



# INNOVATION AS UNUSUAL

Innovation is a culture and it starts at the top



## INNOVATION REPORT 2015

[www.paconsulting.com/innovation-research](http://www.paconsulting.com/innovation-research)

# ACKNOWLEDGEMENTS

We would like to thank the 751 survey respondents who participated in this research. We also express our sincere appreciation to the 24 senior executives who gave up their time to take part in qualitative interviews with our research team. They include:

## DR BASIL MATTA

Divisional Director of Emergency and Perioperative Care, Addenbrooke's Hospital

## PAUL KAHN

President,  
Airbus Group UK

## DR KEITH MCNEIL

Chief Executive Officer,  
Cambridge University Hospitals

## ANEESH KUMAR

Vice President,  
Enterprise Product Solutions, Cigna

## PROFESSOR CLIFFORD FRIEND

Pro-Vice-Chancellor – Regional and International Affairs, Cranfield University

## SONNY GARG

Chief Information and Innovation Officer,  
Exelon

## PETER ERICKSON

Executive Vice President,  
Innovation-Technology-Quality, General Mills

## JIM KIRKWOOD

Chief Science and Technology Development Officer, General Mills

## DAVID STONES

Divisional Director in Professional and Technical Solutions, Highways England

## ANNALISA GIGANTE

Senior Vice President Head of Innovation, Holcim

## TOMASZ GOLDMAN

Vice President,  
Jabra Technology Management

## IAN RHODES

Chief Executive Officer,  
McLaren Applied Technologies

## ROY KRAMER

Director,  
Nyenrode University

## PAUL JANSEN

Professional Engineer, Associate Vice President Medical Device Development, Sanofi

## KJETIL HÅBJØRG

Vice President for Ground Handling,  
SAS

## WILL PAPA

Senior Vice President and Chief Research and Development Officer, The Hershey Company

## MALCOLM BEATTIE

Head of Innovation Lab, UK Department of Finance and Personnel, Northern Ireland

## AIR VICE-MARSHAL RICHARD KNIGHTON

Assistant Chief of the Air Staff,  
UK Ministry of Defence

## DR CRISTIANO MARANTES

Interim Director of Strategy and Regulation,  
UK Power Networks

## STEVE PREWITT

Vice President of New Business Solutions,  
Visiting Nurse Service of New York



## DR DAVE SMITH

A special acknowledgement goes to Dave Smith, PA expert in product development and manufacturing, who contributed extensively to our research. You can read Dave's views and insights throughout the report.



“A siloed approach to innovation is unlikely to succeed. To deliver transformational results, innovation has to move beyond the R&D department and become firmly embedded in the culture of the organisation.”

MARCUS AGIUS  
NON-EXECUTIVE CHAIRMAN

## FOREWORD

**We are in the midst of a global productivity crisis. While the downturn is thought to have started in the early 2000s, this year the International Monetary Fund highlighted the scale of the problem when it predicted that potential output growth in advanced economies is likely to remain below pre-crisis rates in the medium term. In emerging economies it is expected to decline even further.<sup>1</sup>**

Business leaders and politicians worldwide continue to emphasise the role of productivity in driving economic recovery. Janet Yellen, Chair of the Federal Reserve Board of Governors, stated that productivity growth is “the most important factor determining living standards”,<sup>2</sup> while George Osborne, UK Chancellor of the Exchequer, described tackling low UK productivity as “the challenge of our time”.<sup>3</sup>

Innovation is often viewed as a solution to the global productivity crisis – yet, as the high-profile decline of a number of large companies has shown, getting innovation right is more complex than it may seem. In our experience, a siloed approach to innovation is unlikely to succeed. To deliver transformational results, innovation has to move beyond the R&D department and become firmly embedded in the culture, strategy and mindset of the organisation.

Through our latest research we have sought to understand the specific challenges that organisations across sectors face around innovation. We have found that many are struggling to realise the value of their innovation investment. In fact, half of the senior executives we spoke to told us that their ideas had failed for entirely avoidable reasons, while almost the same number (47%) described their innovation activity as, at times, a costly failure. When these findings are applied

to the latest figures on innovation spending, it suggests that organisations are wasting hundreds of billions of pounds of innovation investment every year – and this does not take into account the huge opportunities lost in future competitiveness and productivity gain.

The good news is that it does not have to be this way. Our research also identified a small group of ‘innovation leaders’ across sectors, who appear to be better than their peers at embedding a culture of innovation and translating their innovation efforts into financial reward. Excitingly, the benefits go beyond growth: in the public sector, innovation leaders are showing how it is possible to do more with less and deliver a continuously high standard of customer service in the face of ongoing austerity measures.

How can we learn from this group’s success? In the following pages we define the profile of an innovation leader and make seven cross-sector recommendations that all organisations should consider. We then look in depth at the data for each of our eight focus sectors, identify the specific challenges and opportunities they face, and share best-practice examples from senior executives who are responsible for driving innovation. We believe these recommendations can help organisations move to an ‘innovation as usual’ culture: one that takes on high-risk innovation, learns quickly from failure and harnesses the right mix of talent to make innovation happen. Crucially, this culture is underpinned by strong leadership that encourages and nurtures innovation at all levels.

I am extremely grateful to the senior executives who gave up their valuable time to participate in our research. You can read their views and insights throughout this report.

