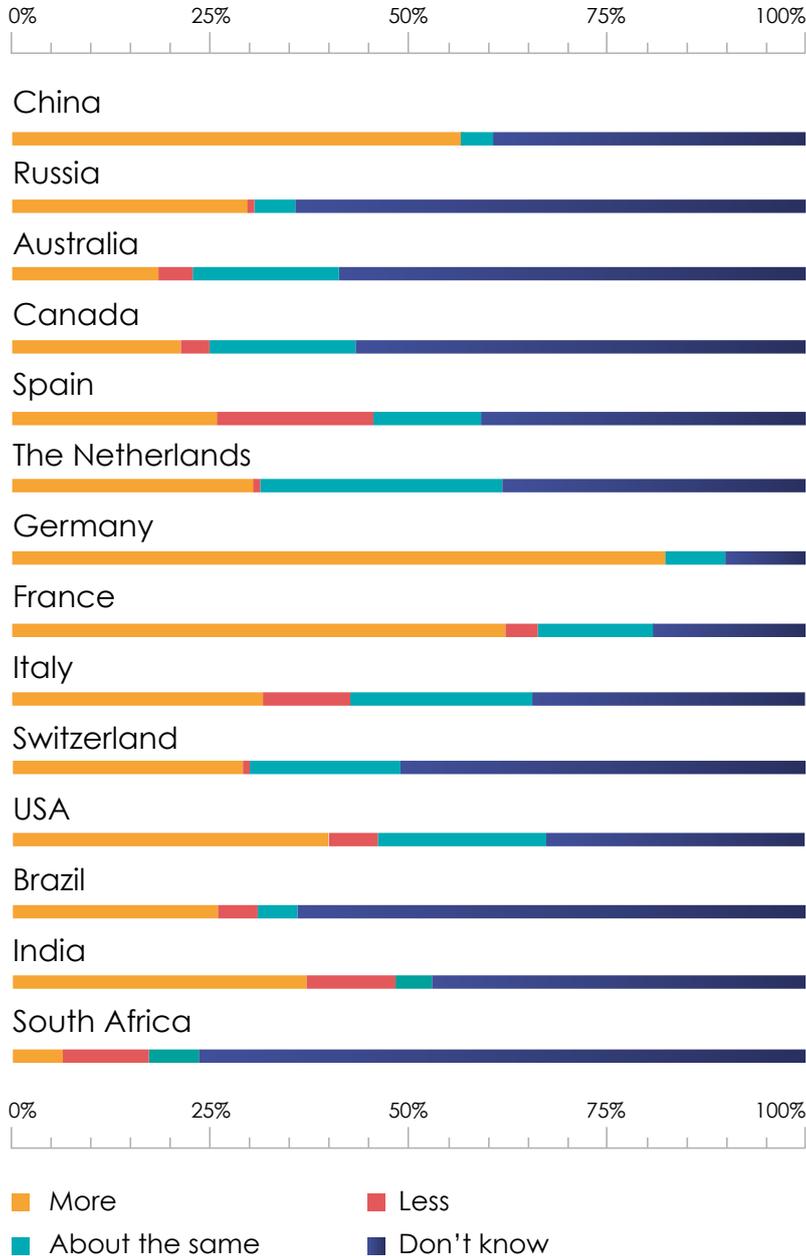


Exceptionally well Very well
 Moderately well Moderately poorly
 Very poorly Exceptionally poorly

While 85% said they thought the UK government is managing the economy moderately (63%) very (19%) or exceptionally (3%) well, across all sectors, they were slightly less positive about policy towards the manufacturing sector itself – 58% said moderately (48%) very (9%) or exceptionally (1%) well.

Overall, the approval rating for the government has been notably higher in the past two years than previously and is much higher than was the case in 2009, when only 20% thought that government policy towards manufacturing was any good at all.

4 In your experience do manufacturers in the following countries receive more or less government support than manufacturers in the UK?



Claims that other governments help their manufacturing sectors more than ours seem to be supported by the experience of our respondents. A significant proportion felt there was some truth in this and three countries were particularly highlighted: Germany, where 83% thought they got more help; France (63%) and China, with 57%.

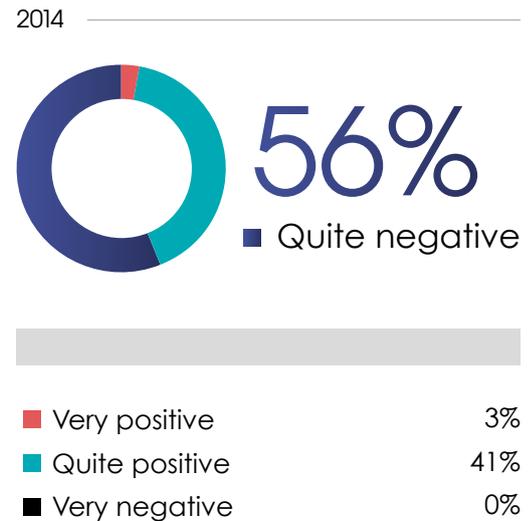
China's high showing is probably to be expected as the Chinese interpretation of "market Communism" still maintains a leading role for the State; it is a centrally-planned economy. Of the other BRICS Nations,

Russia is seen to be more helpful by 30% - but the survey was undertaken before the sudden fall in oil prices and resulting impact on the Russian economy. India is seen as more supportive by less than half (37%) while South African (7%) companies are perceived to have to stand pretty much on their own two feet.

Interestingly, 40% believe that companies in the home of free-market capitalism, the USA, get more government help than our enterprises.

The 'don't know' column may be an indicator of where the UK does most business; the higher the level of 'don't know', the less interaction could be expected.

5 What effect will the global economic situation have on the UK economy?

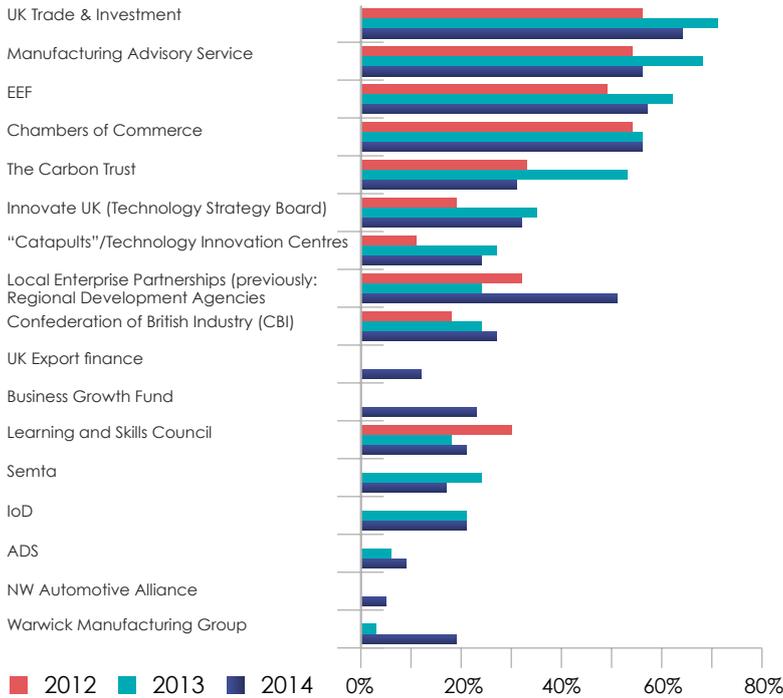


Manufacturers are clearly concerned about prospects for the global economy. The EU is our largest market and the economies in the Eurozone are still struggling to expand; the most important countries – Germany and France – missed falling back into recession by a whisker.

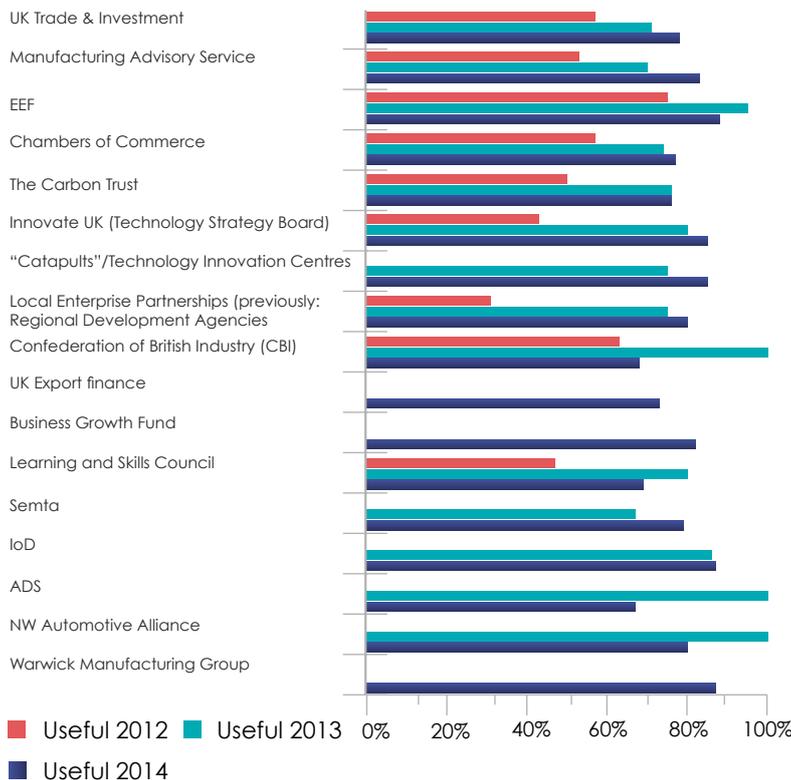
Just over half (56%) of respondents are concerned but none fell into the most pessimistic bracket.

2014 was the first time we have asked this question.

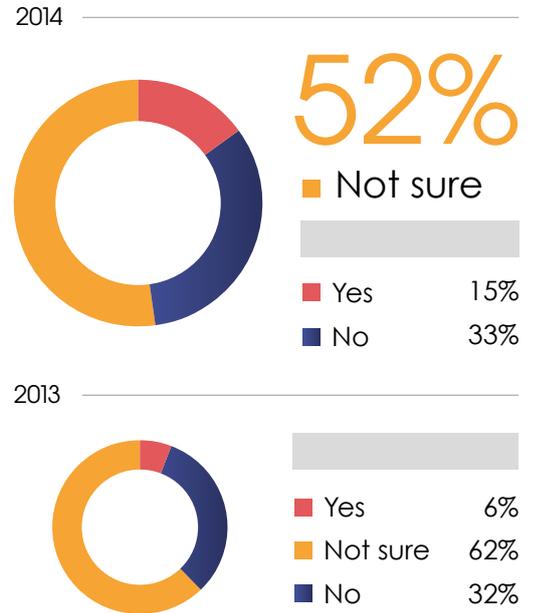
6 Has your company had contact with any of the following agencies or organisations? (Mark as many as apply).



7 Q8: How useful did you find your contact with those agencies? (please respond for all that apply)



8 Has the foundation of Local Enterprise Partnerships been effective in driving growth in UK Manufacturing?



We presented a list of agencies – government, QUANGO and private sector – and asked respondents if they had had contact with them. The "Yes" column was headed by UKTI (UK Trade & Investment), which would seem to indicate interest in boosting business overseas; nearly as many mentioned EEF, just ahead of MAS (Manufacturing Advisory Service) and Chambers of Commerce. For the first time this year, we asked about the Warwick Manufacturing Group and 19% of respondents had dealt with them.

Hearing about them is one thing but have they been useful?

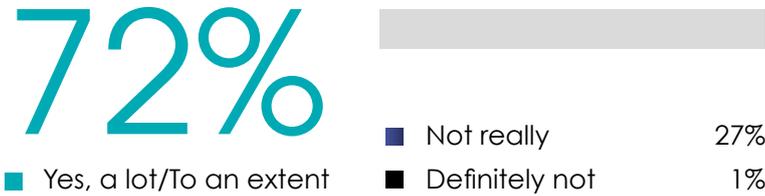
The answer, overall, is yes. The lowest positive rating was 67%, for ADS (the UK Aerospace, Defence, Security and Space industries trade association). The highest rating was for EEF; with 88% saying they found them "useful".

A lot achieved ratings of over 80% and nearly all were over 70%. UK Export Finance, which also appeared for the first time this year, got an approval rating of 73%.

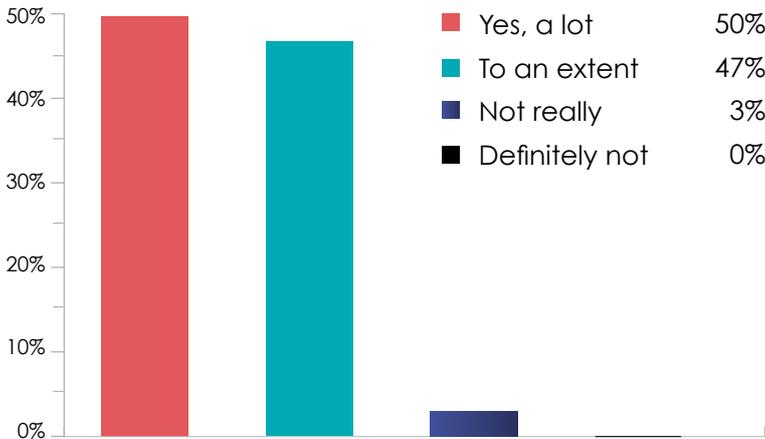
Pretty much all agencies, public and private, seem to have improved their performance and customer ratings over the past three years, although Local enterprise Partnerships have yet to persuade manufacturers that they are effective in driving growth.

10 Does bureaucracy, regulation and 'red tape' obstruct or influence your business decisions?

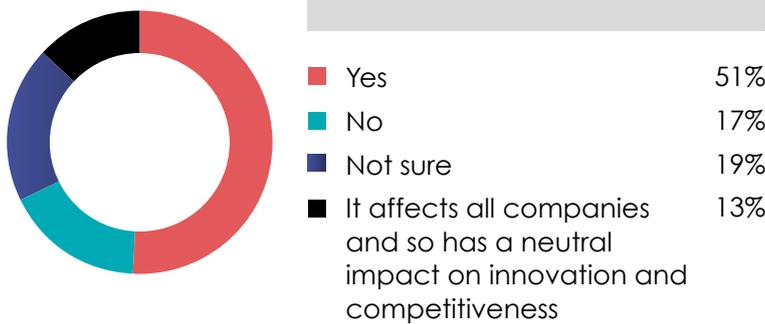
2014



2013



11 In general, do you think today's regulatory climate encourages a 'risk-averse' approach and frustrates innovation?

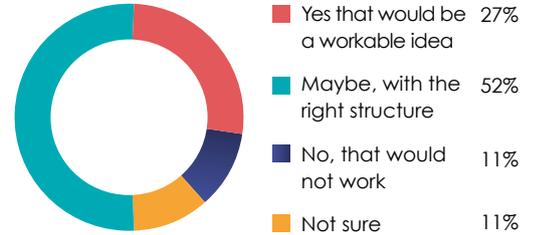


Bureaucracy and red tape remains a hindrance and the regulatory climate is felt to encourage a 'risk-averse' approach, as well as frustrating innovation.

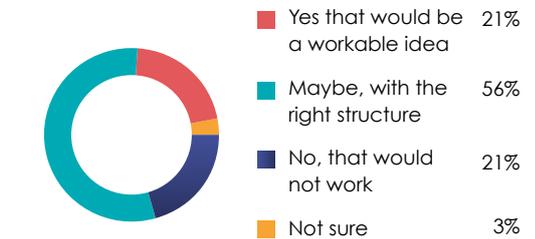
Feelings were quite clear on this matter. "Not sure" was offered as an option but it was selected by only 19% of respondents and even fewer (13%) agreed with the idea that the impact of the regulatory climate was universal and therefore neutral. An absolute majority – 51% - said that they believed the current climate is a hindrance.

12 Should trade associations have a greater role in helping achieve regulatory compliance, compared with government enforcement?

2014



2013

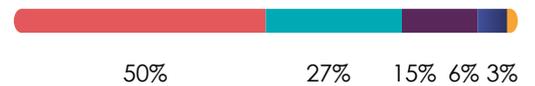


13 Would it be worth establishing an expert body, independent of government, to develop and produce radical recommendations for Parliament, aimed at making the UK a more competitive economy?

2014



2013



Yes Maybe Only if it was entirely composed of business managers
No Not sure

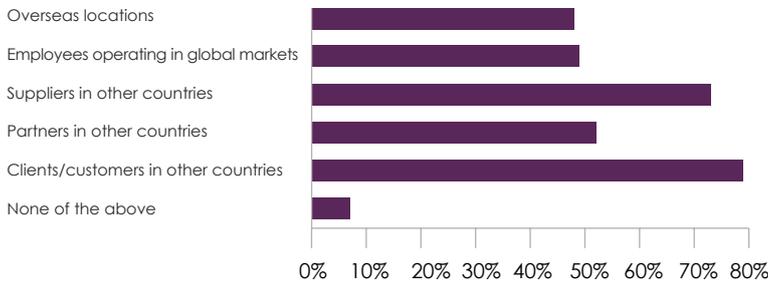
Organisations not involved with government were felt to maybe have something to contribute: trade associations in achieving compliance and an independent expert body in making radical recommendations to Parliament, in order to help make the UK more competitive.

14 Does your business currently operate 'globally' (in two or more countries)?

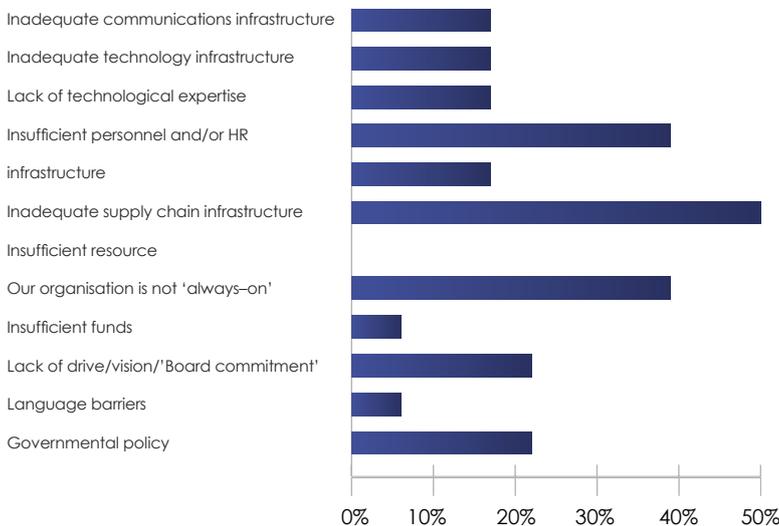


Yes - we currently operate globally	73%
No - we have tried, but failed to operate globally	3%
No - we have yet to try, but we plan to operate globally	7%
No - we have no plans to operate globally	17%

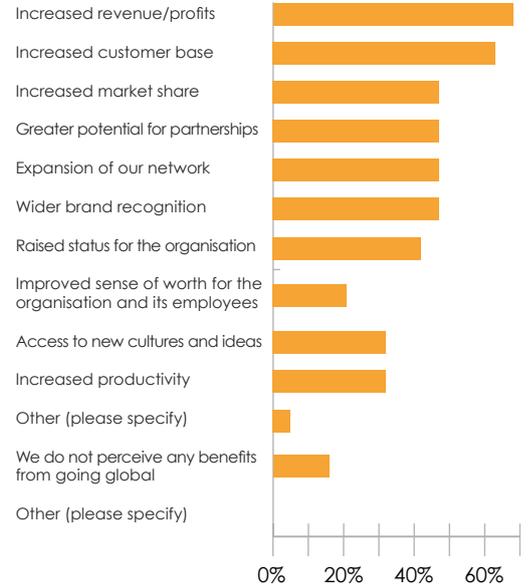
15 Does your organisation do/have any...



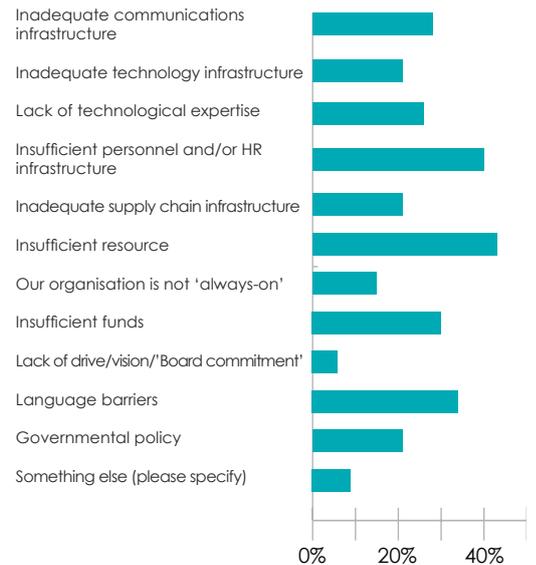
16 If your business is NOT operating globally, what are the barriers preventing it?



17 If your business is NOT currently operating internationally, what would you perceive as the potential benefits of 'going global'?

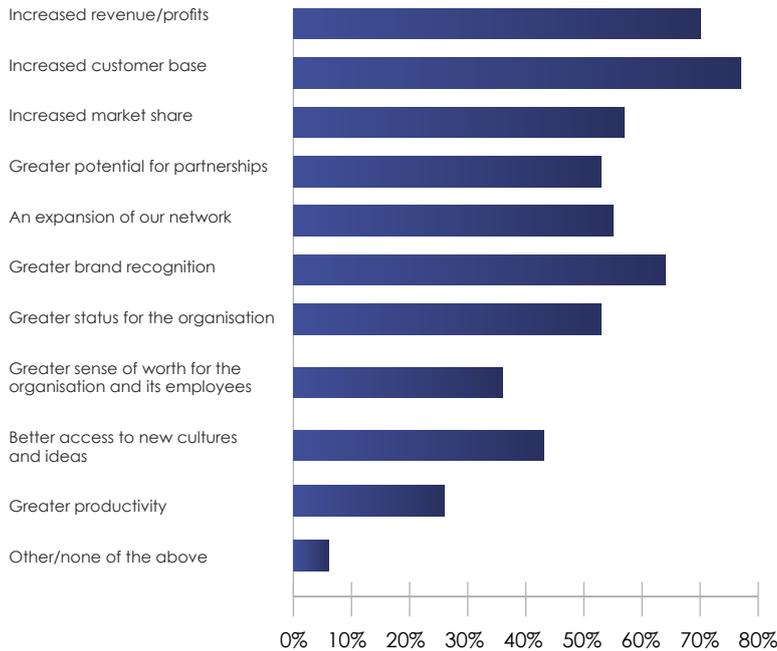


18 Which of the following barriers did your organisation have to overcome in order to operate globally?



43% Insufficient resource

19 Which of the following benefits have you experienced as a result of operating globally?

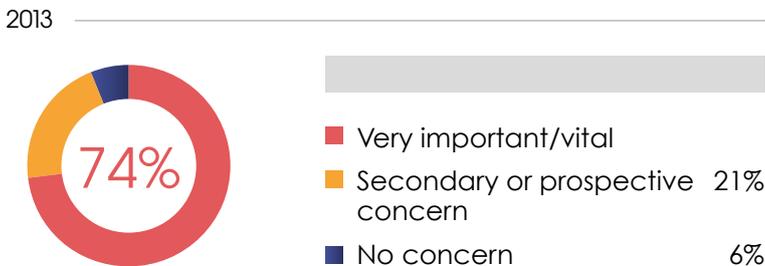
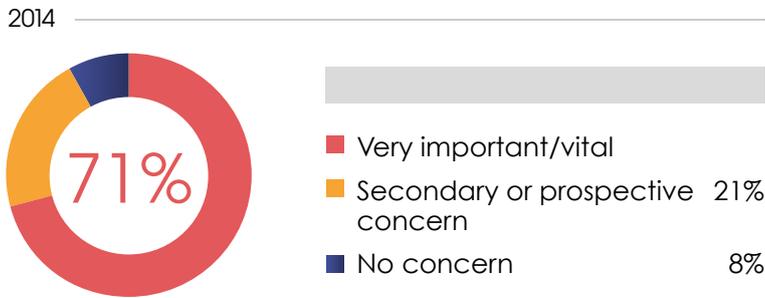


As it is the first time we have asked the seven questions on this double-page spread, the answers cannot be placed in an historical context. Had we been able to, we expect that we would have seen a rise over the past several years in the number of businesses that have decided to work internationally.

A small number of businesses have tried and failed to work internationally. The list of insurmountable hurdles is topped by insufficient resources, followed by not enough funds and insufficient personnel. This echoes the responses of those currently operating internationally, when they were asked about the barriers they had to overcome: insufficient resources (43%) and insufficient personnel/HR infrastructure (40%) topped that list as well. Others scoring strongly included language barriers (34%); insufficient funds (30%) and inadequate communications infrastructure. Finding 'language barriers' so high up the chart when companies are talking of dealing in foreign countries was a bit surprising.

There is a clear message here. The road to international trading success has to be well planned and adequately resourced, in terms of funds, resources, personnel and preparation.

20 How significant is developing international trade for your future growth strategy?



For those who are currently active overseas, the perceived and received benefits are led – quite comfortably – by Increased customer base (77%), and Increased revenues/profits (70%). More customers and more money – who could possibly resist those incentives? Third place went to an interesting choice: Greater brand recognition, mentioned by 64%. Companies that have not yet gone global but are thinking about it also highlighted the potential of increased revenue and profits (68%) and more customers (63%).

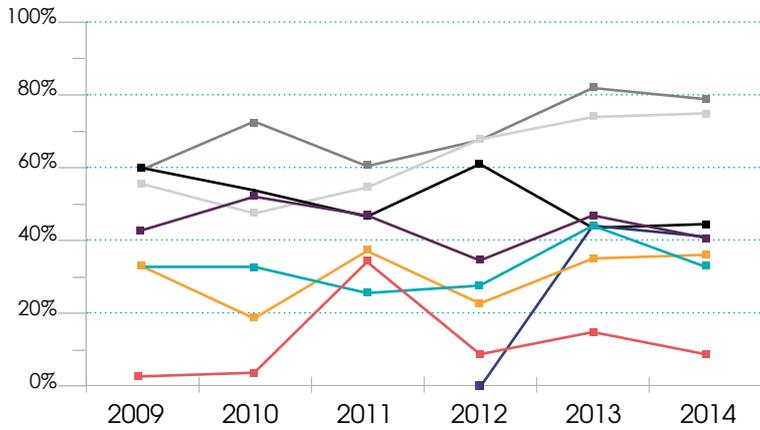
Very nearly three-quarters (73%) of all our respondents now operate internationally, defined as "two or more countries". This tends to emphasise the view of the UK as a global trading nation and illustrates why so many of the companies surveyed have had contact with UKTI and UKEF. Only a small minority – 17% - have no plans at all to leap into the world of exporting.

21 In terms of its environmental/low carbon/pollution reduction policies, how advanced is your company in adopting initiatives in the following areas?

■ 2011 ■ 2012 ■ 2013 ■ 2014

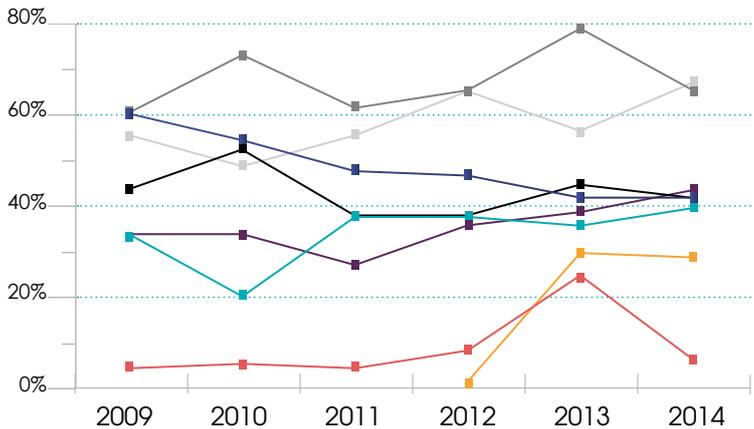


22 Which (if any) of the following initiatives have been a key business focus for your company during the last 12 months? Please answer all that apply.



- Micro and/or nano-technologies
- E-business and web-based opportunities
- Improving workplace health and safety
- Supply chain integration and partner collaboration
- Application of lean management principles
- Change management activities in key business areas
- Improved customer relationship management and exploitation of sales opportunities
- New product development and innovation

23 Which (if any) of the following initiatives are a planned priority within the next 12 months? Choose as many as apply.



- Micro and/or nano-technologies
- Exploitation of E-business and web-based opportunities
- Improving workplace health and safety
- Supply chain integration and partner collaboration
- Application of lean management principles
- Change management activities in key business areas
- Improved customer relationship management and exploitation of sales opportunities
- New product development and innovation

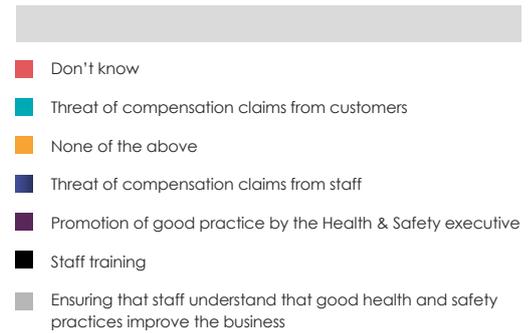
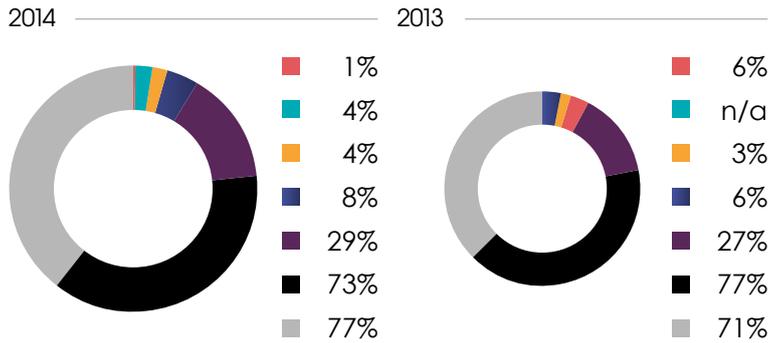
We have some clear winners here: New Product Development/Innovation and Improved Customer Relationship Management/exploitation of sales opportunities were rated as key business focuses over the past year by fully three-quarters of those surveyed. When it comes to planning for next year, they slip back but not by much, to around two-thirds – still the dominant issues. The next-highest, Change Management (etc) for this year and Supply Chain Integration/Partner Collaboration for 2015, were mentioned by a little under half (45% and 43% respectively).

We have been asking about the Application of Lean Management Principles for only two years and its identification as a key initiative is pretty steady, at around 40%. We can't believe that companies would be happy with being bloated so maybe the majority think they have already done all they can with Lean? Surely not! It would be better if it is now so ingrained into company culture that it's part of everyday life.

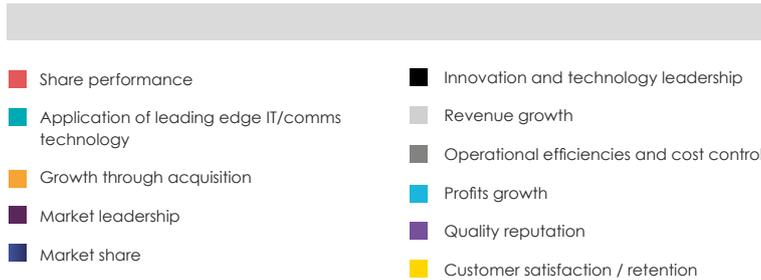
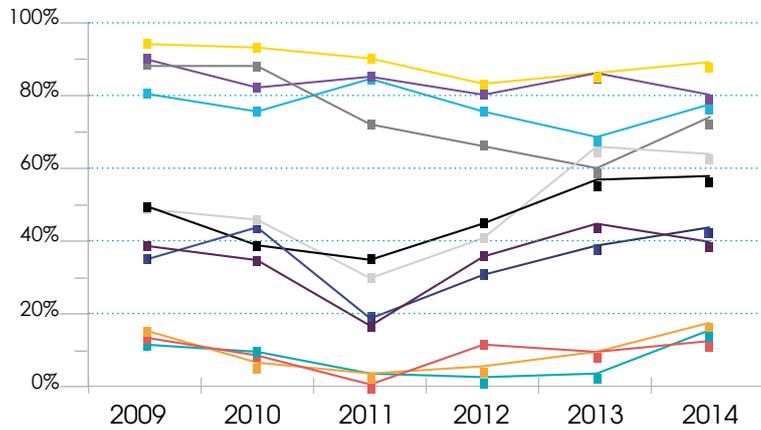
The overwhelming majority of respondents have done, are doing and intend to continue doing something about waste reduction (80%), improving energy efficiency (69%) and optimising work processes and practices including reducing travelling, introducing home working and other improvements to non-core activities (57%). Areas that have yet to make much impact: 'greening the supply chain'; adoption of emerging green technologies; carbon trading; and renewable fuels and power sources.

This is in line with previous years although green technologies are, if anything, appear to be becoming viewed as less pressing. The planning level is around 20% and implementation has fallen from 24-5% in 2011-12.

24 Which, if any, of the items on the list do you think is most likely to help improve health and safety in the workplace?



25 Which of the following do you regard as key performance indicators and business drivers for your company?



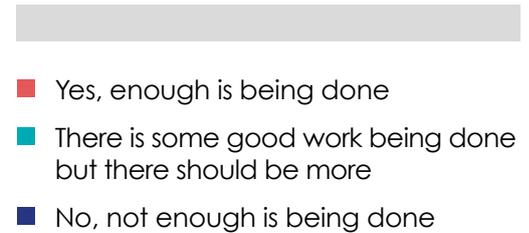
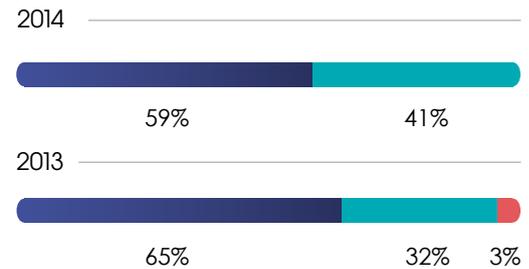
Respondents were asked what they regarded as KPIs and key business drivers. They were able to select as many from the list as they felt applied and it is interesting that issues of customer satisfaction and quality came out top, with Profits growth only third; however, all of these scored well into the upper 70s/80s, so one cannot say that any of them is regarded as unimportant.

Trends over the past five years are interesting. Customer satisfaction is the consistent top choice, with Quality reputation second. Profits growth is now the established Bronze medalist but it was, in 2009 and 2010, headed by Operational efficiencies/cost control. Revenue growth is a priority but not overwhelming – in fact, in one year (2011) it didn't gain the support of even one-third of respondents. That was the low-water mark – for it and for market leadership/market share as well. It looks like the secondary priorities were quite different, three years ago.

The leading contributor to improved health and safety in the workplace is Understanding that good H&S practices improve the workplace, closely followed by training. In some bad news for 'ambulance-chasers', the issue that hits the tabloid headlines – threat of compensation claims from staff – was mentioned by less than 10%.

We asked those who said 'none of the above' what they would recommend. Responses included 'leadership by example by senior managers'; 'promoting an open, no-blame culture', and the importance of well-designed processes.

26 Do you think enough is being done to make manufacturing an attractive career choice?



Finally in this section, we asked if enough is being done to make manufacturing an attractive career. The answer is clear: No. Only a tiny minority – three per cent – pronounced themselves happy with the current situation.

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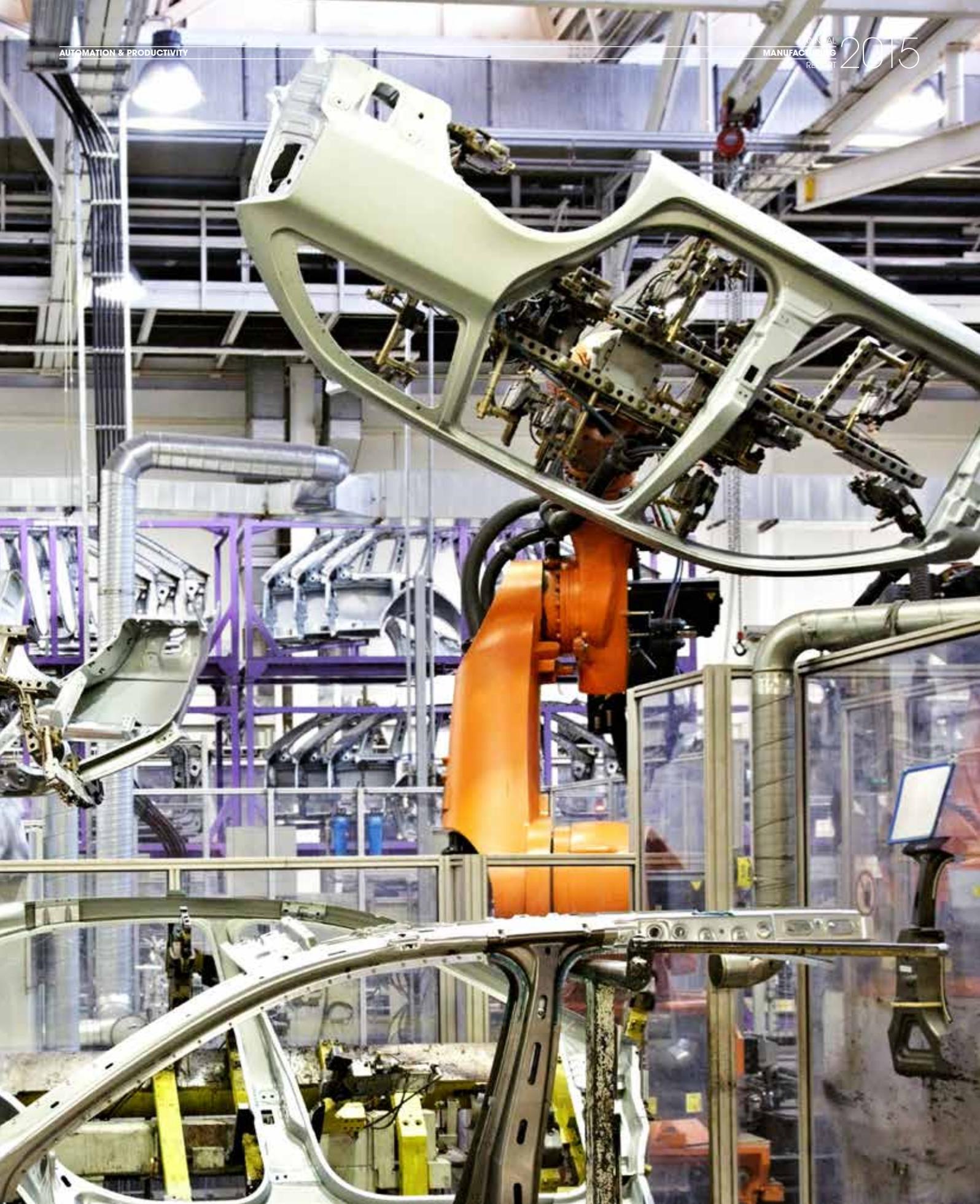
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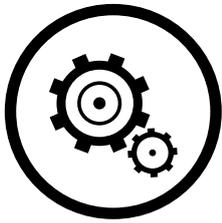
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Analysis by Steve Brambley

Deputy Director
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AAB's and Gambica's involvement with the Annual Manufacturing Report reflects the importance we place on our relationship with our customers, both actual and prospective. This report provides a valuable insight into manufacturing companies' needs and priorities, both current and looking into the immediate future.

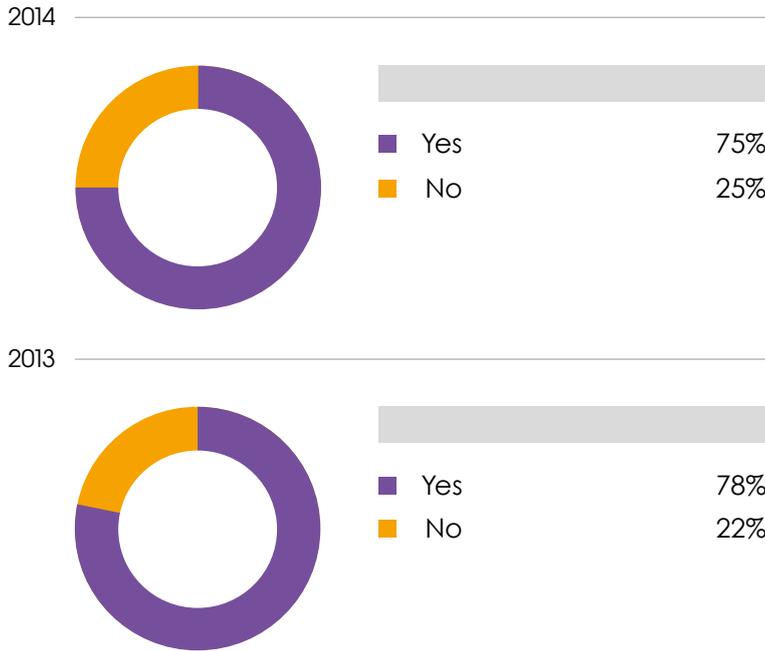
Automation is key to improving productivity in a high-wage economy. It is heartening to see that such a high proportion of UK manufacturers are investing to improve their efficiency, cut cycle time and to boost quality – as well as seeking to improve working conditions, health and safety for their employees.

It is also encouraging to see that levels of satisfaction with automation projects are at high levels. Expectations and anticipated periods for return of investment (ROI) appear to be much better managed and more closely aligned. That customers are looking first and foremost for service in vendors comes as no surprise.

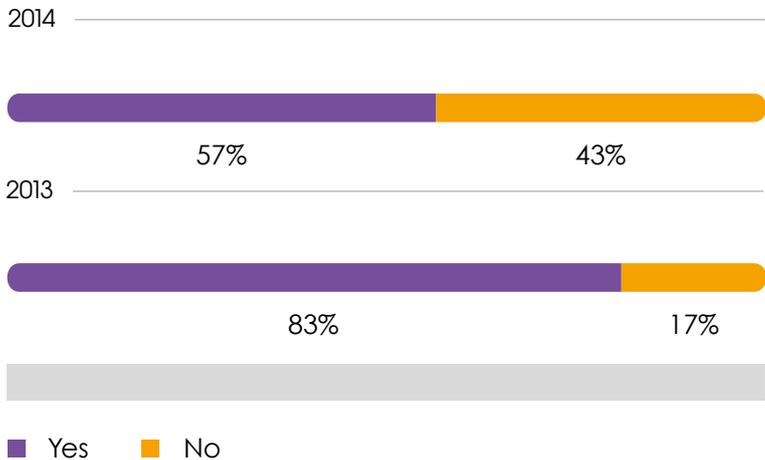
Most companies seem to be confident that they have the capacity to manage automation projects in-house but for those that do not, there are plenty of systems integrators and consultants available to choose from.

There has been a strong rebound in investment since the low of 2008. Such a slowdown has two sides to it and the immediately noticeable effect, loss of efficiency, is serious. On the other hand, it offers businesses a chance to make a 'great leap forward' and to take advantage of the advances there have been in technology and expertise over the past six years. Encouraged by greatly increased Annual Investment Allowance, no doubt, UK manufacturing companies are investing in automation at record levels and with strong indications that they are intending to continue.