1. International Monetary Fund, *World Economic Outlook*, April 2015 – Chapter 3: Where are we headed? Perspectives on potential output, [www.imf.org/external/pubs/ft/weo/2015/01](http://www.imf.org/external/pubs/ft/weo/2015/01)

2. federalreserve.gov, [www.federalreserve.gov/newsevents/speech/yellen20150522a.htm](http://www.federalreserve.gov/newsevents/speech/yellen20150522a.htm)

3. Matt Dathan, ‘Three charts that show how poor productivity is in the UK – but is it because we’re just lazy?’, [www.independent.co.uk/news/uk/politics/three-charts-that-show-how-poor-productivity-is-in-the-uk-but-is-it-because-were-just-lazy-10380200.html](http://www.independent.co.uk/news/uk/politics/three-charts-that-show-how-poor-productivity-is-in-the-uk-but-is-it-because-were-just-lazy-10380200.html)

## AUTHORS

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### ANITA CHANDRAKER

PA expert in digital



Anita leads PA's digital team, who specialise in helping organisations define their digital future and the route to get there. She is passionate about encouraging the next generation of innovators and entrepreneurs, and sponsors our annual Raspberry Pi competition – a contest that challenges students of all ages to use the Raspberry Pi computer to create inventions that make the world a better place.



### HANS HOUMES

PA expert in consumer products and manufacturing



Hans leads PA's manufacturing team in the Netherlands and specialises in assessing the impact of innovation and new technology on marketing and operations. He focuses on what companies need to do to become more efficient and effective at adopting smart manufacturing technology and guides leadership teams to put these methods into practice. Hans also plays a leading role in our programme for business design with Henley Business School. He enjoys making clear and simple links between market, operations and technology, and directing organisations to discover and realise innovative opportunities.

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“The vast majority of respondents told us that harnessing digital plays a crucial role in winning the innovation race. Without the ability to capture, analyse and share data across your organisation and partners, you will struggle to understand what your customers want, and potentially groundbreaking ideas will remain buried – giving your competitors the edge.”

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“Leaders must design their business around innovation. From the design of the office building to the operating model, all aspects of the organisation must support the development and delivery of new ideas.”





### JONATHON HOGG

PA expert in people and talent



Jonathon leads our people and talent team, who help our clients build high-performing leadership teams and attract and develop the right people to grow their business. He started out in the world of advertising where he developed a real passion for creativity and the art of great communications. With 25 years of consulting experience under his belt, Jonathon provides senior advisory support in the area of talent management.

His current passion lies in helping organisations become more open to creativity and innovation – something he believes is essential for future economic prosperity.

“Our research shows a passion for innovation is no longer enough. Customers are prepared to switch their allegiance en masse to the brands that provide them with the most groundbreaking experiences; this means innovation must become the lifeblood of every organisation.”



### COLM REILLY

PA expert in government

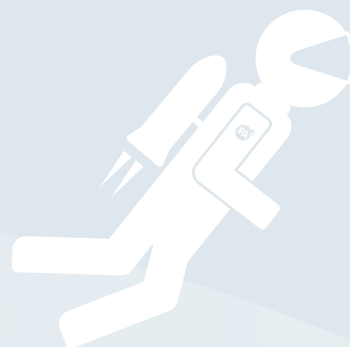


Colm leads our economic development team, who advise governments and companies internationally on how to drive sustainable economic growth. This includes helping companies within a country to export their services and establish a global presence, and encouraging foreign direct investment by providing overseas organisations with the support, advice and infrastructure they need to bring their business to the region. Colm believes innovation has a central role to play in raising productivity and driving growth at a national and global level, and he is particularly passionate about unleashing the potential of IT and technology to transform businesses and economies.

“Technology has driven globalisation and reduced costs. Prices in labour and capital are equalising as the world moves to a global economy.

The scarcest and most valuable resources now are ideas and the ability to put ideas into action – into the hands of those who will pay for them.

This is the key to company competitiveness and increased productivity. Businesses have to recognise that people with ideas are valuable and they can profit from their innovations.”



## ABOUT PA CONSULTING GROUP

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### WE MAKE THE DIFFERENCE

PA is a consulting, technology and innovation firm. We define success as achieving exceptional results that have a lasting impact on businesses, communities and individuals worldwide.

This principle has remained the cornerstone of our ethos since 1943 – and it continues to underpin everything we do.

Our clients choose us because we challenge convention to find the solutions that really work – in practice, not just on paper. Then we roll up our sleeves and get the job done.

**At PA we do not just believe in making a difference.  
We believe in making the difference.**

Our 2,500 people are experts in a wide range of industries, and we bring in specialists from across our firm to ensure our clients receive the best service. Our specific expertise is in energy and utilities, financial services, healthcare, life sciences, consumer products and manufacturing, government, defence and security, transport and logistics.

We operate globally from our principal offices in the Americas, Europe, the Nordics, the Gulf Cooperation Council and Asia Pacific.

So wherever the challenge is, we have a team nearby.