1 Has your company implemented any form of automation in its production process in the last 5 years?



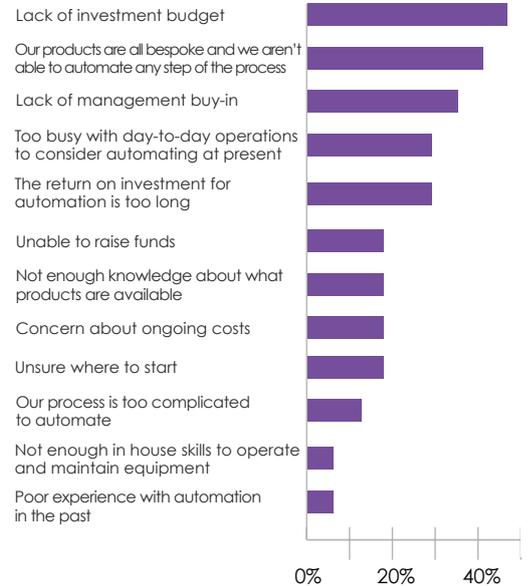
2 Do you think automation could help your business?



There is no getting away from the fact that the UK is a high-wage economy. One of the ways to compete with emerging countries and their low-wage workforces is to raise productivity per worker – and that means automation. There is a limit to what individuals can achieve on their own; with mechanical help – machinery and systems – they can do much more. It is therefore no surprise to find that that the overwhelming majority of companies (75%) have implemented some kind of automation in their production processes in the past 5 years. What could be more surprising is that 25% say they have not.

There is appetite for more: 57% said automation could help their businesses. Although that was down from 83% last year.

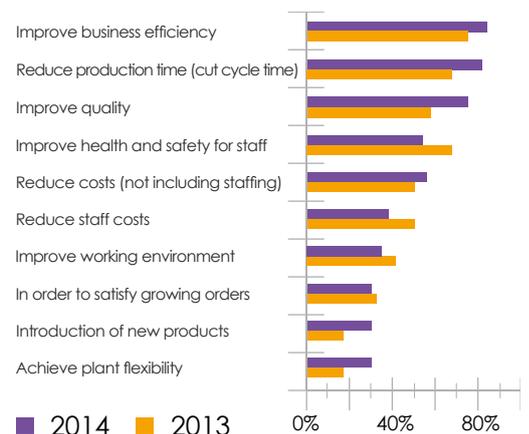
3 (If you think automation could help your business) What has stopped you from making an investment over the last 24 months?



We asked those who said they believed automation could help their businesses what prevented them making an investment over the past 24 months. The number one reason was: lack of investment budget; 41% believe their products are too bespoke to be automated and 35% cited lack of management buy-in.

Just under 1/3rd said they were "too busy with day to day operations to consider automating"; the same proportion believes that ROI takes too long.

4 What are your main objectives for using automation?

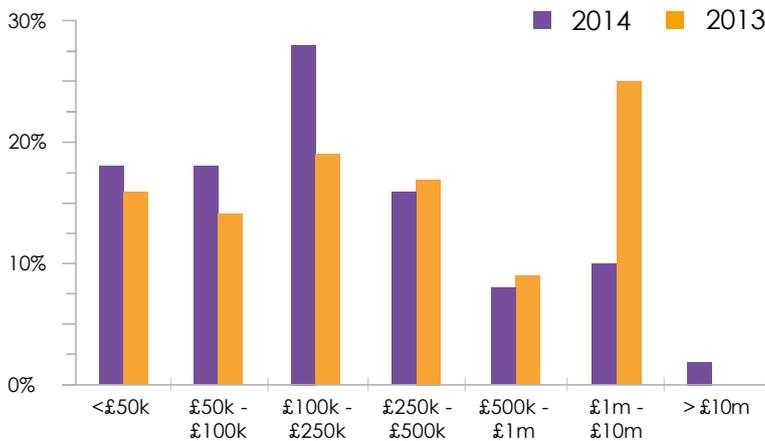


The leading responses were: to improve business efficiency (84%); cut cycle time (82%); and to improve quality (76%). So fully three-quarters of all our respondents saw automation as helping them to improve what they were doing and how they serve their customers. This confirms the answers to Q23 in the previous section, which identified "customer satisfaction" and "quality" as lead KPIs, with "operational efficiencies and cost control" rounding out the top four responses, a little behind "profits growth".

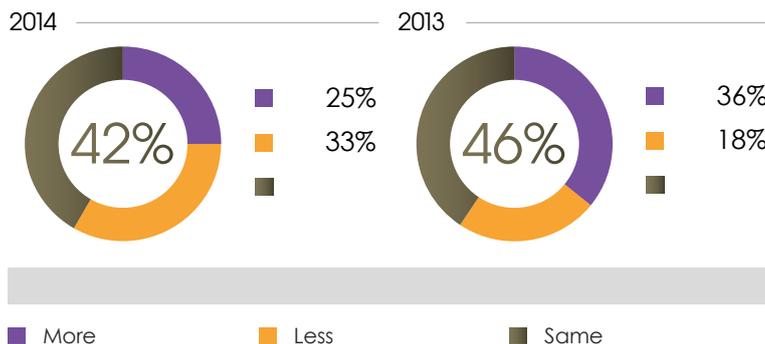
If anyone still thinks that cutting staff costs is the leading aim of automation, those first few answers should provide a clear rebuttal – but, just in case there are still any lingering doubts, it should be pointed out that 54% of respondents mentioned "improving workforce health and safety" and 36% talked of "improving the work environment". Talented people won't stay with employers whose attitude to their health and safety is lackadaisical so it makes sense for companies to look after their staff. Employers have enough problems retaining skilled personnel without risking their lives and limbs.

Actually, a little over half – 56% - of respondents did say that reducing costs was an aim of automation, but they specifically excluded staff costs from that choice. And while 38% said that reducing staff costs was an aim, it is not straightforward; we will have a look at that from a different perspective in the Skills section.

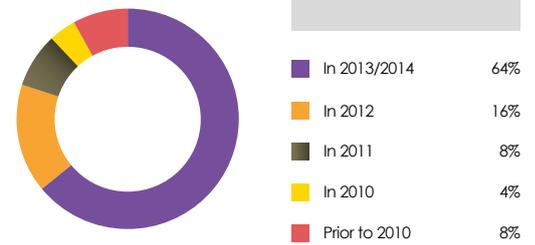
5 On average, what is your annual spend on automation equipment for your production process?



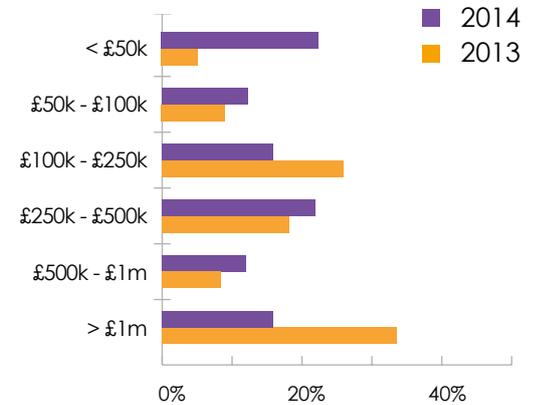
6 Are you planning on spending more, less or the same next year as you did this year?



7 When did you last implement a major automation project at your company? (I.e. a large project relative to the scale of your business)



8 Roughly how much did you spend on that project?

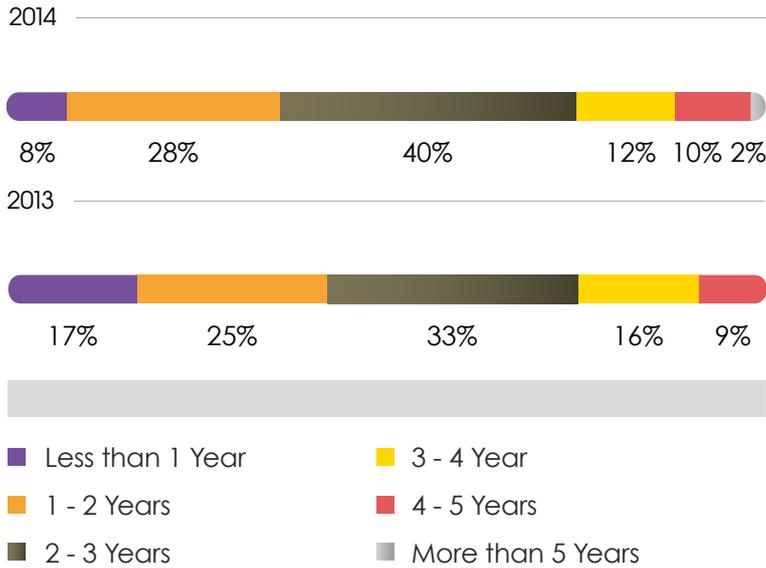


Judging by the answers from our respondents, there has been a major turnaround in investment over the past year or so. Until last year, the numbers that said they had implemented a major automation project in the previous 24 months was in single figures. In 2013 that went up to 16% but our latest survey found a huge jump – very nearly two-thirds of those surveyed said that they had done so in the last two years. Given that so few had responded positively previously, it looks like 2014 was a year of significant activity. It seems that things are likely to continue, as a total of 82% said they are intending to spend the same or more in the coming year.

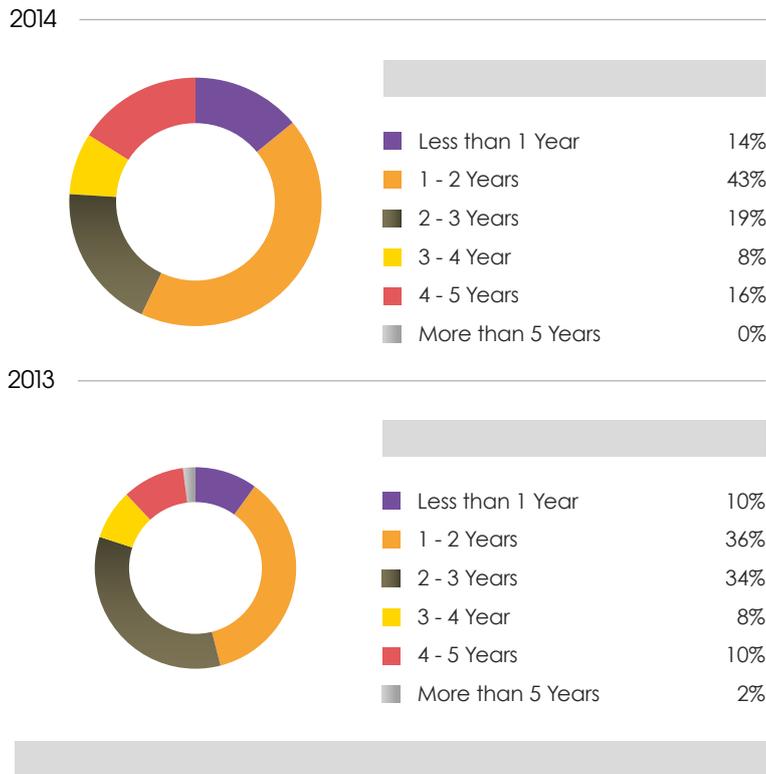
A "major project" was defined as "a large project relative to the scale of your business" so it can vary very significantly. One company may view £100,000 as major while the same amount could be everyday revenue outlay for another. Regular annual expenditure varies from less than £50,000 (18%) to over £1 million (12%).

In straightforward cash terms, capital investment of over £100,000 was incurred by 66% of respondents and 16% said they committed over £1 million.

9 What payback did you forecast/budget?



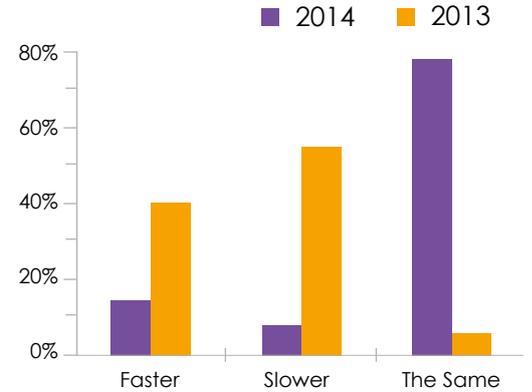
10 What payback period (ROI) did you achieve?



43%

of companies achieved a pay back period of 1 - 2 Years

11 Was payback faster, slower or about the same as expected? Why do you think that was?

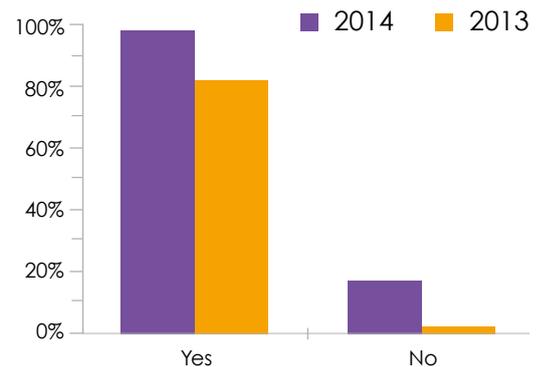


Companies expect return on their investment (ROI) within a reasonable time: 76% expect payback in less than 3 years; 40% will settle for 2-3 year returns. In the event, 80% got ROI in less than 3 years; 46% got it in less than two.

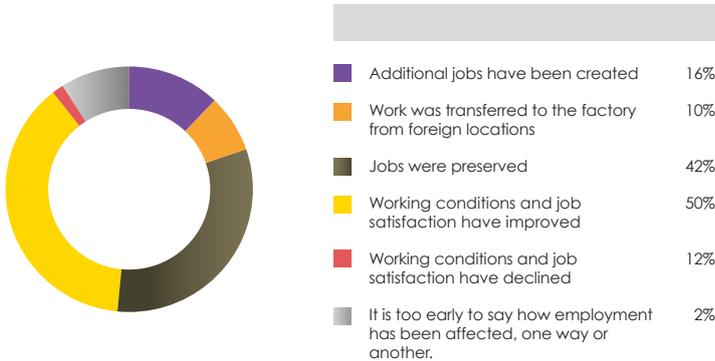
It would appear that expectations are being managed more effectively than might have been the case in the past. Anecdotal indications of dissatisfaction prompted us to start asking last year: was payback faster, slower or about what was expected? In 2013, 55% said it was slower; that figure was way down this year, to just eight per cent. On the other side of the coin, 40% last year said it was faster than anticipated, against only 14% in 2014. It's worth bearing in mind that arriving ahead of schedule can be disruptive, just as delays can be frustrating. This year's 78% 'as expected' can be viewed as a very positive development.

From additional comments, it seems that the most successful projects were those that were planned most clearly and project-managed most tightly.

12 Did the project meet its defined objectives?



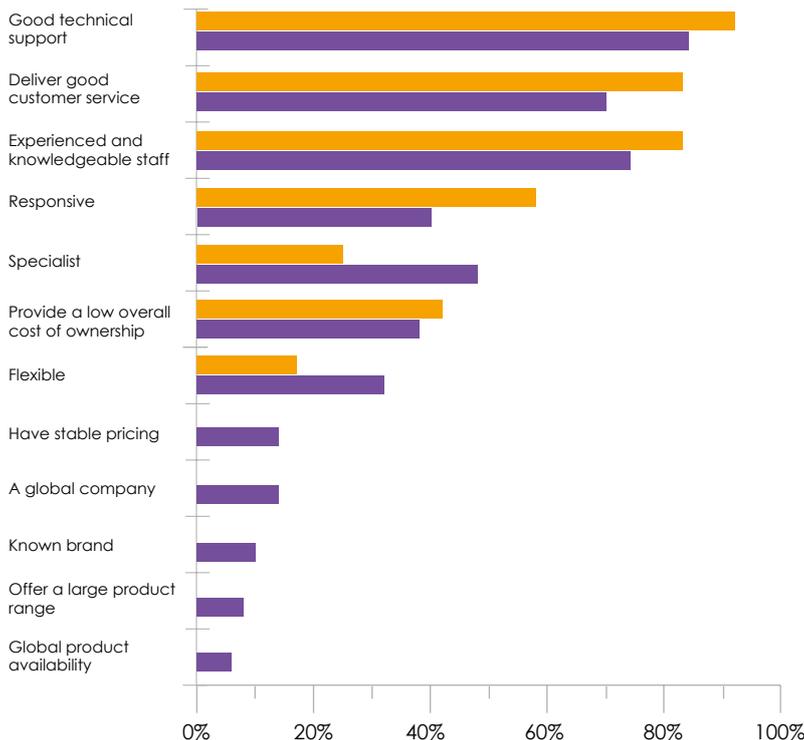
13 What effect did the automation project have on employment and activity in your company?



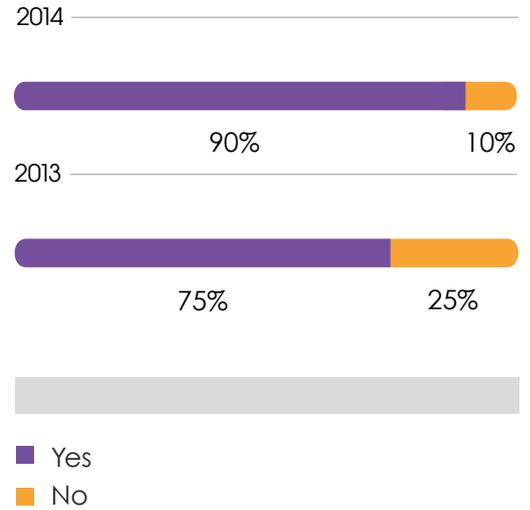
Nearly all – 98% - were claimed to have met their objectives. So it appears that we have more money being spent on more projects, with more of them hitting their targets.

The effect on employment and productivity was broadly positive. Exactly half of those surveyed reported improved working conditions and job satisfaction and approaching half (42%) said that jobs had been saved. Some (16%) said that additional jobs had been created and a few (10%) responded that work had been 'reshored' – transferred from foreign locations to the UK. A very small number (2%) said that things had not worked out, that working conditions and job satisfaction had actually declined, and a few (12%) indicated that it was too early to say.

14 What were your expectations of your automation supplier? (Select as many as apply)



15 Did your supplier meet your expectations. If not, why not?



Ninety per cent of suppliers met expectations...

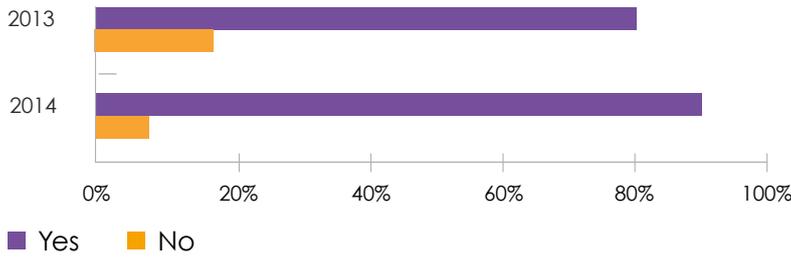
...which means that 10% did not. That was better than last year's 25% failure rate. Among the reasons for dissatisfaction were being too slow and expensive; issues with meeting agreed standards; and missing timescales. Clearly, not everyone is yet able to manage expectations effectively.

■ 2014 ■ 2013

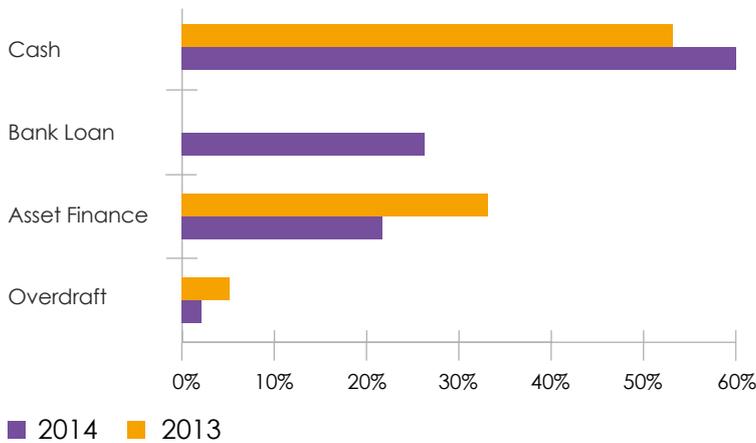
When we asked what manufacturers expected of their automation suppliers, the answer was, resoundingly and above all: service. Good technical support was cited by 84% and good customer service by 70%. Experienced and knowledgeable staff also came very high on the list (74%).

It seems that it is even possible to get away with less stable pricing (only 14% asked for it) and a product range that isn't large (even fewer – just 8%) if the supplier focuses on providing good customer service.

16 Do you think your bank or financial institution would support you to make an investment in automation?



17 What lending option/s would you prefer to use to fund an investment in automation?



Automation helps productivity, so it helps competitiveness – which means that it is really rather important. Do the banks recognise that? Do our respondents expect the banks to support them in making an investment in automation?

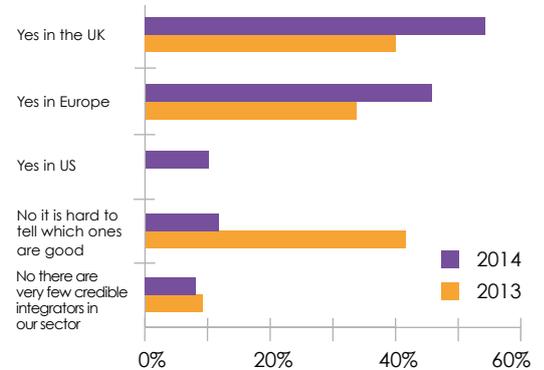
The majority – 82% - said yes, which would look like a pretty solid vote of confidence, were it not for the fact that it is a little down on last year's 92%.

The Manufacturer has been running a series of supplements on finance this year and various banks and agencies, from sponsors RBS to the Business Growth Fund and even specialist legal firms have been talking about innovative approaches to business financing that are now available. There still seems to be a communication deficit with some businesses, however.

Of all sources of finance available, cash (effectively, own resources) tops the list, with 60% choosing it from the range of options. A conventional bank loan is in second place but it's a long way behind, at 26%. Asset finance is third; traditional overdrafts now have very few friends.

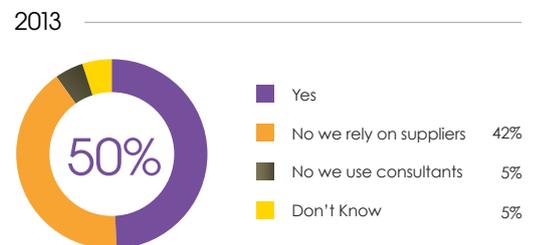
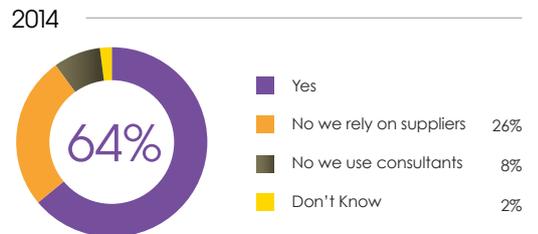
Why should the results stack up like this? Although we do not have definitive answers a number of reasons have been suggested. The wounds from the 2008 credit crunch and banking collapse may no longer be raw but they are still sensitive. Overdrafts are repayable on demand and some have been, for example. It has been a difficult few years but if the country is to maintain and advance in competitiveness, it must invest in the means to improve its performance. We will be looking more closely at financing in a later section.

18 Do you find it easy to identify good suppliers for automation systems? Select all that apply.



When it comes to knowing where to turn for the right equipment, there is room for improvement. Just over half (54%) of respondents said they were confident when it came to UK suppliers; just under half (46%) were OK when it came to European vendors; but even when it came to markets like the USA, which would be thought to be familiar territory, only 10% were confident that they would be able to pick a winner. And 20% were not confident at all.

19 Do you have the appropriate skills to run automation systems projects properly?



Implementing automation is a challenge.

Generally, our respondents were reasonably confident they have the skills necessary to run a project properly – and the positive outcomes cited above, on budgets, schedules and ROI seem to support those positive views. The responses split pretty much two-thirds/one-third; the minority intends to rely on suppliers or consultants.



automation
advisory
board

The Manufacturer magazine in conjunction with the leading automation equipment suppliers has established The Automation Advisory Board to educate owner-managers and factory directors about what automation equipment can do and the benefits it can bring to UK manufacturers.

Automation needs to rise to the board level in companies of all sizes, but especially larger SMEs where the capital equipment could make a profound difference to winning contracts. Companies in non-auto sectors, who are unfamiliar with the range, capability and simplicity of automation kit, need and deserve to know what automation options are available.

This year it is a business risk not to be informed about the benefits this technology can bring.

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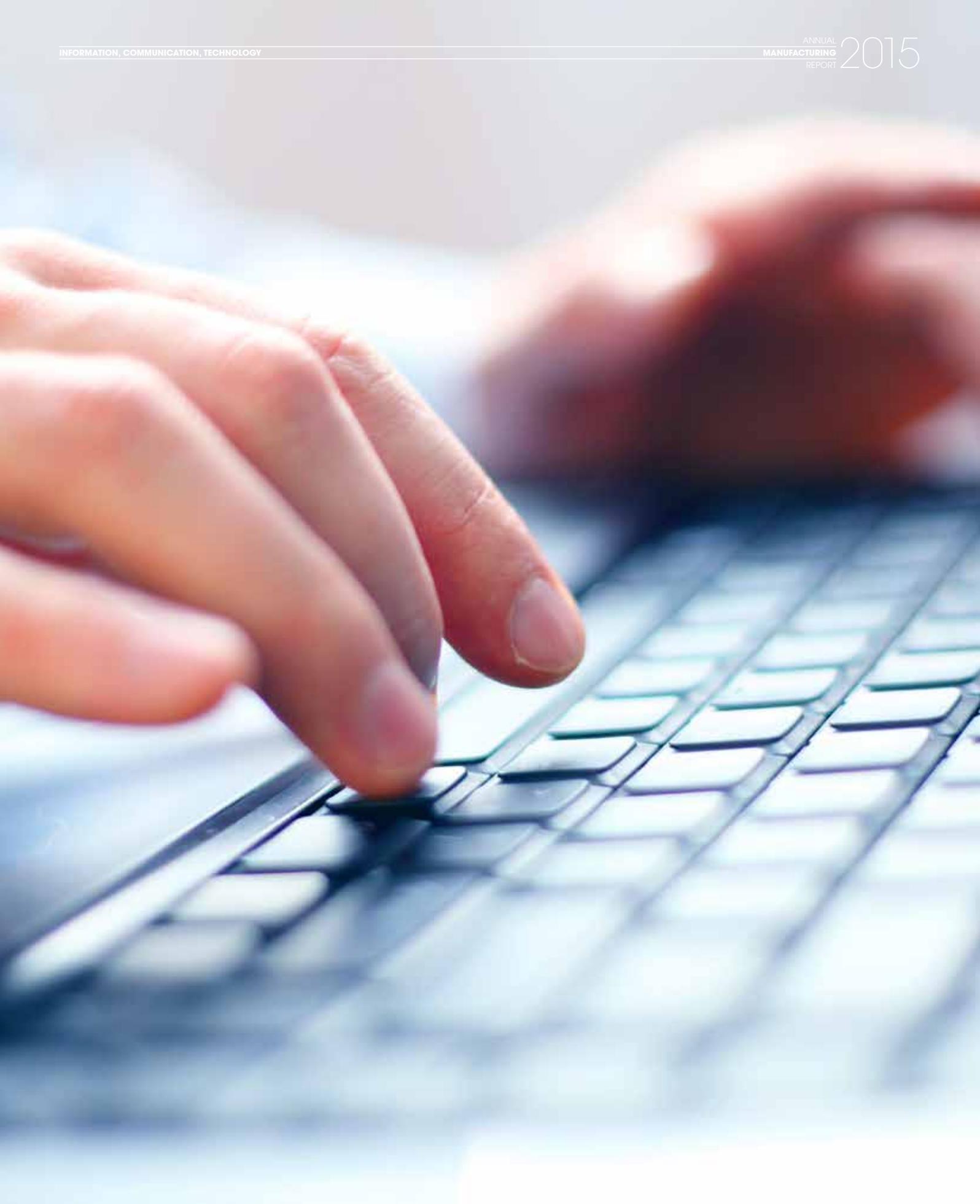
OMRON

PP Electrical Systems
Control & Automation Solutions

SIEMENS

**Rockwell
Automation**

STÄUBLI





INFORMATION & **COMMUNICATIONS** TECHNOLOGY

This year's Annual Manufacturing Report paints a better picture of investment in information and communications technology (ICT) than has been the case for a number of years.

It is clear that companies are focusing on upgrading and renewing their ICT infrastructure, which makes sense after a pause that has gone on for so many years. Analytics and reporting, CRM and SCM are all among the current range of priorities and the main driver is the need for product improvement.

It is interesting to note that 'product improvement' wasn't even mentioned as a motivation just two years ago. It is a competitive world and those who do not move forward will be left behind. Competitiveness and efficiency, customer satisfaction and profitability are key to business success and ICT underpins their delivery.

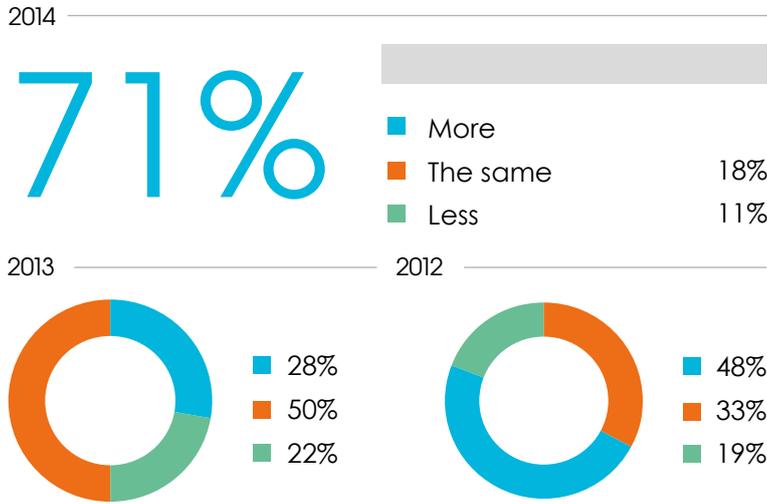
As we have seen with investment in automation, expectations of major projects are being much better managed than has been the case in the past – and, as a result, customer satisfaction is rising as well.

ICT is now more of a company-wide strategy, even for global organisations. Any ideas of piecemeal development should be well behind us and consigned to the dustbin of history.

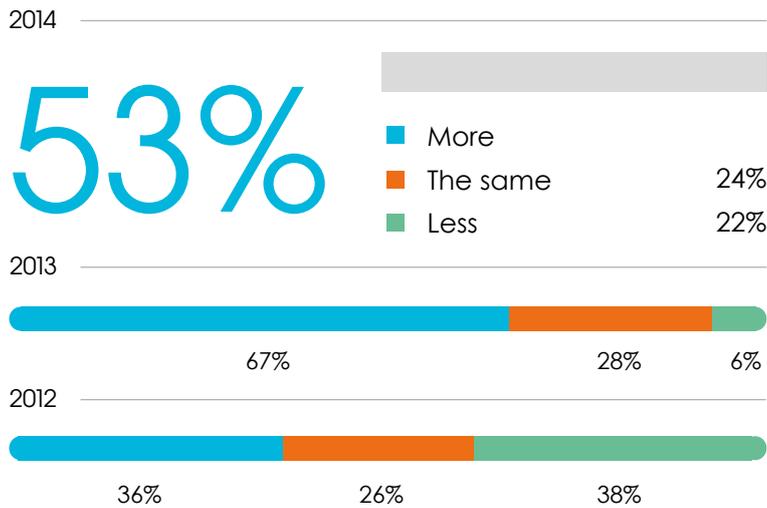
If there were any real surprises, it was in the area of software. Open-Source is still a closed book to the majority. In an age of Cloud computing, which seems to be leaving even Web exchanges behind, Open Source would seem to be more necessary than ever; investing in understanding it would be well worth the effort.

NB - some percentages in the graphs following do not add up to exactly 100. This is the result of rounding.

1 Is your total ICT expenditure (including hardware, service, software, infrastructure, training, etc) in the previous financial year 2013/2014 less, more or the same as the previous year?



2 Is your proposed expenditure for next financial year 2015/2016 less, more or the same as this year's?



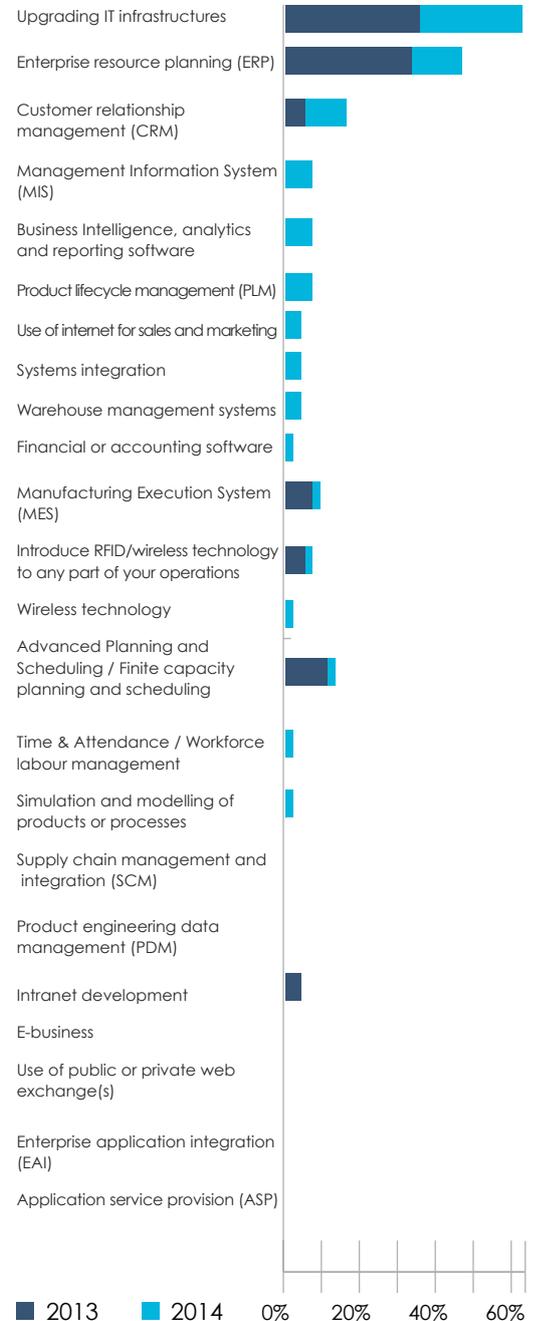
When we asked about expenditure trends in ICT, 71% of respondents said they are spending more than last year, 11% said less and 18% said about the same.

In 2012 the 'we are spending more' camp attracted just 48% support and then it actually dipped in 2013, to 28%. So this year's results look like a strong rebound. Expectation is that it will continue into next year although maybe not as strongly: 53% expect to spend more, 24% about the same and 22% less.

How reliable are these figures?

We looked back at last year's expectations and they are pretty much in line. 67% expected to spend more this year – 71% did. In 2012 36% expected to see a rise the following year but only 28% actually did, so just under a quarter of the optimists were disappointed. Overall, the forecasts were pretty good – much better than the average horoscope, at least!

3 Which of the following IT and technology-based initiatives is currently the highest priority within the company? (I.e. there is a current project or that one is planned to start in the next 12 months.)



27% Upgrading IT infrastructures is the highest priority

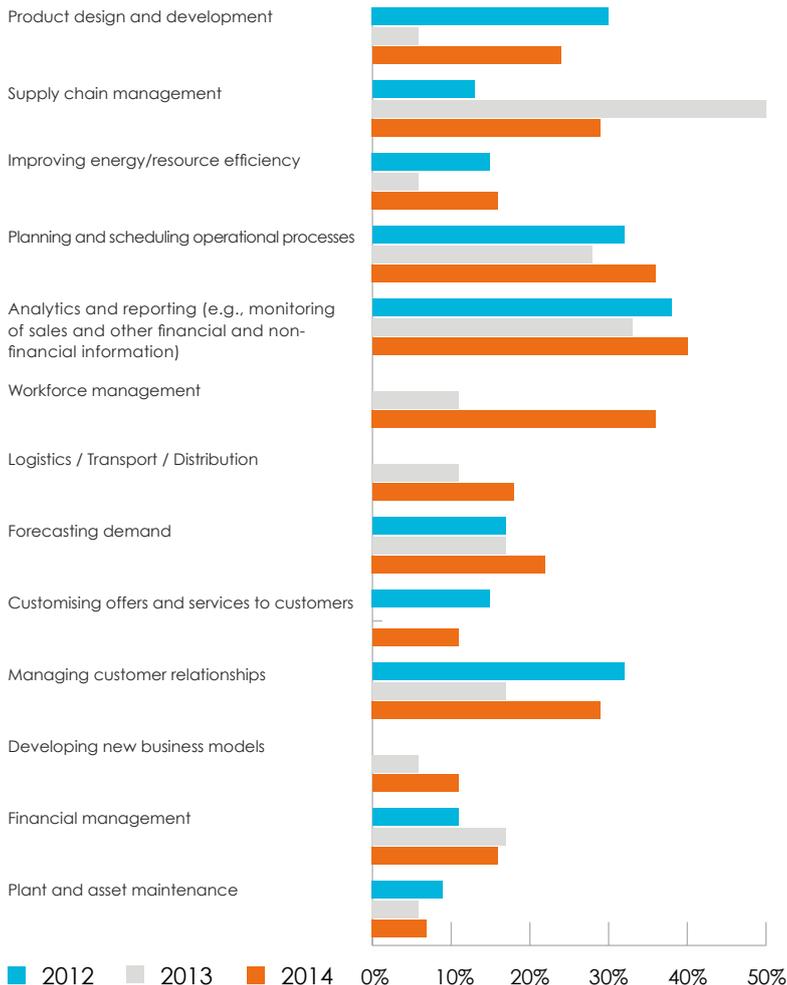
The highest current priority for ICT investment is upgrading existing infrastructure; 27% mentioned it, which is more than twice the second highest – ERP systems (13%). In fact, it was more than second and third place – CRM (11%) combined. If this was an election, it would be a landslide.

Management information, business intelligence, analytics and reporting, and PLM (product lifecycle management) systems are also above the horizon but are mentioned by fewer than 10% of respondents.

Some systems that used to have high profiles actually seem to have no friends this year, including SCM (supply chain management) and PDM (product data management), Intranet and e-business. Perhaps existing arrangements are working so perfectly that they need no amendment... Public/private web exchanges, enterprise application integration and application service provision all attracted zero points.

Some applications and functions – such as web exchanges – might have migrated to The Cloud. We will endeavour to measure the impact of Cloud computing on manufacturing enterprise applications in the future.

4 Over the past 12 months, have you made any new IT investments to improve your company's performance in any of the following business processes? (Mark as many as apply).



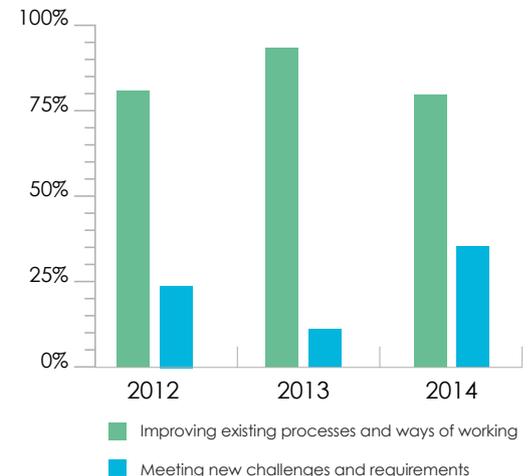
The list of investments intended to improve processes was led by “analytics and reporting” – the monitoring of sales and other information, both financial and non-financial. It was mentioned by nearly half (40%) and was followed by workforce management and planning and scheduling operational processes – MRP, in short – with 36% each.

The reason why CRM and SCM systems are lower down the list of priorities reported above seems to appear here; they are already being dealt with. A total of 29% of respondents reported that each of those is the subject of a current project. Demand forecasting and design and development projects are currently being undertaken by more than one in five businesses.

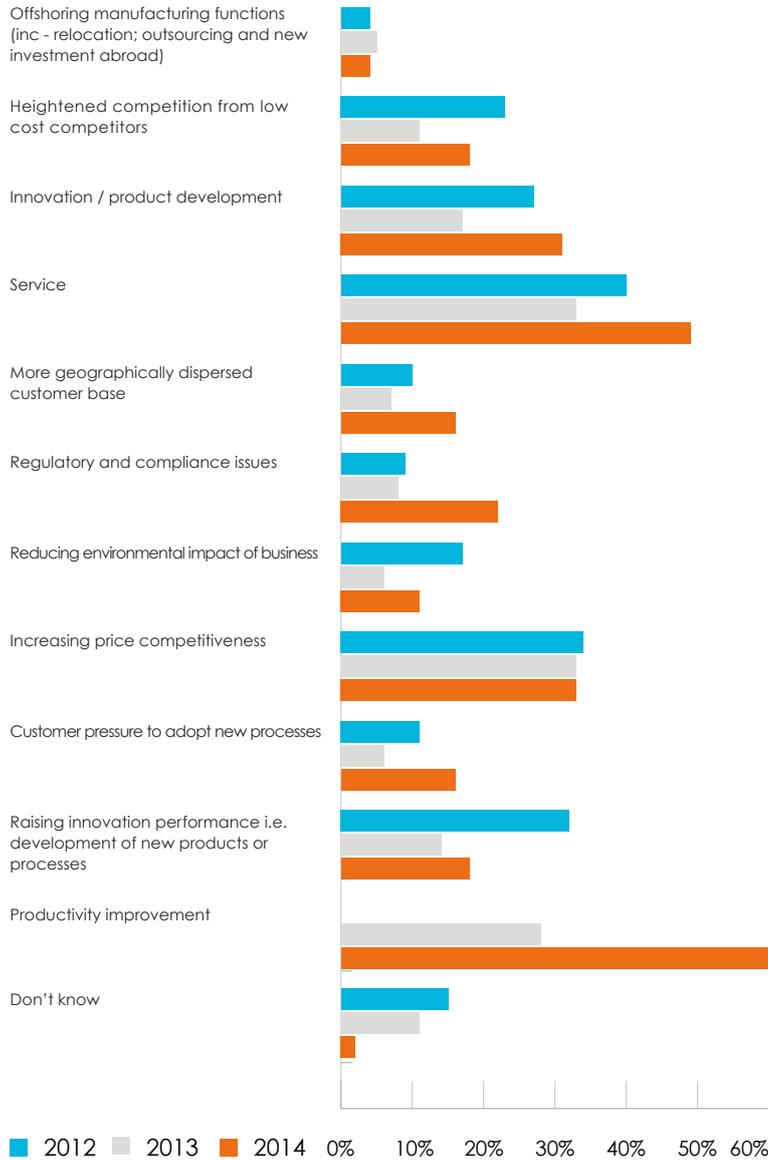
But it seems that maintenance remains the Cinderella service. Only 7% of those surveyed have a current plant and asset maintenance project under way. It might be interesting to ask about unscheduled maintenance and repair activity in future.

ICT investment has been very much about upgrading existing systems for three years, now. Just over one-third of existing projects are about meeting new challenges and requirements, with the balance committed to improvement. This is actually a bit of a shift towards new challenges and needs; the bias towards improvement of existing systems was somewhat higher last year, with 89%. The split was less marked in the previous year but “improvement” still had a three-to-one lead (77% to 23%).

5 Are your new ICT initiatives focused primarily on improving existing processes and ways of working or are they targeted at meeting new challenges and requirements faced by the company?