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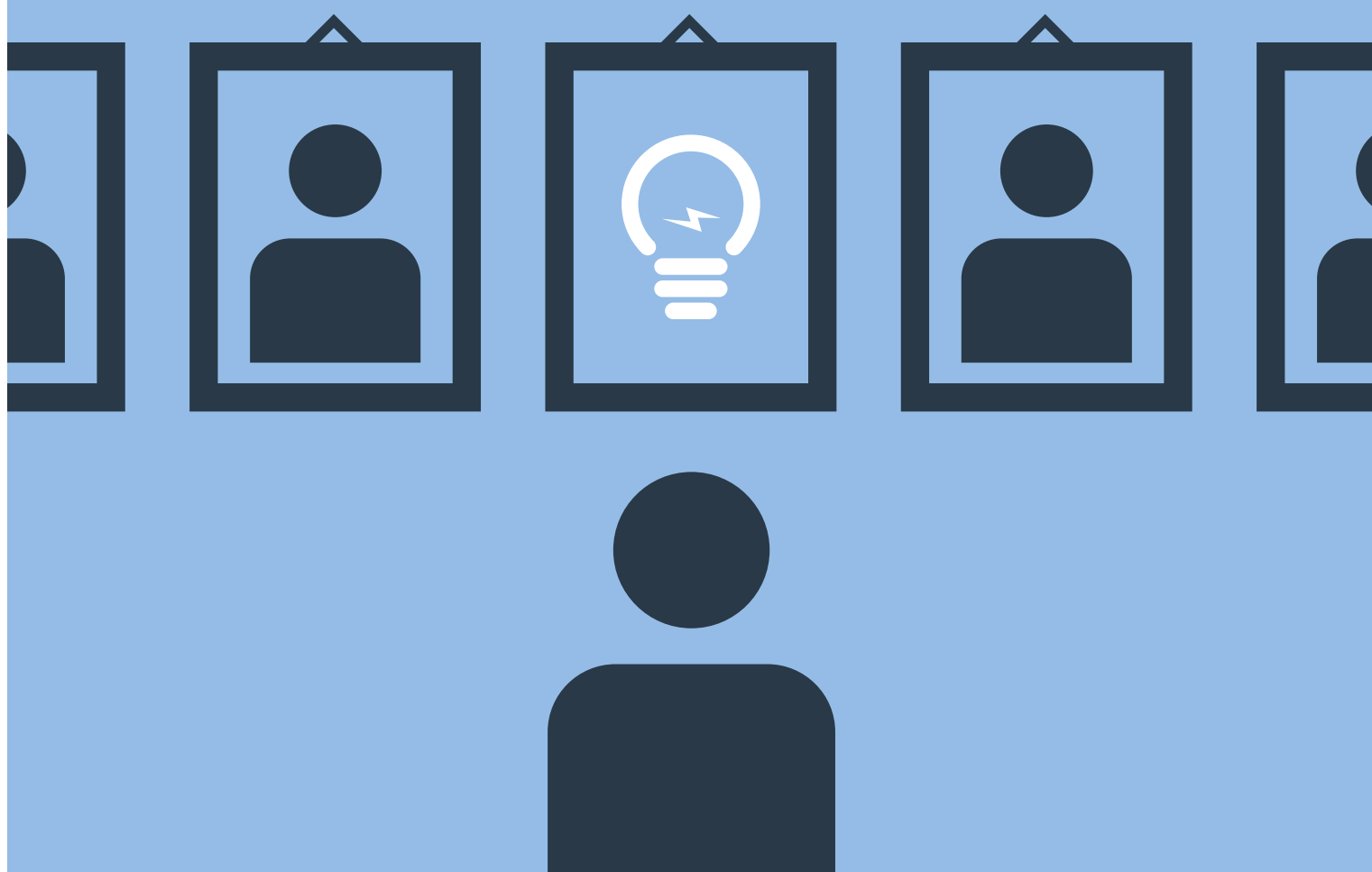
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# Innovation leaders bring new life to the traditional board



# PART ONE: INNOVATION AS UNUSUAL

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“The big mistake is when companies follow the trusted approach [to innovation] and become stagnant. One day you wake up and you are irrelevant. Drifting towards irrelevance happens slowly, but it is a dangerous trap.”

WILL PAPA  
SENIOR VICE PRESIDENT AND  
CHIEF RESEARCH AND DEVELOPMENT OFFICER  
THE HERSHEY COMPANY

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UK organisations  
alone are flushing  
some £64.7 billion  
down the drain  
each year.





## INTRODUCTION

### THE INNOVATION DRAIN



**Is innovation broken? Our latest research shows that many organisations are too risk averse to invest boldly in groundbreaking ideas.**

Only half of organisations in our study try to be pioneers in innovation. When they do get a good idea, many waste that good idea – and half say they have seen a brilliant idea fail for reasons that could have been avoided. By applying our findings to Nesta's<sup>4</sup> latest figures on innovation spending, we estimate UK organisations alone are flushing some £64.7 billion<sup>5</sup> down the drain each year. To put this into context, £64.7 billion is over half of the EU's annual budget (€145 billion),<sup>6</sup> equivalent to the global spend on cancer drugs (over \$100 billion)<sup>7</sup> and greater than the US Department of Education's budget (\$67.1 billion).<sup>8</sup>

It is clear that the majority of organisations are struggling with innovation – losing out financially and forgoing huge opportunities in future competitiveness and productivity gain. As Jim Kirkwood, Chief Science and Technology Development Officer at General Mills explains, “Across the board, people have come to the conclusion that you have got to change or die. The only way to get growth is through being a truly superior innovator.”

In our experience, superior innovators ensure that innovation is a shared endeavour, not a siloed activity. Yet too many organisations continue to view innovation as the responsibility of the R&D department – and this severely limits their ability to identify and develop breakthrough ideas with the potential to transform their industry.