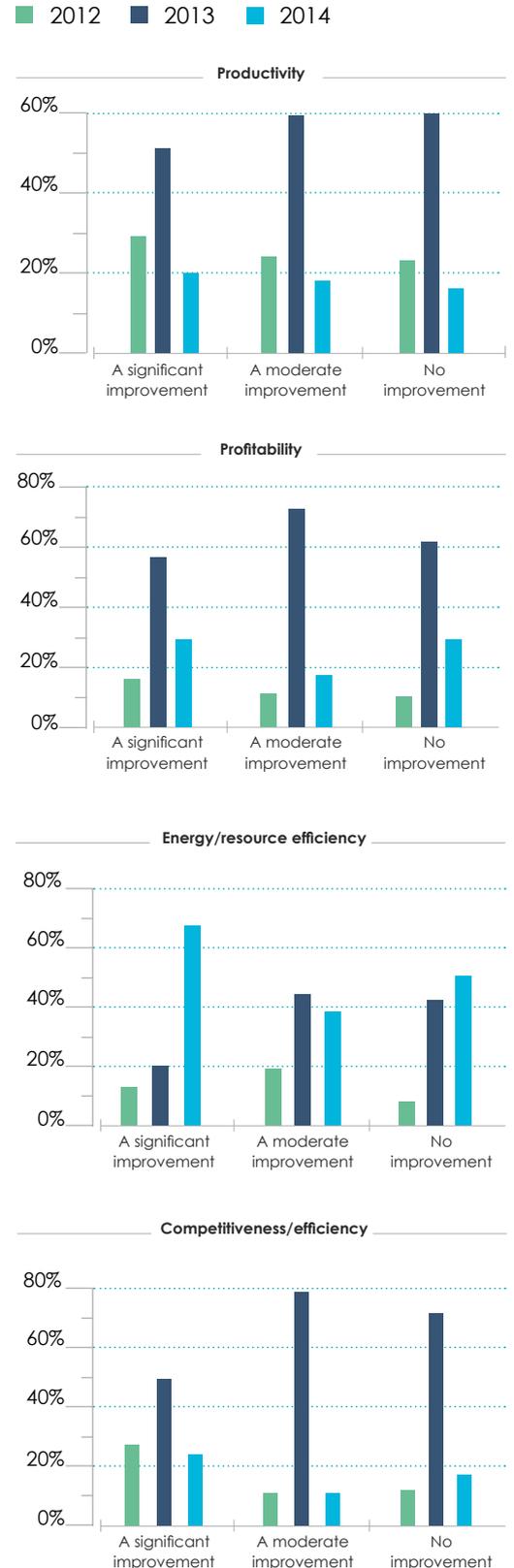


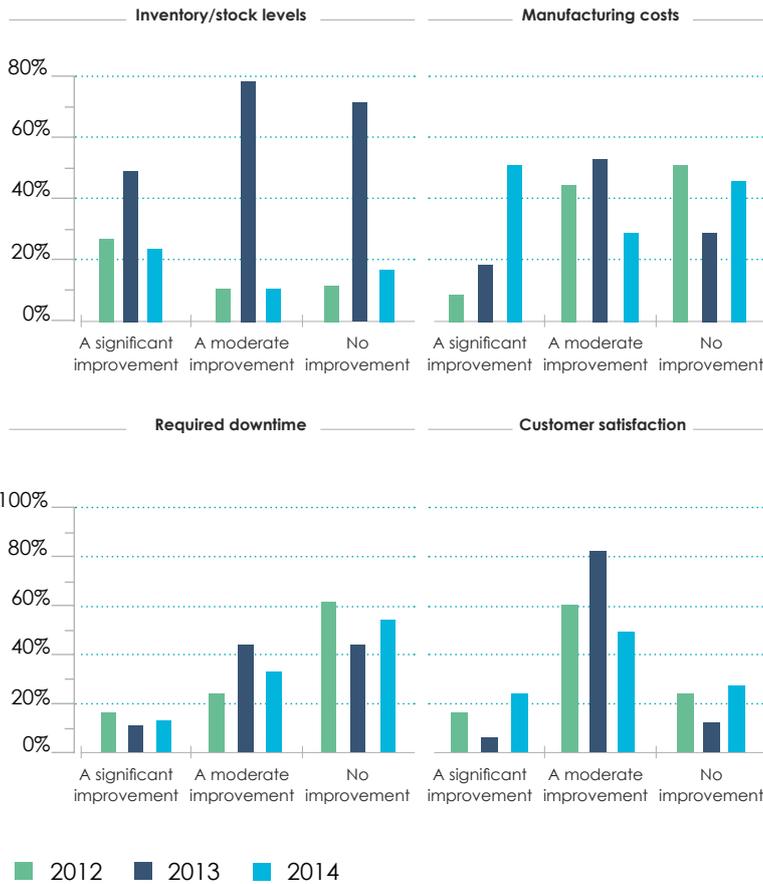
6 What challenges have led to the introduction of new ICT initiatives? (Mark as many as apply).



The list of challenges that are prompting businesses to invest in Brave New Solutions is led by the need for productivity improvement (60%), followed by innovation/product development (49%), with improving price competitiveness currently back in third, on 33%. This is pretty much in line with the previous two years, with one very clear and notable exception: productivity improvement. It was not even mentioned in 2012, generated a 28% response level in 2013 and is now cited as a driver of new ICT initiatives by 60% of respondents. The need to boost productivity does seem to have been taken firmly to heart.

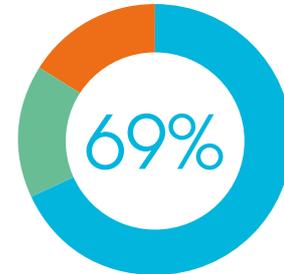
7 To what extent did the introduction of ICT lead to an improvement?





8 Which of the following phrases best describes the nature of your IT deployment at your company?

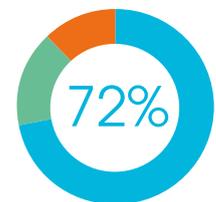
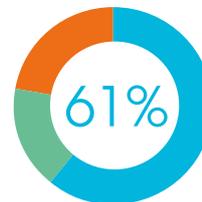
2014



- Company-wide strategy
- Departmental strategy 16%
- Tactical rather than strategic 16%

2013

2012



- | | | | |
|---------------------------------------|-----|---------------------------------------|-----|
| ■ | 61% | ■ | 72% |
| ■ | 17% | ■ | 16% |
| ■ | 22% | ■ | 12% |

The question that has to be asked of any ICT investment is: did it work? Broadly, the answer seems to be: mostly.

It is good news for productivity, which 83% of respondents said had improved either moderately or a lot. That number has stayed very much the same for the past three years.

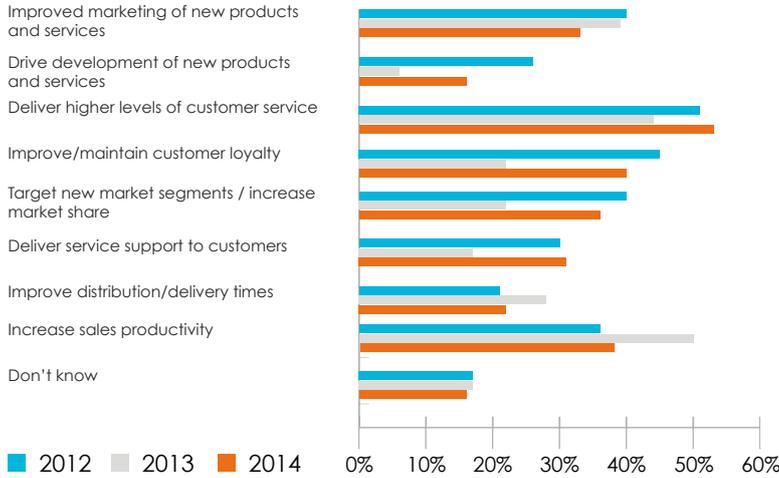
Competitiveness/efficiency also got an 83% positive vote. That is a bit down from last year's 89% and 2012's 86% but pretty consistent nonetheless. Customer satisfaction also got 83% and profitability was reported to have improved by 71%.

The biggest laggard was 'required downtime', which 54% of respondents said had shown no improvement. Is it a coincidence that actual and planned investment in plant and asset maintenance systems was mentioned by fewer than one in 10 of our respondents?

While most projects have delivered positive results energy/resource efficiency; inventory/stock levels; and manufacturing costs are all a bit too close to the 50/50 mark for comfort. If around half of the customers of these systems are reporting no improvement at all, then vendors may have cause to be concerned.

The days of piecemeal ICT deployment seem to be receding. For the third year running, its nature was described as a "company-wide strategy" by around 70% of respondents; the actual number this year was 69%. A low 16% described it as tactical rather than strategic, and the same number said it was departmental.

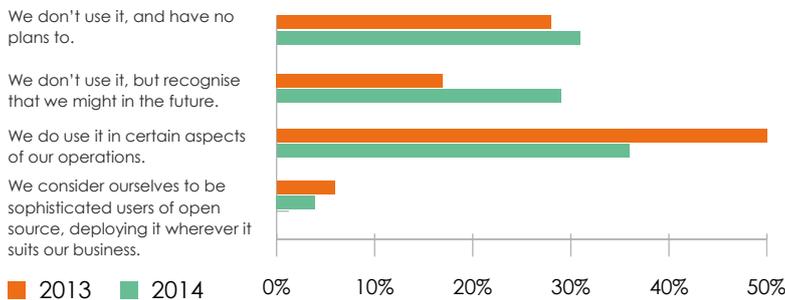
9 Thinking of your company's customer relations management will you (or have you) implement(ed) new software solutions to achieve any of the following? (Mark as many as apply).



While CRM is not currently the top ICT priority for those surveyed, it remains important. As befits its name, it is seen by more than half of all respondents as a means to deliver higher levels of customer service. Improving and maintaining customer loyalty; increasing sales productivity; targeting new market segments/increasing market share; and improving the marketing of new products and services are all around the same range of importance.

These results are interesting because respondents were allowed to choose as many as they wished – they could tick all that applied. So, it appears that there is no overall consensus: CRM means different things to different people. A range of objectives are perceived to be of pretty much equal importance, and none is overwhelming.

11 Thinking about your IT infrastructure as a whole, to what extent do you use open source software? (E.g. Linux, MySQL, Apache, LibreOffice etc).



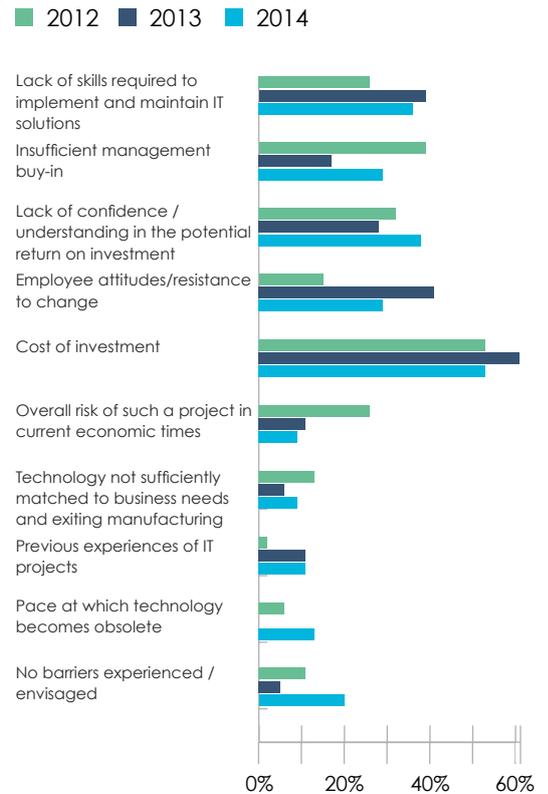
It is perhaps surprising that fewer than half (40%) of respondents this year said that they use open source software. Only a tiny proportion – 4% - considered themselves to be reasonably expert and prepared to deploy it wherever suitable and appropriate.

Those numbers are actually down on last year's 56% and 6% respectively. The reasons for this lack of involvement are not clear although we did have the observation from some respondents that they are users of software, rather than 'techies'. Proponents of

open source software talk of advantages in flexibility and that they can call on resources of intelligence from a wide range of people.

That message doesn't seem to have got across quite yet, although 29% acknowledged that they might use it in future, and that is a higher percentage than in the previous Report.

10 What do you believe are the current major barriers to investment and implementation of IT within your organisation? (Mark as many as apply).



Finally, we asked what people believed to be the barriers to investment/implementation of IT.

More than half – 53% - said cost. Resources for investment remain a challenge, clearly.

More than one-third (38%) said lack of confidence and a similar proportion (36%) said lack of skills. These two factors might be related.

Lack of management buy-in was mentioned by 29% and exactly the same number said employee attitudes and resistance to change.

So the people who have iPads, smartphones, X-Boxes and sat-navs, the same people who grew up with computer games and mobile phones, may still be resistant to IT...







FINANCE & INVESTMENT

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Analysis by Mike Rigby
Head of Manufacturing,
Transport and Logistics,
Barclays

2014 was a positive year for the manufacturing sector, and this year's Annual Manufacturing Report confirms that manufacturers are confident to invest in the future of their businesses.

It is encouraging to read that respondents are raising capital for new innovation and technology, whilst continuing to further their export presence across the globe. Moreover, cash flow concerns are at an all-time low, indicating that the sector is enjoying a sustained recovery.

It is slightly less reassuring, however, to note that 30% of respondents monitor only some, or none, of their Return on Investment. With most manufacturers clearly ready to invest in future opportunities, it is important that they also monitor their expenditure closely.

The level of satisfaction with banks' commercial funding operations seems to be quite high but this is no time for us to rest on our laurels. Alternative sources, including venture capital and even crowd funding, are stretching their wings. Competition for business

may make the financial landscape both interesting and advantageous for manufacturing companies over the next few years.

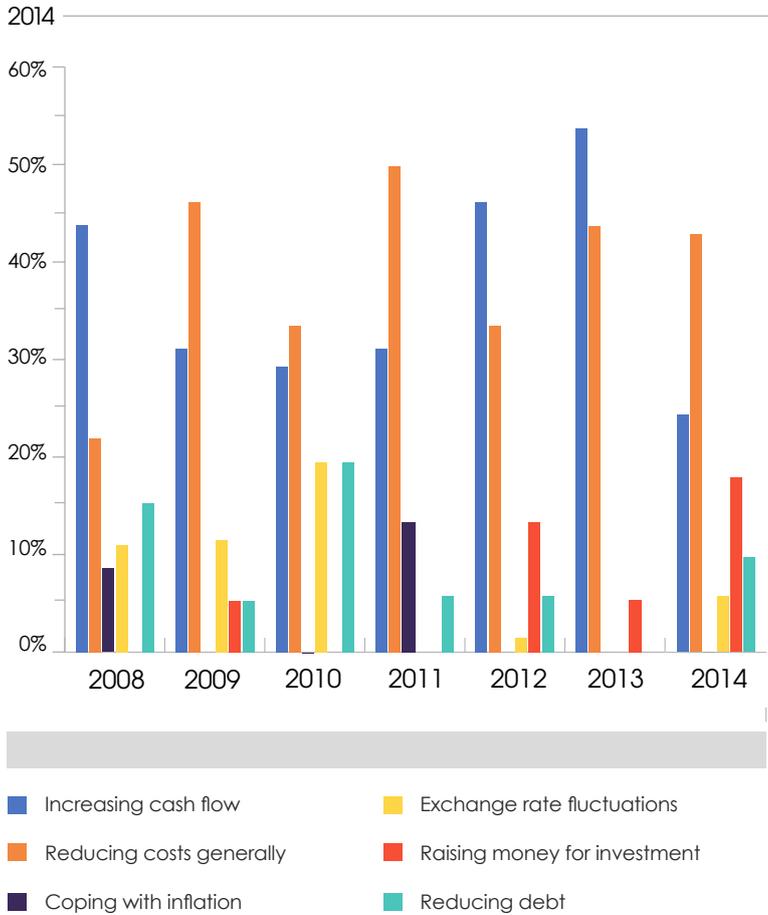
At Barclays, we support our manufacturing clients by aligning our team closely with the manufacturing industry. Our Relationship Directors have gained specific expertise working across the sector for over ten years, from raw materials and mining, processing and manufacturing, to providing transport and warehousing facilities. At every stage, we can offer an experienced team that understands the challenges and opportunities that manufacturers face.

To find out more information contact

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The Finance and Investment section of this year's Annual Manufacturing Report is particularly interesting, as a number of findings demonstrate an increasingly confident Manufacturing sector. Respondents appear to have taken most challenges in their stride and either overcome them or have plans securely in place to do so.

1 What area of financial management is your company currently most focussed on?



In recent years, manufacturers have stated that they are most focused on cash flow and reducing costs, with increasing cash flow being the top focus for companies in 2012 and 2013. This year, however, reducing costs is the greatest focus, with 43% highlighting it as an area for attention. Cash flow, having been mentioned by over 50% of respondents last year, is now down to just 24% - the lowest level ever recorded in the Annual Manufacturing Report. Moreover, only 10% mentioned reducing debt as a concern.

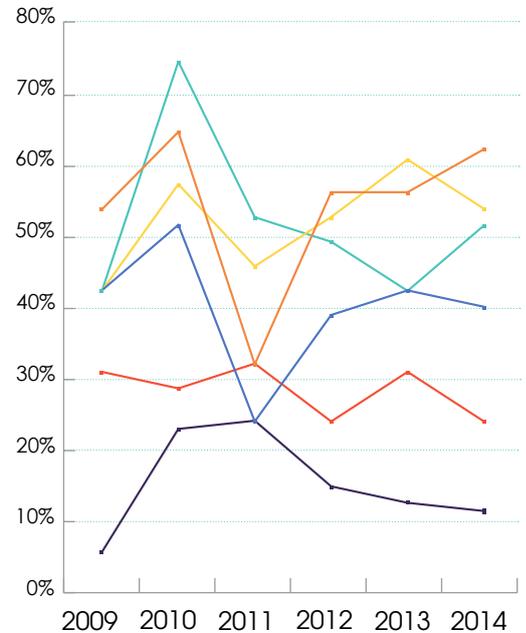
This could be another indication that UK manufacturing is enjoying a sustained recovery – particularly when added to the positive news that raising money for investment is a key focus for the sector.

Raising money for investment has risen considerably as a key focus for manufacturers, from just 5% last year to 18% in this financial year, 2014/15 – the highest level ever recorded in the AMR – potentially indicating the growth ambitions of forward looking companies.

The attitude to exchange rate fluctuations is an interesting one. The Pound Sterling is strengthening against the Euro but exchange rates are only a concern for 6%. This could indicate that fluctuations have already been factored in and that businesses are either planning effectively or securely hedging currency risk.

The smallest area of concern for manufacturers is inflation. We have got so used to it being the prime focus of monetary policy, that it is a surprise to see no concern about inflation at all this year.

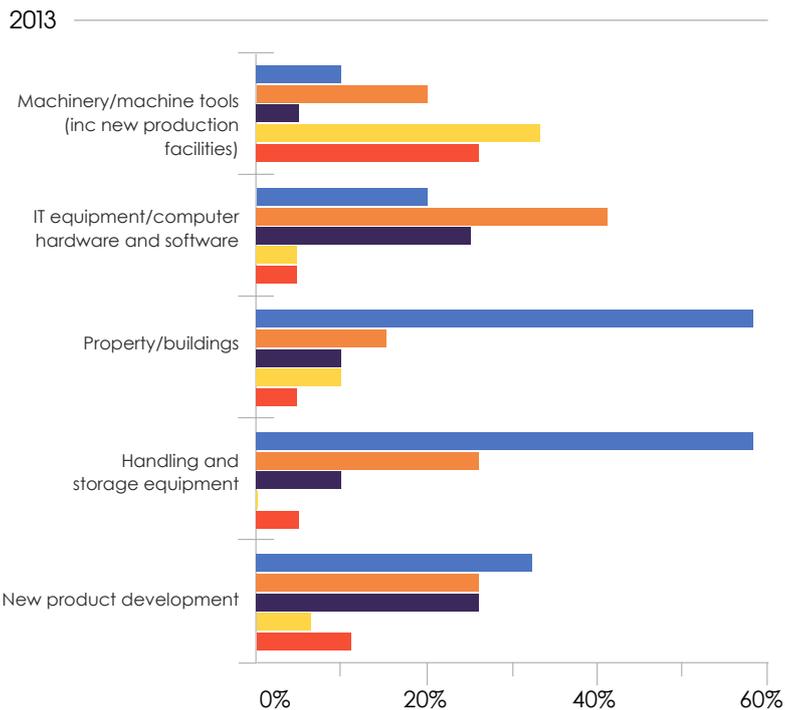
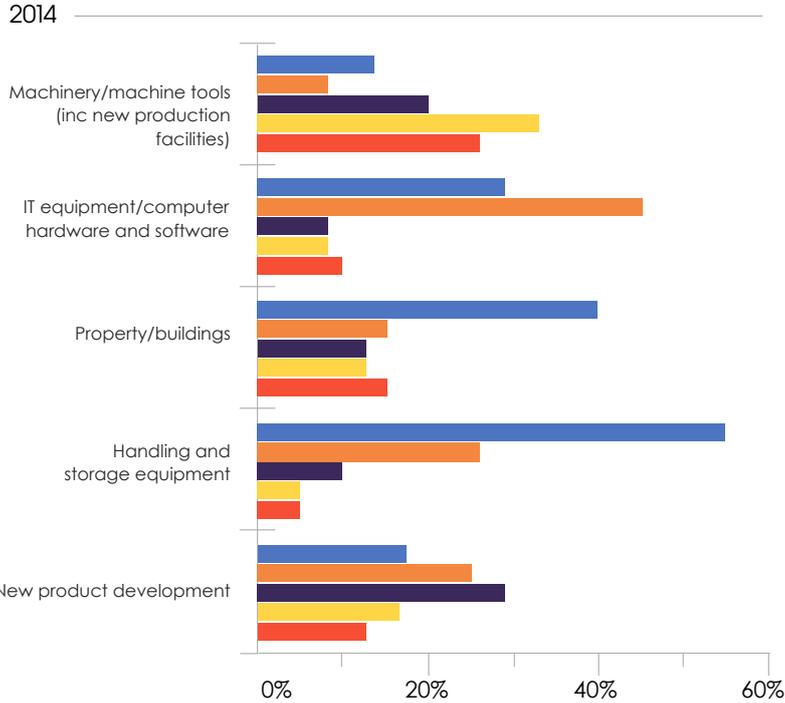
2 In which of the following areas will you be investing within the 2014/15 financial year? (Mark as many as apply).



- Computer Hardware
- Computer software and systems
- Communications infrastructure
- Machine tools
- Handling and storage equipment
- Other capital investment

63% Computer software and systems

3 In broad terms, what is your company's level of capital investment in the following areas likely to be during this financial year (2014/15)?



Topping the list of investments in the financial year 2014/2015 at 63%, Question Two shows that most manufacturers are planning to invest in computer software and systems throughout 2015.

Machine tools no longer remain the most popular investment for manufacturers, having fallen from 63% to 57% this year. With banks keen to discuss the importance of financing Research and Development, and with funding for this more readily available, it seems that manufacturers are starting to become less hesitant in their approach to technological investment and are keen to invest in their futures.

Responses to Question Three show that businesses continue to have quite a range of budgets at their disposal and it is encouraging to read the respondents' plans for healthy expenditure in 2015 [See Question Four, overleaf].

Despite computer software and system being the most popular investment area for manufacturers, when looking at the value of investments machine tools remain a stand out area, with 58% planning to spend over £100,000 this year on tooling. This category is set to see the most capital investment over 2015, far more than second-placed property (30%), which is followed by new product development. Investment in machinery and new product development is always a very positive indicator of activity; therefore, we can confidently expect to see some interesting new products and market developments in the UK over the next few years. It is worth noting, however, that only 33% of respondents plan to spend more on New Product Development in 2015, compared to 42% in AMR 2014 (See Question Four, overleaf). This is concerning, particularly when 10% intend to spend less.

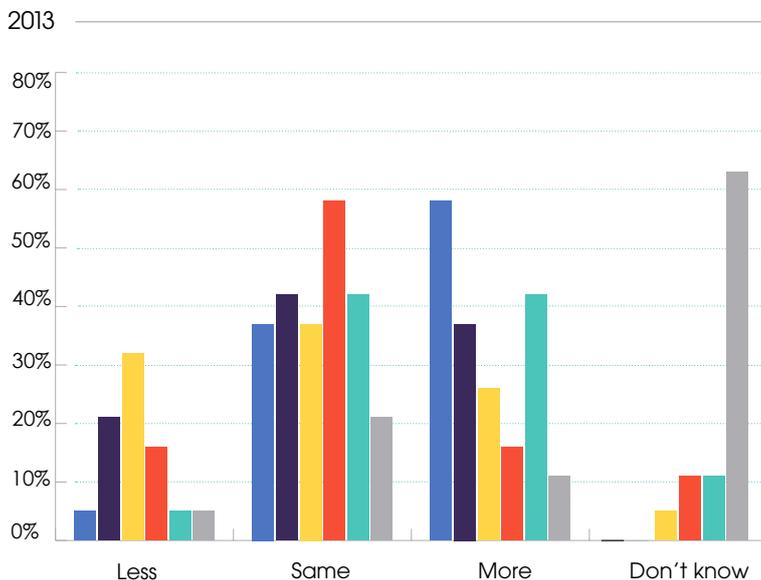
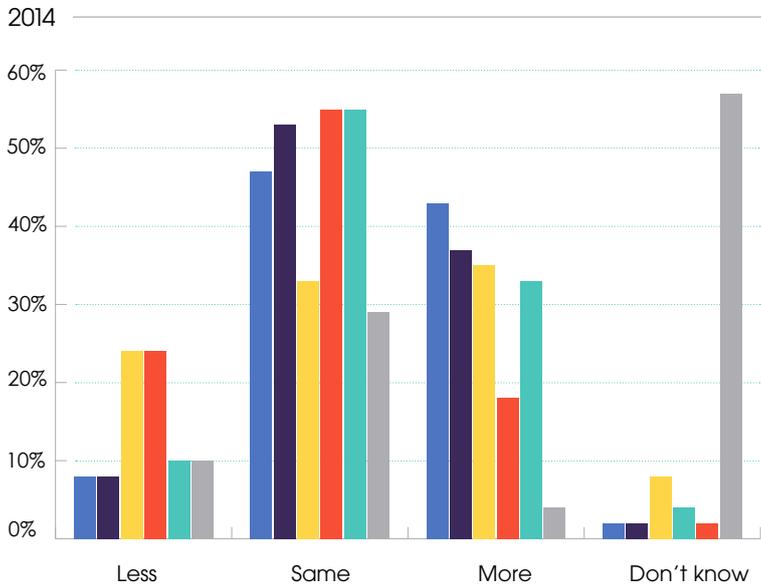
Although IT equipment, hardware and software, is mentioned by many respondents as the area they are most keen to invest in, 74% plan to spend less than £50,000, with 29% expecting to spend less than £10,000 on the category.

Increase in
11% Over £500,000
investment
in property/
buildings

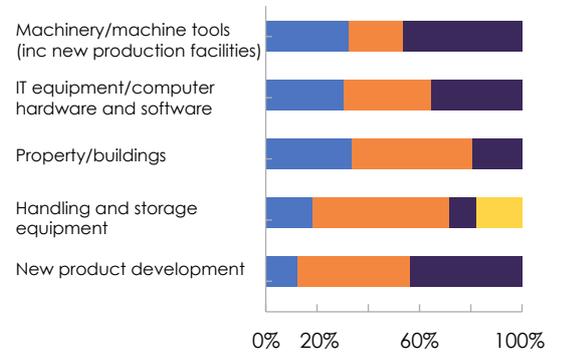
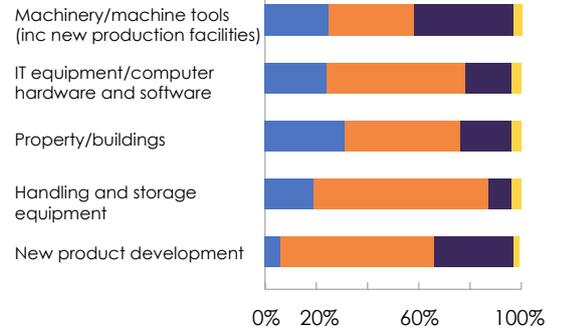
4 Are your investments levels in the following areas THIS year, (2014/15) more, less or about the same as the previous year?



- Machinery/machine tools (inc new production facilities)
- IT equipment/computer hardware and software
- Property/buildings
- Handling and storage equipment
- New product development
- No major expenditure planned



5 Do you anticipate that your investments in the following areas will be more, less or about the same NEXT year, (2015/16)?



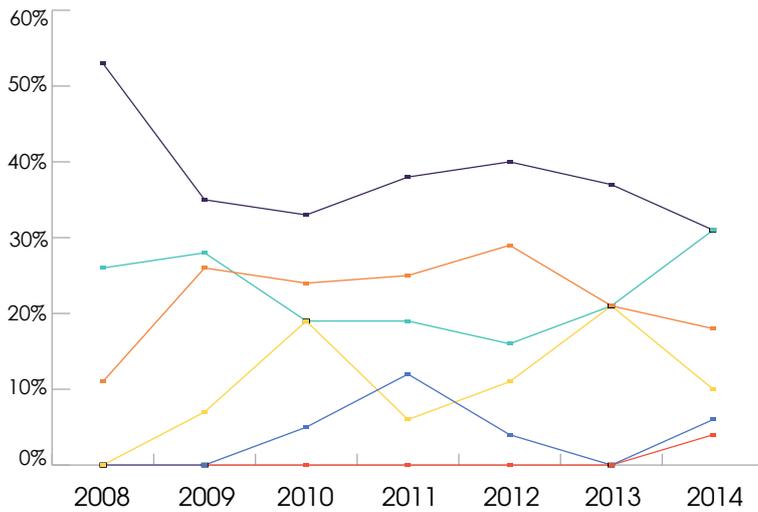
- Less
- Same
- More
- Don't Know



91% Expect to increase budgets for new product development

The majority of manufacturers expect to invest the same as the previous year or more across all categories. In 2015/16, the vast majority of businesses expect to maintain or increase their budgets; 91% of manufacturers expect to do so in the case of new product development.

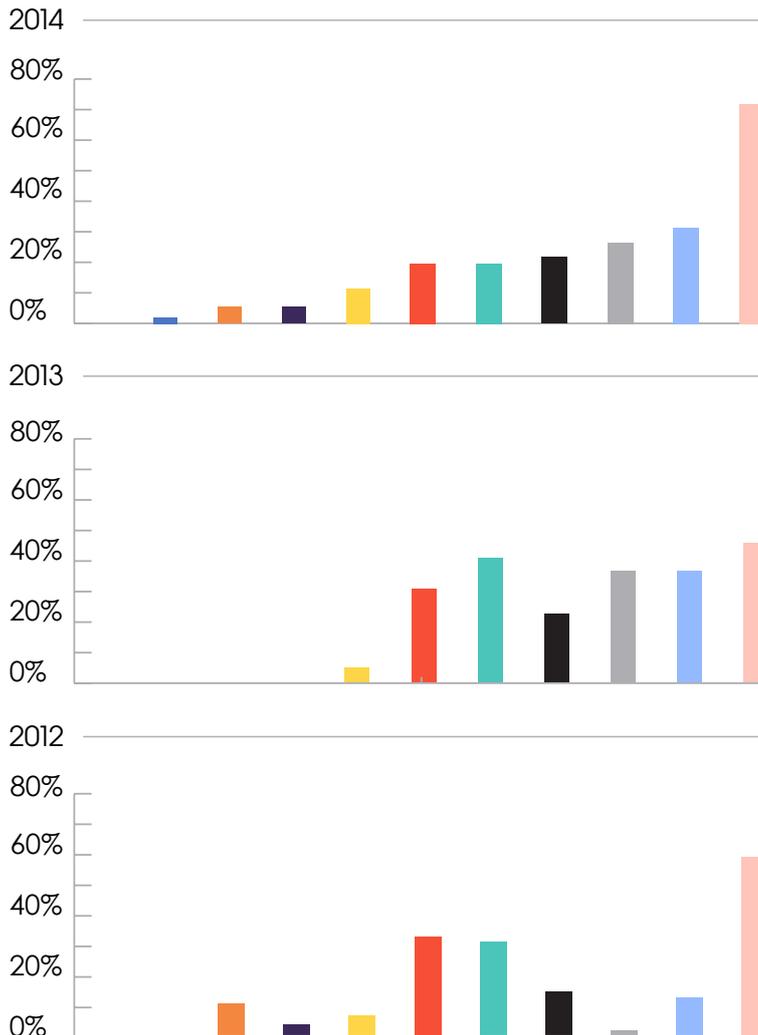
6 How easy has it been for your company to obtain necessary funding this year compared with previous years?



- Funding inaccessible
- Funding difficult to obtain
- No change
- Funding obtained more easily
- Funding very much easier - more sources, more choice (no data before 2014)
- Not applicable - no funding sought

In 2014, it appears that access to funding has told two separate stories: the majority of respondents that did require funding have either found it as easy, or indeed easier, to access than in 2013. For the second year in a row, however, the number of respondents who have not sought funding has increased. With almost a third of respondents not seeking funding, it would seem that these manufacturers have enough liquidity to self-fund, raising the question of whether they are investing at 'safe' levels. This is captured in Question Seven, which shows that 71% of respondents have used company reserves as their primary source of funding.

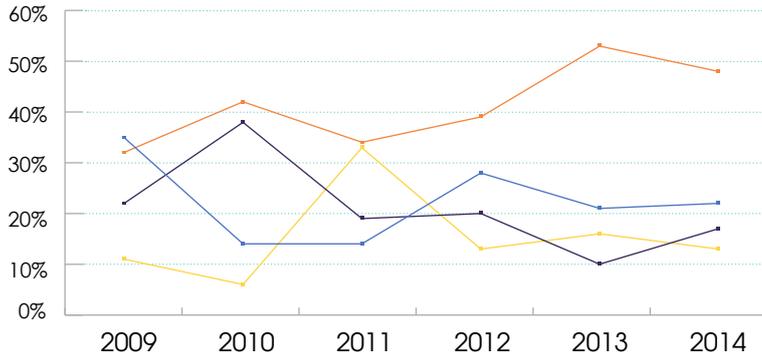
7 Which of the following ways of raising capital has this company used in the past TWO years? (Mark as many as apply).



- Flotation/sale of stock
- Venture capital
- Equity scheme
- Personal loans
- Overdraft
- Bank Loan
- Invoice Financing/Discounting
- Hire Purchase/Leasing
- Asset Finance
- Company reserves

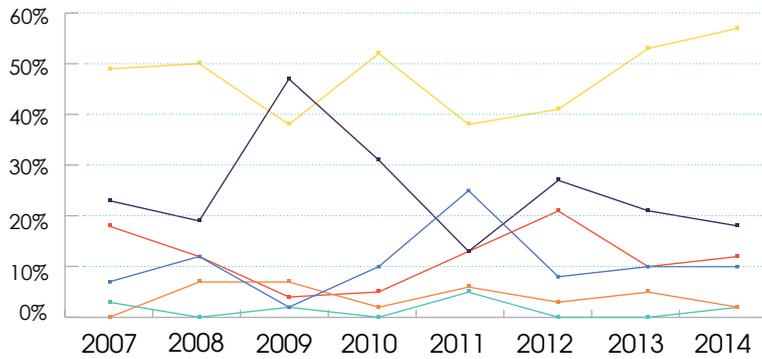
Asset Finance came second, followed by Hire Purchase and leasing, invoice financing, bank loans and overdrafts. 12% of respondents have sought personal loans, which is more than twice the level of last year's results. Aside from personal loans, bank loans and financing products in general have all experienced a dip in popularity this year, with manufacturers turning to company reserves. Equity schemes and venture capital (VC) have increased somewhat from last year's zero. We have seen a lot more VC and equity activity in the sector as those markets have enjoyed significant liquidity.

10 To what extent are you typically able to monitor and measure return on major capital investment projects?



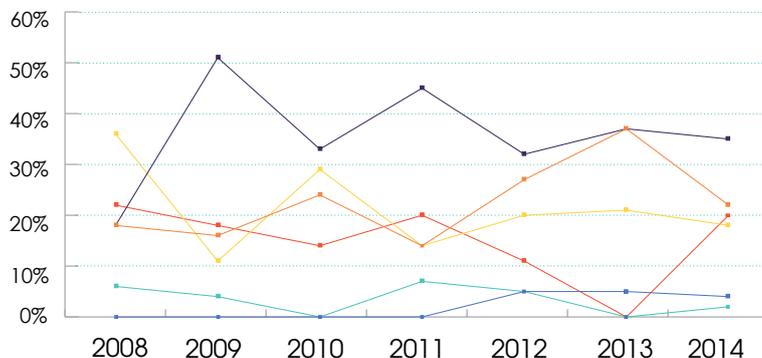
- Full financial ROI (return on investment) quantification on all investments
- Most benefits are quantified financially, but not all
- Some ROI quantification
- Mainly operate qualitative assessments

11 What is your company's typical required payback period for a return on a major capital investment project?



- No such targets usually set
- 12 months or less
- 1-2 years
- 2-4 years
- 4-7 years
- More than 7 years

12 In broad terms what percentage of capital investment is strategic, rather than replacement?



- 100%
- 75-99%
- 50-74%
- 25-49%
- 1-24%
- None

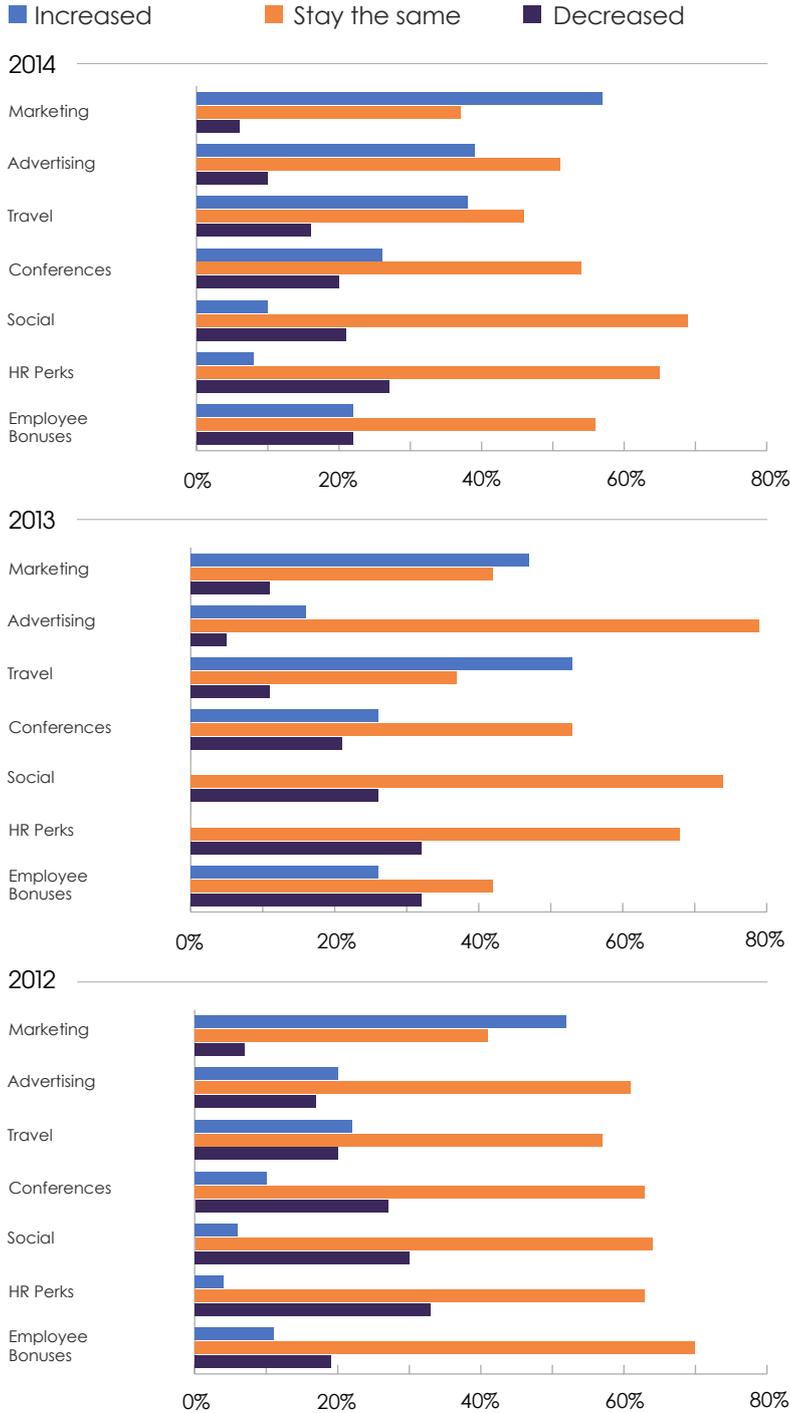
Question Ten explored how well companies monitor the effectiveness of their capital investment projects. A qualified 'OK', appears to be the answer but there is room for improvement. Around 22% achieve full ROI quantification on all investments and almost half of respondents are now able to quantify most benefits. 30% only monitor some return on investment or operate qualitative assessments. This is surprising, considering how important cash flow is to the sector – this might be a result of respondents using their own cash, and therefore needing to provide fewer investment statistics than they might need to share with an external funding provider. It is important for manufacturers to understand and monitor the return on their investment if they are looking to seek funding in the future.

At Barclays, we strive to understand our clients' businesses and develop supportive banking relationships. By gaining a clear understanding of a company's operations, including return on investment, we are able to make quicker and more suitable decisions to provide appropriate solutions.

For those that do monitor their return on investment, the required payback periods are overwhelmingly in the 1-4 year range, with 57% looking at 2-4 years and 18% at 12-24 months. 12% of manufacturers have a longer-term vision, which again highlights the confidence that many respondents have in the future of their company.

61% of respondents say that most of their investment is strategic, rather than replacement. This would indicate that respondents may be looking to expand, rather than continuing at the same pace.

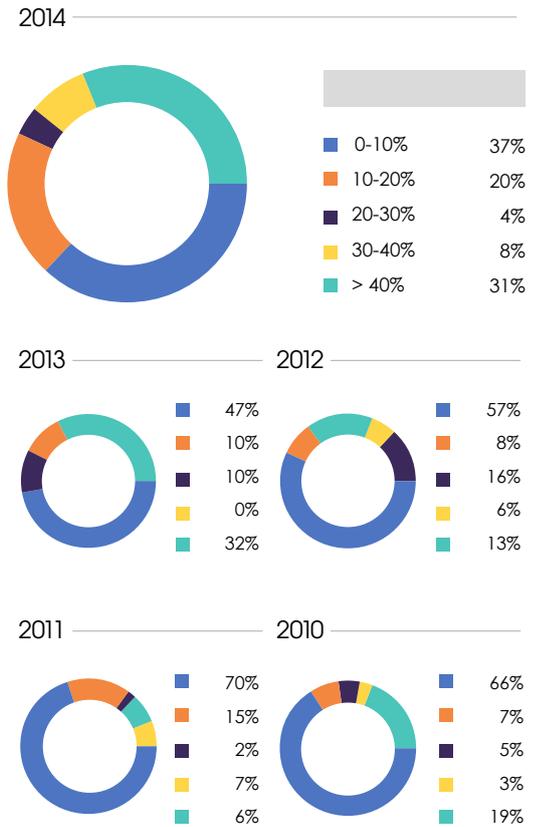
13 Over the last 12 months, has your spending changed in the following areas?