Even companies that are widely considered to be innovative are becoming increasingly reliant on buying innovation to stay relevant and competitive. In the technology sector Google has acquired 180 companies since 2001, while in the pharmaceutical sector many large organisations are buying existing products or R&D capability. A prominent example of this is the \$72.7 billion acquisition of Allergan (the company that created Botox) by Actavis, with Brent Saunders, Chief Executive Officer of Actavis, stating, “Allergan really stood for innovation.”<sup>9</sup>

While buying innovation can be valuable, it comes with risks – and to be successful it must be carried out within a culture that understands and actively nurtures innovation. Without this culture, the host organisation risks quashing its newly acquired capability and wasting its investment.

4. Nesta is the leading UK innovation charity. Find out more at [www.nesta.org.uk/about-us](http://www.nesta.org.uk/about-us)

5. In our survey, 51% of UK companies said their innovation had ‘at times proven to be a costly failure’. If applied to the £127 billion that Nesta estimates was spent on intangible UK innovation in 2011, this equals £64.7 billion. Source: [www.nesta.org.uk/sites/default/files/1407\\_innovation\\_index\\_2014.pdf](http://www.nesta.org.uk/sites/default/files/1407_innovation_index_2014.pdf)

6. European Union, [http://europa.eu/pol/financ/index\\_en.htm](http://europa.eu/pol/financ/index_en.htm)

7. Andrew Ward, ‘Global spending on cancer drugs surges to \$100bn’, ft.com, 5 May 2015, [www.ft.com/cms/s/0/40d7c23c-f256-11e4-b914-00144feab7de.html#axzz3fVAEk400](http://www.ft.com/cms/s/0/40d7c23c-f256-11e4-b914-00144feab7de.html#axzz3fVAEk400)

8. US Department of Education Budget Office, [www2.ed.gov/about/overview/budget/index.html](http://www2.ed.gov/about/overview/budget/index.html)

9. Tom DiChristopher, ‘What to expect from Actavis – Allergan merger: CEO’, cnbc.com, 18 February 2015, [www.cnbc.com/2015/02/18/what-to-expect-from-actavis-allergan-merger-ceo.html](http://www.cnbc.com/2015/02/18/what-to-expect-from-actavis-allergan-merger-ceo.html)

## INNOVATION KILLERS

### SO WHAT IS ACTUALLY GOING WRONG?

Our research identified five common ‘innovation killers’ that are stopping organisations from realising the potential of their innovation activity. Taken together, these killers point to a deeply ingrained culture of risk aversion where cost-cutting almost always takes precedence and investment in innovation is viewed as a ‘nice to have’.

Seven years on from the global financial crisis, many executives still refuse to invest in projects that do not guarantee a strong return on investment (ROI) – yet these tight expenditure controls are actually stifling future growth by preventing potentially brilliant ideas from making it to market.



1

### Fear

Around three in five respondents (58%) say they are unlikely to back high-potential but risky innovations, while overzealous risk management ranks among lack of budget, people or skills and difficulty moving beyond small scale as a top reason why brilliant ideas fail – see Figure 1 on the following page. A significant minority (47%) of respondents say they are not striving to be pioneers, suggesting that almost one in two organisations today do not even aspire to radical new thinking. For Ian Rhodes, Chief Executive Officer of McLaren Applied Technologies, innovation means taking a bold step into the unknown. Otherwise, he says, “It is like wanting to be a skydiver but never having the confidence to jump out of the aeroplane.”

2

### Lack of focus

In our survey, over half of respondents (53%) say they use the term ‘innovation’ to describe different things, while 42% agree innovation is something they talk about more than they do. This suggests many organisations lack focus and a clear innovation strategy – which can lead to wasted energy and resources. As explained by Paul Jansen, Professional Engineer, Associate Vice President of Medical Device Development at Sanofi, “You need to have a legitimate idea that can be executed or implemented. If you want it to be sustainable, you need to have it fit within a strategy. How does it all fit together?”

3

### Engine failure

Organisations are struggling to develop and commercialise their best ideas at pace. Asked to pick from 13 common barriers to innovation – shown in Figure 2 on the following page – respondents point first and foremost to scaling up ideas for large-scale use (25.3%). They also cite difficulty moving beyond small scale as a top reason why brilliant ideas fail. As Roy Kramer, Director of Nyenrode University, says, “We are challenging an international Dutch bank and not on whether it can search for yield or a new distribution model. Instead, we are asking them, ‘Are you able to innovate and able to implement the innovation? Are you able to change, are you agile?’”



**FIGURE 1:**  
**WHY BRILLIANT IDEAS**  
**FAIL FOR AVOIDABLE**  
**REASONS (%)\***



**FIGURE 2:**  
**BIGGEST BARRIERS TO**  
**INNOVATION WITHIN**  
**ORGANISATIONS (%)\***



\*Respondents could select up to three options.

4

## The wrong ROI

Organisations need tools to model the ROI from innovation projects – but they must be careful an accounting mindset does not kill creativity. Respondents rank difficulty in measuring ROI (25.2%) close behind scaling up ideas for large-scale use in the list of 13 barriers to innovation, which suggests that many are conflicted about the best approach to identifying winning ideas. As explained by Dr Keith McNeil, Chief Executive Officer of Cambridge University Hospitals, “With innovation, where you start and where you end up are usually very different places. If you focus too much on ROI up front, you stifle creativity. It is only when people come up with ideas that look good and have promise that you should start putting rigour around the ROI.”

5

## Reluctance to invest

When ideas fail for avoidable reasons, the cause most frequently cited by respondents is a lack of budget, people or skills (29.9%). Simply, the resources required for innovation are not made available. This is backed up by the 24.5% of respondents who said that insufficient investment is a top barrier to innovation.

Our research suggests that organisations with an innovative culture are better at driving growth – they have the confidence to take on high-risk innovation, the capability to learn quickly from failure and the right mix of talent to make innovation happen. Above all, they have strong leadership that encourages and nurtures innovation.

## INNOVATION LEADERS

### WHAT SEPARATES THE BEST FROM THE REST?

#### METHODOLOGY FOR IDENTIFYING THE INNOVATION LEADER GROUP

The goal of our research was to identify best-practice approaches to innovation. In particular, we sought to isolate the key traits shared by the most outstanding innovators.

To do this, we asked 751 survey respondents to rate how their organisation performed against a set of innovation criteria.

The results of the survey showed that of the private sector respondents who strongly agreed their leadership is good at nurturing and encouraging innovation, 71% had seen their profitability increase in the last 12 months. Furthermore, 35% of this group had delivered over 10% earnings before interest, tax, depreciation and amortisation (EBITDA) growth in the same period, compared with just 16% of the rest of the private sector respondents.

We then looked closely at the entire group of 219 organisations (public and private) that strongly agreed their leadership is good at encouraging and nurturing innovation. We found this group performed far better than the rest (532 survey respondents) against a number of innovation criteria, outlined below.

We identified these 219 organisations as our innovation leader group based on their stronger performance against these key criteria and the proportionally higher number of private sector organisations in this group that had delivered strong financial results.

Our research shows that innovation leaders:

- strive to be innovation pioneers (73% of leaders vs 45% of the rest)
- often back high-potential but risky innovations (57% of leaders vs 36% of the rest)

- learn quickly from mistakes in innovation (89% of leaders vs 60% of the rest)
- have the right mix of skills to make innovation happen (91% of leaders vs 57% of the rest)
- harness digital technology to accelerate their innovation initiatives (87% of leaders vs 64% of the rest)
- put innovation at the heart of their corporate culture and mission (71% of leaders vs 43% of the rest).

#### ANALYSIS

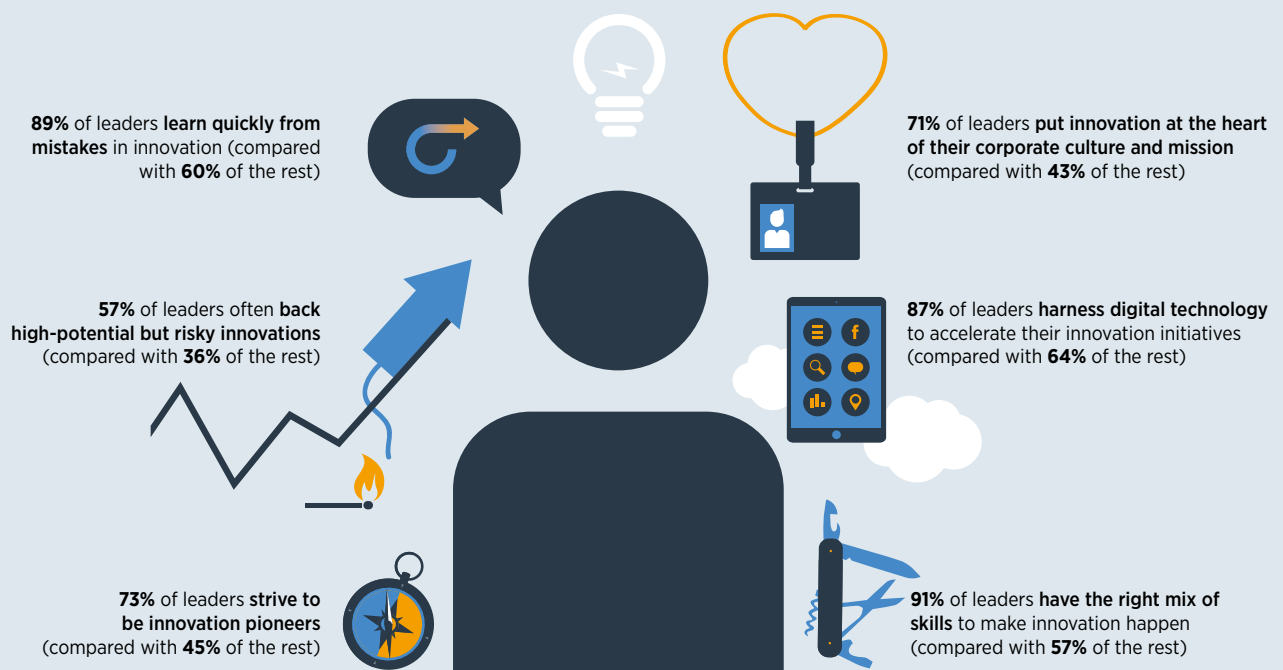
Our findings suggest that organisations with an embedded culture of innovation, reinforced by leadership that encourages and nurtures innovation, are more successful at translating their efforts into financial reward. Leadership was also cited as a key driver of innovation by many of the senior executives we interviewed. In the words of Dr Cristiano Marantes, Interim Director of Strategy and Regulation at UK Power Networks: “Employees need to be taken on a journey and to understand the need for and benefits of change. Clear direction from the top of the organisation is paramount.”