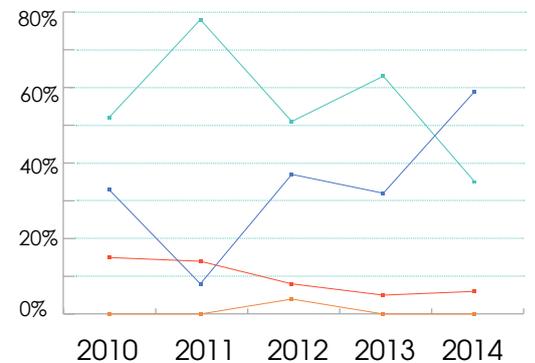
As well as an expectation of greater investment in technology, a number of manufacturers will be spending more on advertising and marketing in 2015. Travel and conference budgets are also on the rise.

The areas that are being squeezed, and have been for each of the past three years, are social expenditure and HR perks. Social expenditure may include charitable donations, support for local communities and sports sponsorship.

14 What percentage of your business is conducted offshore?

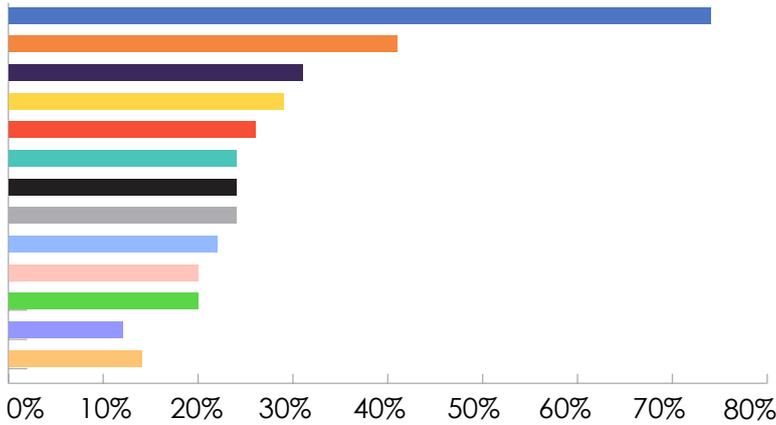


15 Is your level of offshore activity likely to increase or decrease over the next 12 months?



- Increase
- Stay the same
- Decrease
- Don't know

16 Where are your main export markets?



- EU
- North America
- South-East Asia (Thailand, Malaysia, Singapore, Indonesia etc)
- Middle-East and North Africa
- China
- Non-EU western Europe
- South America
- Australia and New Zealand
- Non-EU eastern Europe
- Japan and Korea
- India/sub continent
- Africa
- Does not apply (don't export)
- Other

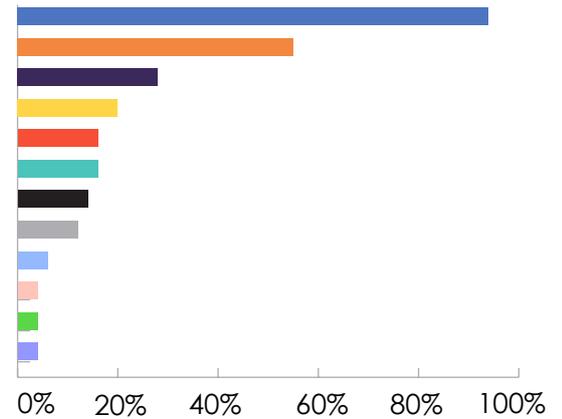
The UK prides itself on being a trading nation. 43% of respondents said they do 20% or more of their business overseas. While that proportion suffered a big dip in 2011 and (to a lesser extent) in 2012, the trend is upwards. Unsurprisingly, the number of companies who say that they do less than 10% of their business internationally is declining, from 66% in 2010 to 37% this year.

Projecting forward, it looks like the trend towards international trade will continue. The majority of respondents (59%) expect to conduct more business overseas in the coming 12 months and no-one expects to do less.

Looking at exports alone, the UK's main overseas market is the EU, with North America coming second. South-East Asia comes third, Middle East and North Africa fourth and China – which is second only to the EU as a source of materials and components – is only the fifth main export market for respondents.

Non-EU Western Europe appears just below China. In geo-political terms, that description includes Albania, Montenegro, Serbia, Macedonia and Bosnia-Herzegovina, as well as Norway, Iceland and Switzerland.

17 Right now, from which of the following regions do you source any materials or components?



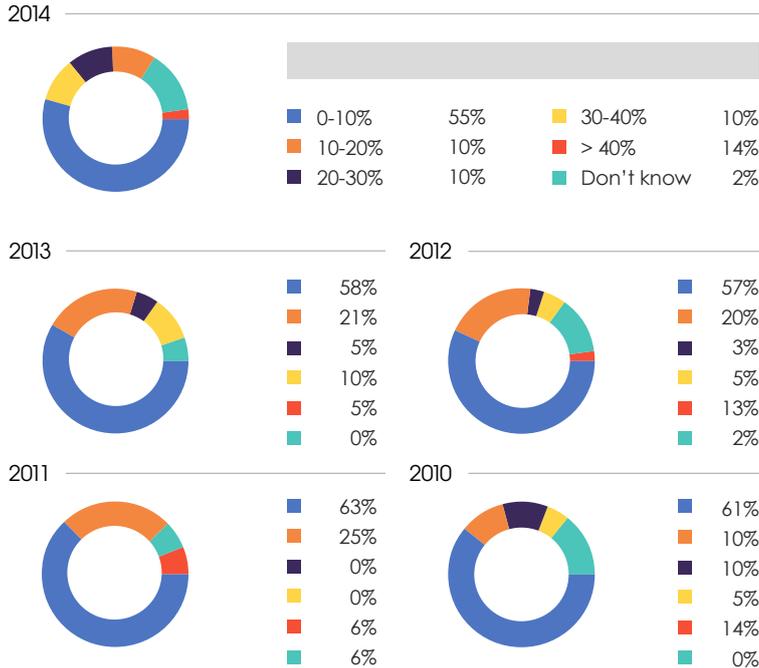
- EU
- China
- North America
- Non-EU western Europe
- Non-EU eastern Europe
- South-East Asia (Thailand, Malaysia, Singapore, Indonesia etc)
- India/sub continent
- Japan and Korea
- South America
- Middle-East and North Africa
- Africa
- Australia and New Zealand
- Other

94% of manufacturers regard the EU as their main source of materials and components. China follows the EU, with 55% of respondents sourcing materials and components from the country.

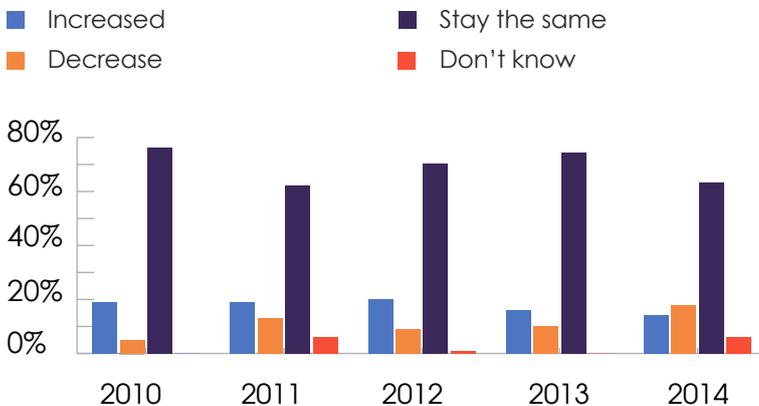
The changing nature of international trading relationships is reflected by the decline of North America. For decades, it vied with the EU as our lead commercial partner but today, only 28% of companies surveyed obtain materials or components from the USA, Canada and Mexico.

The fourth most popular region comes as a surprise: it appears that the UK's manufacturing businesses get 20% of supplies from non-EU Western Europe.

18 What percentage of your production is outsourced?



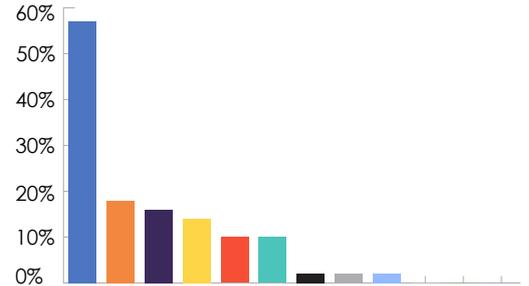
19 Is your level of outsourcing likely to increase or decrease over the next 12 months?



20 How likely is it that any part of your manufacturing production will be moved overseas in the next 24 months?



21 If you are intending to move or expand all or part of your manufacturing overseas, where is that likely to be? (Mark as many as apply).



There has been concern that outsourcing was leading to a hollowing-out of the supply chain and the loss of jobs and skills to overseas competitors. However, consistently more than half of respondents do not outsource more than 10% of production. Just under 15% outsource more than 40%.

63% expect those levels to stay the same and nearly a fifth (18%) expect the proportion of outsourced production to actually fall. The percentage of respondents expecting an increase has actually decreased, from a peak of 20% in 2012 to 14% this year.

When asked if they have any plans to move manufacturing production overseas in the next two years, just under half said no and a further 16% said it was "not very likely". Only one in 10 said "very likely", along with a similar proportion who said it was "quite likely".

For those who are intending to move production overseas, the EU is by far the preferred destination (57%). China, North America and the Indian Subcontinent are close together, but remain a long way behind the top spot. 10% plan to expand to South America or South East Asia, whilst only 2% have their sights set on either non-EU Eastern Europe, the Middle East or Africa. No-one is currently planning to move their production to Australia/New Zealand, the Far East or non-EU Western Europe.

Given that investment in automation and technology has, in some cases, resulted in activities and jobs being brought back to the UK, it would seem that rumours of outsourcing and the subsequent decline of the UK supply chain may have been exaggerated.

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WORKFORCE & SKILLS

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Manufacturing is offering more opportunities for young people and for established employees to develop their abilities and progress their careers. The skills gap remains and some of the needs are in crucial areas. Some aspects of the supply line from formal education can only be described as unsatisfactory.

It has been a long time since manufacturing and engineering offered such attractive career opportunities, at all levels. There are vacancies and plenty of them – for people with the right attributes.

The vacancies are for skilled, well-paid jobs. Engineering and automation; toolmaking, technical and practical positions are all in demand.

Companies are investing in their own people as well. More employees are getting more training; more apprentices are being taken on and there's more in-work upskilling, both accredited and informal. It's a rare business that isn't training its staff, these days.

But what about the quality of supply? There appear to be problems with the job-readiness of young people leaving school or further education college, whether at 16 or 18.

On the other hand, the quality of graduates taking their first job in manufacturing is generally pretty good.

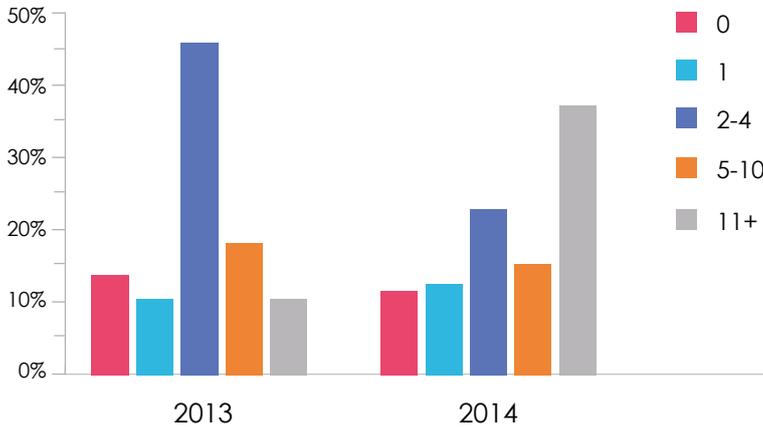
The principal lesson from this year's Annual Manufacturing Report must be that schools, FE colleges and manufacturing employers must get closer together. Schools need to be shown more clearly where a career in manufacturing can lead, and how their pupils must be equipped to make the most of it.

Rebuilding relationships with educators has to be a priority in order that today's students and pupils will be able to use their 11-16 years in school to make the most of their 40-odd years at work.

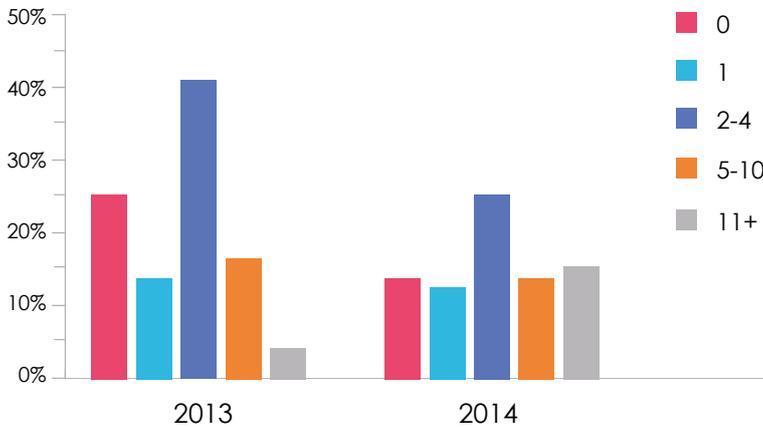
And the skills already available have to be valued, nursed and improved, throughout employees' working lives.

The closing question in Part one of the survey asked whether respondents felt "enough is being done to make manufacturing an attractive career choice". The answer was a pretty resounding "no". In this section, we have looked more deeply at the challenges of employment generally and what is being done about skills and training in particular.

1 How many vacancies do you CURRENTLY have at your company?



2 How many vacancies do you CURRENTLY have at your particular site?

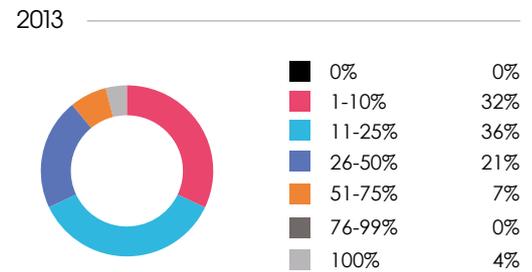
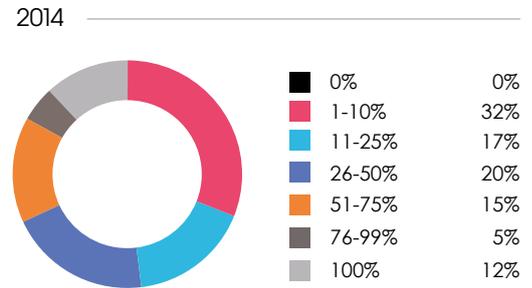


There are vacancies in manufacturing – quite a few in fact; 37% of survey respondents said they had more than 10. That number has risen significantly compared with last year, when only one company in 10 said they had that number of vacancies.

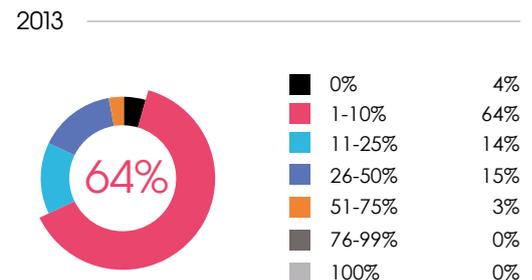
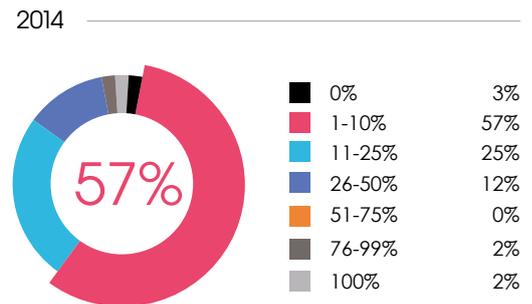
Approaching a quarter said they had between two and four vacancies. Even some multi-site companies reported notable numbers of vacancies at their own facility – 15% said they had 10 or more jobs to fill, at their place of work alone.

Manufacturing is an industry that relies on a skilled workforce, of course. There are vacancies on the one hand and nearly 2 million unemployed on the other but the equation is not as simple as it appears. The right skills need to be in the right hands and in the right place and businesses cannot expect candidates to arrive ready-made and all equipped to go. To an extent, this is where solutions are in industry's own hands.

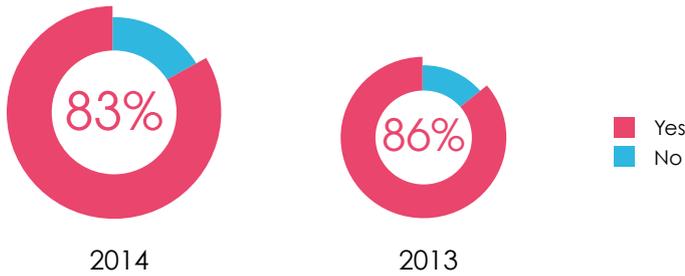
3 What percentage of your employees do you estimate receive on-the-job / informal training and development during a typical month?



4 What percentage of your employees do you estimate receive formal accredited training and development during a typical 6 month period?



5 Are you able to access the correct/required training for staff?

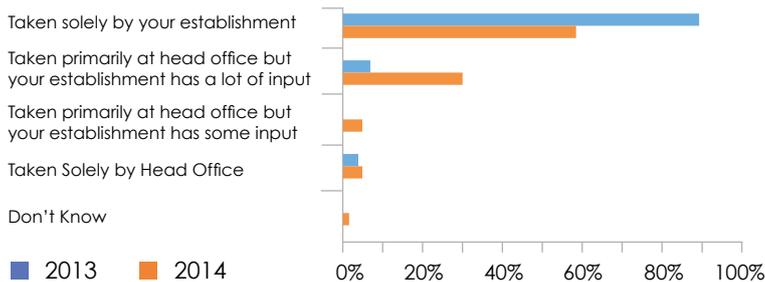


It is clear that the need for ongoing training is recognised and accepted, pretty much across the board. All respondents said something was going on, with at least some people getting some on-the-job training during a typical month. Nearly one-third (32%) said that more than half their workforce would undergo some kind of on-site training during a normal month. In general, more employees are getting more training than last year.

As for formal, accredited training – again, nearly everyone reported something during a six-month period. The majority (57%) said that up to 10% of the workforce would be receiving formal training in a typical half-year. It was a very small percentage of firms that did not expect to have anyone undergo accredited training.

When asked if they were able to access the right training, when required, the overwhelming response was yes. However, an uncomfortably large minority – 14% in 2013 and 17% this year – said that they could not.

6 Who takes decisions about recruitment and training needs and provision? (Thinking about decisions relating to recruitment and training, would you say that they are...?)

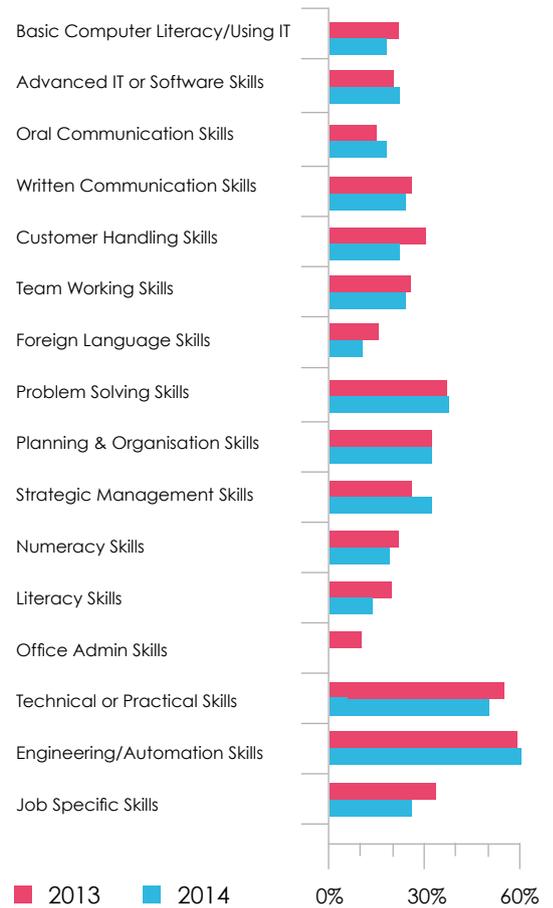


Recruitment and training responsibility generally lies close to where people are. The majority of respondents said their establishment was either solely responsible (58%) or had a lot of input (30%). Less than 10% of respondents found themselves presented with people they didn't really know.

The number who take their own decisions is actually down a little this year. In 2013, just under 90% reported that they had the sole responsibility for recruitment and training. In 2014, the total of those who do it themselves and those who have a lot of input, along with head office personnel, was just under 90% combined.

Imposition of unknown personnel selected elsewhere and without reference to the local establishment is not widespread.

7 Have you found any of the following skills difficult to find in applicants?

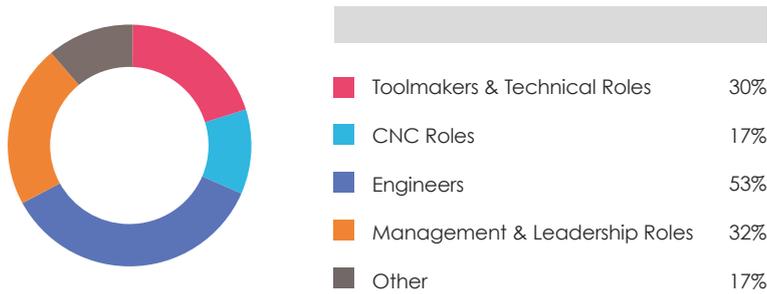


There have been quite a few voices raised and expressing concern about skills shortages, so we have sought to identify where they are. The answers have been broadly similar over the past two years.

Engineering and automation skills are the hardest to find (58%), closely followed by technical or practical skills (48%). These are the bedrock of manufacturing and there has been little improvement since last year.