One of the most striking qualities of the leader group is that they are willing to take on high-risk innovation projects. While many of the survey respondents were more likely to focus on incremental product and service enhancements, the leader group is prepared to bet on breakthrough innovations. This is risky. But they learn quickly from their mistakes and deliver enough big wins to produce strong financial results. In addition to these criteria, there are many other areas where innovation leaders perform better than the rest. We discuss these differences in greater detail over the following pages and in Part Two.

## PROFILE OF AN INNOVATION LEADER

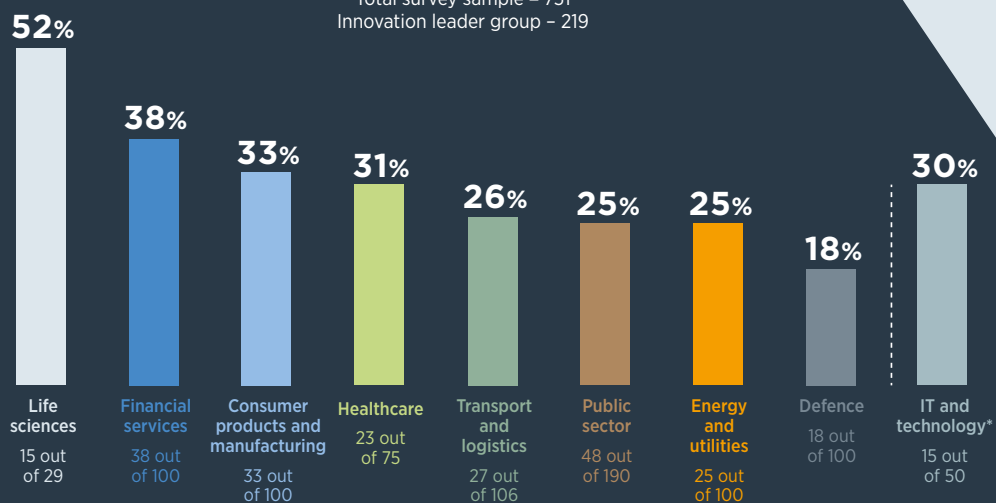
100% OF THIS GROUP STRONGLY AGREE THEIR LEADERSHIP IS GOOD AT ENCOURAGING INNOVATION.

71% had seen profitability increase in the last year. 35% of this group delivered over 10% EBITDA growth in the same period, compared with just 16% of the rest of the private sector respondents. Our 219 innovation leaders (out of 751 survey respondents) also performed strongly against the following six criteria:



### WHICH SECTORS HAVE THE MOST INNOVATION LEADERS?

Total survey sample – 751  
Innovation leader group – 219



NB: The public sector respondents that made our leader group are also included in the relevant industry they work in for healthcare (11), transport (3) and defence (7). Two of the respondents in the leader group classified their businesses as both life sciences and healthcare and are therefore included in both of these groups.

\*We have not included a summary on the IT and technology sector in this report and have therefore removed them from our ranking.

“Leadership is the most important thing. If you have people who have a passion for innovation and can lead, that is 80% of the battle won.”

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IAN RHODES  
CHIEF EXECUTIVE OFFICER  
MCLAREN APPLIED TECHNOLOGIES

## IS YOUR ORGANISATION AN INNOVATION LEADER?

TO FIND OUT IF YOUR ORGANISATION IS AN INNOVATION LEADER, COMPLETE THE FOLLOWING SELF-ASSESSMENT.

Consider the extent to which you agree or disagree with the following statements.

1	Our leadership is good at encouraging and nurturing innovation	<div> <div>Strongly disagree</div> <div>Strongly agree</div> </div>
2	We have the right mix of skills to come up with ideas and make them reality	<div> <div>Strongly disagree</div> <div>Strongly agree</div> </div>
3	We learn quickly from our mistakes in innovation	<div> <div>Strongly disagree</div> <div>Strongly agree</div> </div>
4	Digital technology is helping us to be faster and more effective in our innovation initiatives	<div> <div>Strongly disagree</div> <div>Strongly agree</div> </div>

Consider whether your organisation's approach to innovation is closer to one or the other statement.

5	We tend to avoid high-risk innovations	We often back high-potential but risky innovations	<div> <div></div> </div>
6	We prefer to be 'fast followers' in our market/area	We strive to be pioneers in our market/area	<div> <div></div> </div>
7	Innovation is not an explicit part of our mission or culture	Innovation is core to our culture and mission	<div> <div></div> </div>

“We see innovation as a holistic business driver. It is everybody’s responsibility and accountability to find those new changes and opportunities that are going to help create value for our company in the marketplace. We value all ideas, wherever they come from.”

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PETER ERICKSON  
EXECUTIVE VICE PRESIDENT  
INNOVATION-TECHNOLOGY-QUALITY  
GENERAL MILLS

# CROSS-SECTOR RECOMMENDATIONS

## PROMPTING ACTION IN YOUR ORGANISATION

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Organisations are static and risk averse at the top and, as a result, are losing millions through wasted ideas and missed opportunities.

Our leader group suggests that those organisations with an embedded culture of innovation are better at delivering growth. They have the confidence to take on high-risk innovation, the capability to learn quickly from failure and the right mix of talent to make innovation happen. Above all, they have strong leadership that encourages and nurtures innovation – driving it to the very top of the boardroom agenda.

Our research and analysis, reinforced by our experience of working with clients on their innovation challenges, has helped us develop seven recommendations that senior executives should consider to convert innovation investment into profitable return.

## OUR SEVEN CROSS-SECTOR RECOMMENDATIONS

### Critical questions

In the last year, what high-risk but high-potential innovations have you regretted not taking forward?

Do you have an innovation strategy that includes a clear definition of what innovation means in your organisation?

What are you doing to put innovation at the heart of your corporate culture and mission?

### 1 BE VISIONARY, AGGRESSIVE AND BOLD – WHATEVER YOUR PURPOSE FOR INNOVATION

In our survey, we see some organisations developing radical innovations around strategy or product development, while others are creating value through internal innovation. The crucial difference is how they are doing innovation. For all kinds of innovation, organisations need to be doing something new, visionary and bold. They need to be prepared to take risks. Strategic innovation might mean cannibalising your own business or opening your organisation up to new threats. Internal innovation might mean abandoning processes that have been in place for decades.

“Organisations should strive to make markets, dominate the competition and rethink how they are going to be profitable,” says Dave Smith, PA expert in product development. “Half-measure innovation will get you nowhere.”

**73% OF LEADERS, COMPARED WITH 45% OF OTHERS, STRIVE TO BE PIONEERS.**

**54% OF LEADERS, COMPARED WITH 32% OF OTHERS, ARE FOCUSING ON RADICAL, RATHER THAN INCREMENTAL, INNOVATION.**

“If you are going to take on real innovation,” says Ian Rhodes, Chief Executive Officer of McLaren Applied Technologies, “you have got to take a big, bold step into the unknown. You will face criticism. Things will look very difficult at times. You have got to have a belief in what you are doing and how you are going to succeed.”



#### RECOMMENDATION IN ACTION – PA CLIENT STORY

##### Launching Ora, the revolutionary new kitchen towel

Working closely with our client, Better All Round, we developed, and are supplying the market with, a revolutionary new kitchen towel – Ora.

Ora's bold new design – which layers single round sheets on an innovative stacking system – has transformed the kitchen towel market. It has resulted in 20% less packaging, over 30% fewer trucks on the road and less space required in the supermarket and in the home. It also makes life easier for the customer, which led to Ora winning the title of 'best new household product' in The Grocer New Product Awards 2014.

Read more about Ora in Part Four.



Have you got the right mix of people on your board and leadership team: managerial, entrepreneurial and explorer?

## 2 BRING NEW LIFE TO THE TRADITIONAL BOARD

In recent years, we have seen senior leaders focus their efforts on established commercial activity, cost-cutting and playing it safe. By selecting practical and risk-averse leaders, many organisations have remained profitable despite the ravages of the global financial crisis. Today, organisations need a wider mix of talents and skills at the top. As well as professionals from financial and operational backgrounds, they need creative talent to challenge assumptions about what their organisation should and should not do. They need people who are prepared to consider growth in places outside their comfort zone, and through untried and unfamiliar approaches.

“We need to cultivate creative thinking in the boardroom,” explains Jonathon Hogg, PA expert in people and talent. “This is essential to challenge the often blinkered focus on ROI and short-term financial performance. Creative mindsets and accounting mindsets are more complementary than many people think – but, first of all, innovators need a seat at the table.”

### RECOMMENDATION IN ACTION

#### Including a diverse mix of talent on your leadership team

PA has helped a number of our clients to improve the balance of capabilities on their leadership team – a factor we believe is crucial to building a culture of innovation.

According to Jonathon Hogg, PA expert in people and talent, “In addition to the traditional thinkers on the board, who tend to focus inwardly on financial outcomes and driving performance, organisations also need ‘explorers’: outward-looking individuals who scan the market for opportunities and energise the rest of the organisation to get behind new ideas.”

How can organisations bring more of these explorers to the top table? Firstly, it is important

to review the existing talent management strategy and address any bias towards left-brain thinking, which can result in creative personalities being overlooked (or worse, being viewed as disruptive). Secondly, organisations need to move beyond a ‘cookie-cutter’ approach to recruitment and development, and actively seek out a broader range of talent – being careful not to exclude disruptive or challenging thinkers. An objective assessment approach can be of great value here. Finally, once they have the right mix of talent on the leadership team, organisations must ensure the entire team is guided by a sense of shared purpose and values.

When did you last look outside your sector for innovation inspiration?

How aware are you of trends and potential disruptive competitors from outside your sector?



### 3 LOOK BEYOND YOUR SECTOR – AND THEN KEEP GOING

Innovation is as much about interpreting and repurposing existing ideas as it is about coming up with entirely new ones. Brilliant innovators look to other sectors, to see how they can adapt their innovations. They also spend time getting to grips with emerging concepts in academia and technology, and they learn from their direct competitors. Some (such as in robotics) get their best ideas from the animal kingdom. The best innovators then go beyond looking – they create new partnerships and alliances; they prepare to rethink their whole mission. This was a major theme that emerged in our qualitative research, yet many organisations fail to do this effectively. We discuss this issue in greater detail in Part Two.

**38% OF LEADERS, COMPARED WITH 27% OF OTHERS, HAVE GOT SOME OF THEIR BEST IDEAS FROM PARTNERS AND AFFILIATES.**

“We have an immense opportunity to move to a more consumer-driven, retail-type industry,” says Aneesh Kumar, Vice President of Enterprise Product Solutions at Cigna. “My approach is to look outside healthcare for inspiration – at consumer packaged goods, retail and financial services industries.”