Other skills that are difficult to find include problem solving (37%), and planning, organisation and strategic management skills at 32% each.

8 Are there particular jobs in which you have difficulties retaining or recruiting staff?

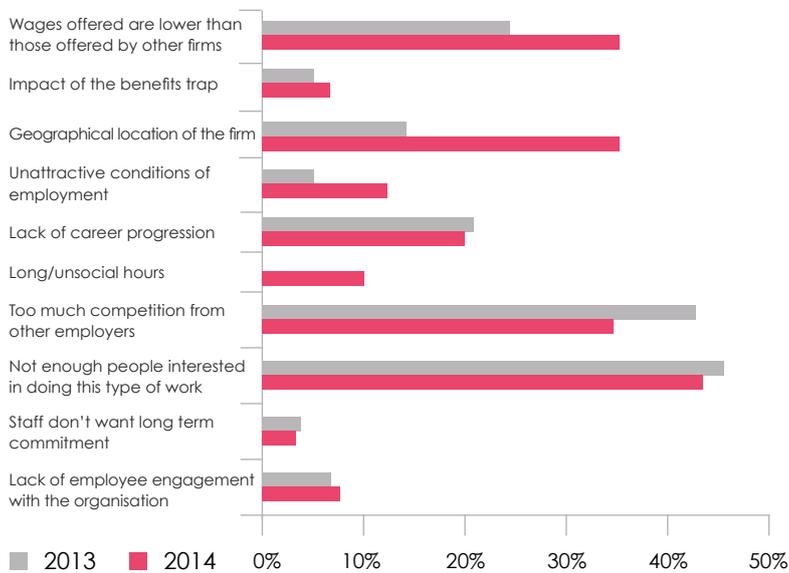


The skills that are easiest to find were reported to be office admin. Everyone's a typist, these days!

The most difficult staff to find, recruit and retain are engineers – the most skilled. Management and leadership roles (32%) were only just ahead of toolmakers and technical roles, which are the very areas of activity that The Manufacturer's survey found that businesses are investing in (see Parts two, three and four of the Report).

CNC roles present some difficulties at 17% but not overwhelmingly – unless you are one of the 17% of companies in that position.

9 Which of the following are the main reasons why it is difficult to retain staff in this occupation?



If it is difficult to find staff with the right skills in the first place, then one would expect companies to try very hard to retain them. Why do people choose to move on? We offered a range of choices.

Nearly half (43%) said that not enough people were interested in this sort of work. This seems strange because one wonders what an engineer, toolmaker, lathe operator or other similar worker expected in a manufacturing environment.

Geographic location is a challenge for some (37%) and so are the wages on offer (37%). Competition from other employers will include a wage element as well.

Lack of perceived career progression was mentioned by 20%, which is food for thought. Is it genuinely the case that employers cannot offer career pathways, are engineers under-represented at senior levels in the organisation or is it that employers are simply failing to present career opportunities clearly?

Unattractive conditions of employment were mentioned by 13%. Long or unsocial hours were mentioned by 10%, which is pretty low. The 'benefits trap' flicks the needle but not by much.

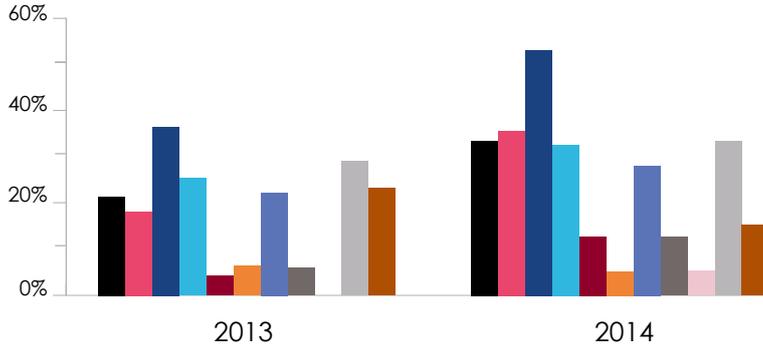
Compared with last year, wage competition and geographic location have emerged as greater problems, and lack of interest and other employer competition have actually fallen a bit. As the manufacturing sector has been growing and, therefore, recruiting, competition could be expected to rise up the agenda.

43%

Of respondents selected 'Not enough people interested in doing this type of work' as the main reason why it is difficult to retain staff.

In a country where computers have become commonplace and IT skills are being taught in schools, the fact that nearly one company in five (17%) has found a shortage of basic computer skills is rather surprising. A slightly higher number finds difficulty with advanced IT and software skills, which is a logical progression – and still a matter of concern. It is also disturbing that basic skills and abilities such as oral and written communication and customer handling skills are not universal; they are around the one-in-five mark as well.

10 What measures, if any, have you taken to overcome the retention difficulties in this occupation?



- Offered higher pay or more incentives than normal
- Introduced job enrichment
- Introduced further training/development opportunities
- Improved career progression
- Provided assistance with travel
- Provided assistance with childcare
- Introduced flexible working hours
- Changed the job specification by giving some of the tasks to other staff
- Changed the job specification by automating some of the tasks
- Increased management/leadership training
- Not taken any measures to overcome retention difficulties

Faced with skills shortages and temptations from other employers, better working conditions, clearer career progression and higher wage competition, what have manufacturing companies been doing to improve retention?

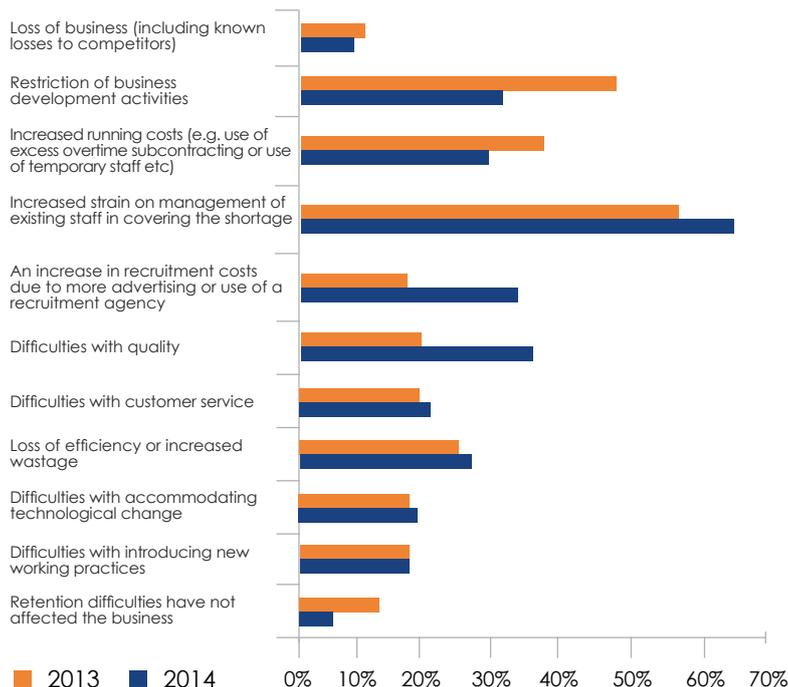
The top response is that they have introduced further training and development opportunities; more than half of the companies surveyed have done that. In second place and practised by just over one-third (35%), is the introduction of 'job enrichment' programmes. What they are has not been specified but if your competitors' employees look happy it might be worth finding out what their secret is!

Two answers were snapping at job enrichment's heels, with 33% response. Offering higher wages is a logical thing to do if you are losing staff because competitors are paying more. The other 33% result, increased management and leadership training, is just as important for the people being led as for the leaders.

Improved career progression (32%) is in the same bracket of support.

Those are the leading measures we were told about. Some others that get a lot of headlines – help with travel or childcare, for example – do not appear to have been taken up much at all.

11 Have the retention difficulties in this occupation led to...

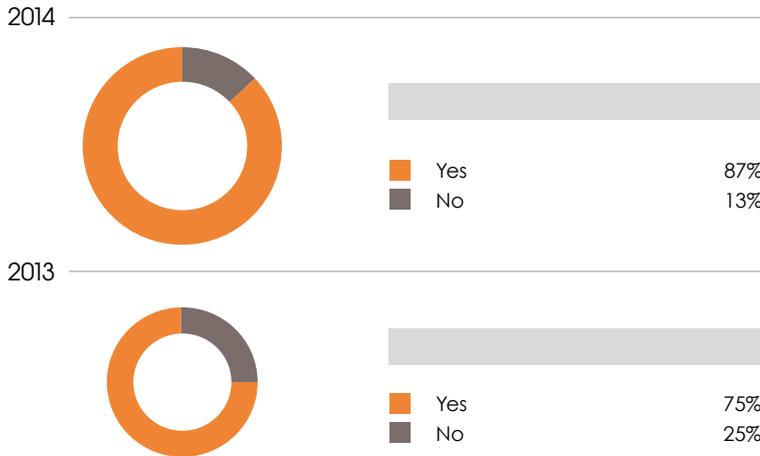


But what if all these efforts fail and staff leave anyway? What effect does it have on the business?

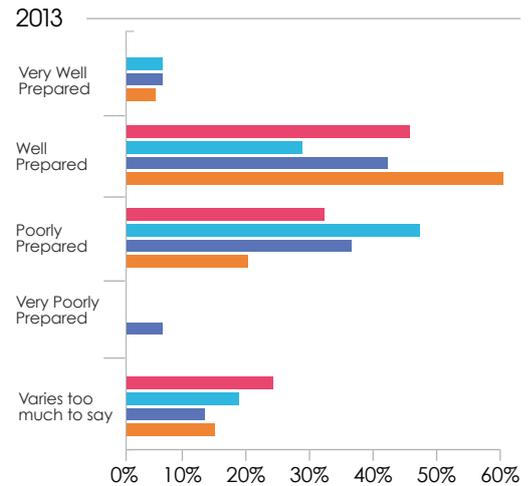
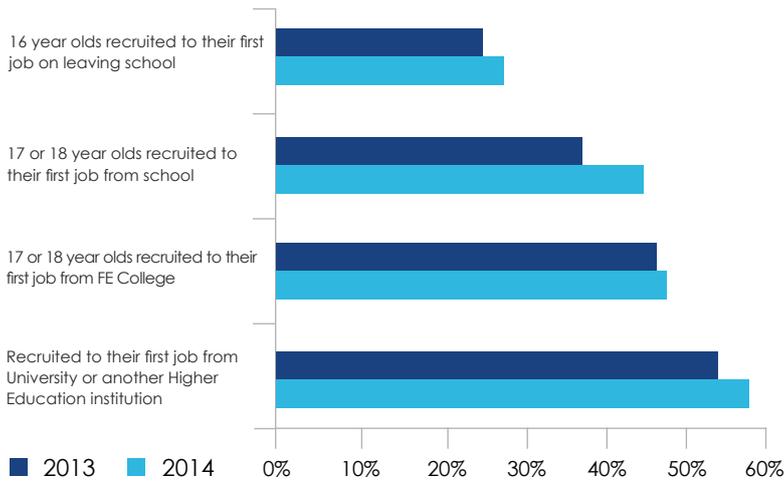
Of those who have experienced problems, the biggest impact is increased strain on remaining staff; it was mentioned by 62%. That is a huge amount of inconvenience and it is even higher than last year's 57%.

Otherwise, a variety of issues, led by difficulties with quality (37%), increased recruitment costs (33%), restriction of business development activities (32%) and, inevitably, increased running costs, such as paying overtime or hiring agency staff, or even having to subcontract. Wastage and difficulties with customer relations were also mentioned by more than 20%.

12 In the last 2-3 years, has this site taken on anyone to their first job on leaving school, college or university?



13 Of those you have employed in their first job, have any of these been...



- 16 year old school leavers been?
- 17-18 year olds you recruited to their first job from school been?
- 17-18 year olds you recruited to their first job from FE Colleges been?
- University or higher education leavers been?

Britain's manufacturers are not averse to giving young people a chance. Nearly nine out of ten of those surveyed said that they had given first jobs to school, college or university leavers. This is a little up on last year, when three-quarters of respondents answered 'yes'.

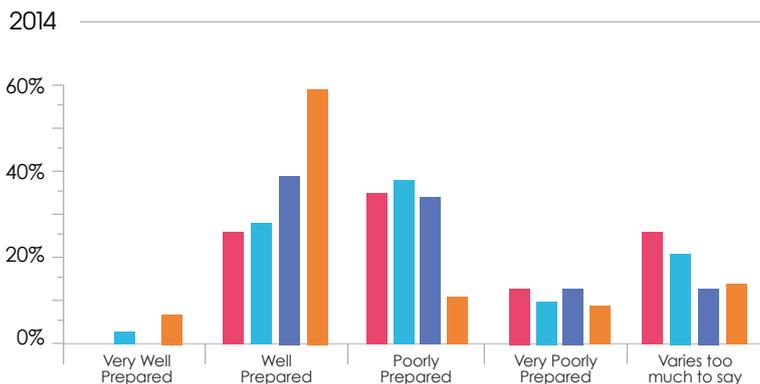
The smallest cohort was 16-year-old school leavers, which is to be expected; 16-year-olds have fewer of the skills that manufacturing employers need and are looking for. It is also the case that more school students are remaining in full-time education after 16, whether at school or at FE (Further Education) college.

Just under half have hired 17/18-year-olds from school or FE colleges but the most popular recruiting ground has been university or other higher education graduates. We have only been asking this question for two years but the proportion seems to be creeping up; it was 54% in 2013 and 58% this year.

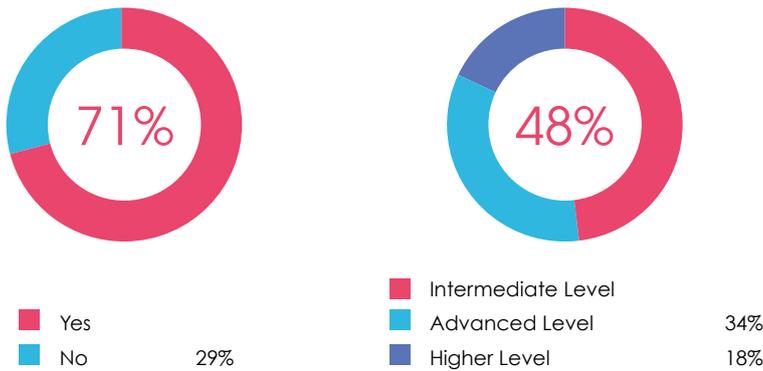
That is encouraging but the burning question is: what is the actual experience of these new recruits? How well prepared are they for the world of work?

Two-thirds of university graduates given their first job are rated as 'well' or 'very well prepared' for work. A level of 20% for 'poorly' or 'very poorly prepared' leaves no room for complacency but it looks like the

14 Thinking of those recruited in the last 2-3 years, how well prepared for work have the (various categories) been?



15 Have you offered/do you offer Apprenticeships? If yes, how many, at what level (intermediate, advanced, higher) and in what disciplines?



The answer to Question Fifteen is: yes, manufacturing is offering Apprenticeships. Not all companies – 71% of those who were able to answer the question, in fact, but most companies are.

But over a quarter (29%) said no. We offered those surveyed the opportunity to comment and expand on their answers and one respondent commented, pithily, that they “couldn't find anyone interested”. They have anonymity, of course, so we cannot offer any insight into their local conditions or why that should be the case.

Another reason for failing to offer Apprenticeships (although we did not ask the specific question) is that companies feel they are too small and maybe cannot afford it. If that is the case then the Training Boards could do worse than consider ‘shared Apprenticeships’, which the Isle of Man piloted a few years ago.

The majority of the comments we did get indicate an encouraging level of commitment to Apprenticeships – and pride in what they are doing. A respondent said that their company had been using Apprenticeships for CNC workers for several years and had now extended it to testing and drawing office roles. In other companies, recruits are engaged in assembly and testing; supply chain management; higher engineering; maintenance and even logistics and customer service roles. Fabrication and welding were mentioned as well, as were KTPs (Knowledge Transfer Partnerships).

There is clearly a wide range of training going on. A third of respondents currently have apprentices at advanced level and 18% are pursuing higher level courses; the remainder (48%) are at intermediate.

The skilled workforce of tomorrow is not going to be trained by someone else – it has to be done by manufacturing companies themselves, working with schools, colleges and universities. Apprenticeships are very clearly coming back into favour; more people are talking about them. Youngsters need meaningful and well-paid jobs. Manufacturing needs skilled and committed employees.

It looks like a match made in Heaven!

UK's manufacturing employers are generally pretty happy with the standard of graduates entering their workforces.

Sadly, when it comes to school and FE college leavers, the experience appears to be much less positive. School leavers fared particularly badly. Only 26% of 16-year-olds were rated as ‘well prepared’ and the situation wasn't much better for their older brothers and sisters; the 17/18-year-olds managed a rating of only 28% ‘well prepared’ – although they did register some responses under ‘very well prepared’. For both age cohorts, ratings of ‘poorly’ or ‘very poorly prepared’ got uncomfortably close to 50%.

The 17/18-year-old FE leavers fared a bit better. More than a third (39%) were rated as ‘well prepared’ but ‘poorly’ or ‘very poorly prepared’ was just a notch behind the schools, at 47%. There does seem to be more consistency from the FE colleges, though; only 13% of respondents said that quality varied too much to say, which is much lower than schools' output.

What can and should be done about it? Well, building relationships with the schools and FE colleges would seem to be a good idea.

Manufacturing and education, both in schools and FE colleges, will probably have to recognise that there are suspicions and indeed prejudices to deal with. On both sides!

The image of manufacturing is not top of the heap but projects like Bloodhound (land speed record attempt using jet/rocket hybrid with a Jaguar V8 supercharged engine), Rosetta space programme and STEM are helping to raise interest and awareness.

However, we can't leave it all to someone else. Those relationships must be fostered by engineering businesses themselves. Decades ago, schools had careers masters/mistresses who had good contacts with local businesses and met with them on a regular basis. They would guide their students in the right direction – and the local employers would give the schools a good idea of what they were looking for. It would be a brave person who would maintain that those contacts are as strong today.

There is also the need to recognise that kids straight out of school will never be the finished article. So what about ongoing training? Do companies offer Apprenticeships?

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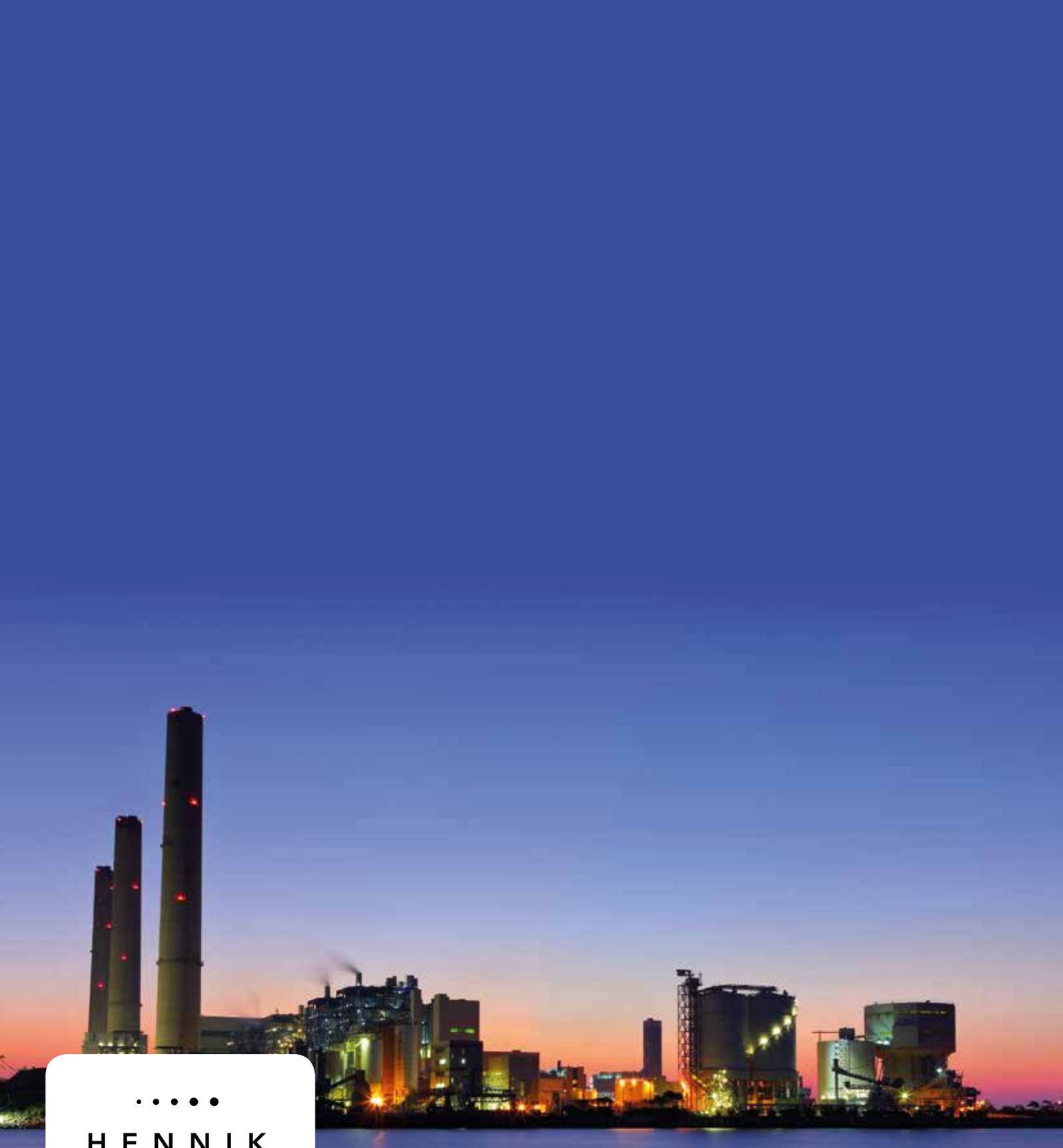
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