#### RECOMMENDATION IN ACTION

##### Looking beyond your sector

To discover innovation inspiration from beyond your sector, turn to Part Two.

As well as analysing the differences in approach between sectors, we also share examples of some of the techniques organisations are using to uncover and develop brilliant new ideas.

Aside from generating revenue, what value has your innovation investment delivered in the last three years? This could include lives saved, natural disasters averted and how the innovation has enhanced the wellbeing of your customers.

## 4 MEASURE BY VALUE, NOT FINANCIAL CALCULATION

Our research suggests that a narrow focus on profit and loss can stifle innovation. The best innovations evolve slowly, need regular rework and simplification, and often look very different by the time they are finished. Calculating financial costs on a quarterly basis alone is counterproductive, especially within sectors that rely on complex and slow-moving infrastructure. As a result, organisations need to think differently about what constitutes – and what is likely to create – lasting success over the long term. They need to consider an innovation's future value to customers and markets. Would a new product, for example, make life easier for the consumer? Would a new medical device be more practical for patients to use than an existing one? This is a riskier approach, and may lead to short-term financial loss, but creates growth and new opportunity in the long term.

“It is a popular fallacy to think that calculating financial return in an aggressive manner will guarantee a healthier balance sheet,” says Colm Reilly, PA expert in government. “If organisations are doing something that delights their customers, it will pay off in time. It is harder to predict, but success is not possible without some risk.”

**86% OF INNOVATION LEADERS, COMPARED WITH 69% OF OTHERS, MEASURE INNOVATION BASED ON ITS CONTRIBUTION TO ‘THE GREATER GOOD’, SUCH AS AIDING THE ENVIRONMENT OR MAKING LIVES EASIER.**

“Most people understand we are trying to do something for the benefit of people,” says Dr Basil Matta, Divisional Director of Emergency and Perioperative Care at Addenbrooke's Hospital. “The reluctance to adopt is not necessarily about risk aversion. It is about making sure people understand that they may be missing a real opportunity by not understanding the benefit of the innovation being introduced.”

### RECOMMENDATION IN ACTION – PA CLIENT STORY

#### Improving outcomes for vulnerable adults

To respond to significant cost pressures and rising demand, Hampshire County Council decided to implement a telecare strategy to look after vulnerable residents. PA was engaged to support this innovative project, which delivered cost savings of £806,000 in the first year.

One of the key reasons the council's approach has been so successful is the focused way they measure benefits – looking beyond the direct cost savings to the wider impact of telecare. For instance, the referral process requires the social worker to state what other care components can be taken away or avoided as a result of using telecare. After auditing by the council, these values are tracked, user by user, and provide robust evidence of the savings achieved. With domiciliary care costing an average of £160 per week and a fully funded week in residential care over £500, these are significant cost reductions.

To view these benefits on an infographic see the public sector analysis in Part Two.

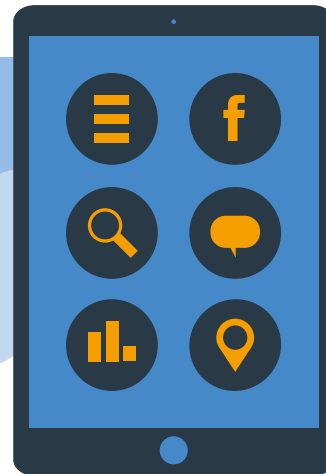
Has the chief information officer become the chief innovation officer in your organisation? Do you recognise this as a strategic decision or is it just happening naturally? Does this person have a cross-functional remit and are they able to work across the silos of your organisation?

## 5 GO BEYOND 'TOKEN DIGITAL'

Whatever kind of innovation they are pursuing, organisations need to adopt a 'disruption mindset' to ask whether digital technologies could make their tried-and-tested approaches more effective. How would a tech start-up use digital technology to rethink an internal HR process? How would they redevelop a successful existing product – would they even keep that product going or abandon it altogether? Organisations need to disrupt their own innovation.

**35% OF LEADERS, COMPARED WITH 17% OF OTHERS, AGREE STRONGLY THAT THEY ARE DEVELOPING NEW DIGITAL CAPABILITIES TO DISRUPT THEIR SECTOR.**

"Digital is not something you can just bolt on to your innovation strategy," says Anita Chandraker, PA expert in digital. "To stop paying innovation lip service, digital thinkers need to be there as early as possible to flag up issues and suggest new and unthought-of ways of doing things."



### RECOMMENDATION IN ACTION – PA CLIENT STORY

#### Creating new possibilities for collaboration for 10,000 health researchers

Every year, the government invests £1 billion in health and care research to improve treatments and services for NHS patients. A new cloud-based collaboration platform, developed by PA for the National Institute for Health Research (NIHR), allows 10,000 researchers to work together effectively to deliver maximum impact from this investment.

'The Hub' is the largest UK implementation of Google Apps for the public sector to date. It provides over 1,000 times the storage of the old system and has reduced running costs for a collaboration platform by around 50%. 'The Hub' was a finalist for the 2014 UK IT Industry Awards.

Does failure mean the end of innovation in your organisation or do you reward 'frugal failure' (ie failure that happens rapidly and at minimal cost)?

Do you embrace failure as a necessity to high-risk innovation?

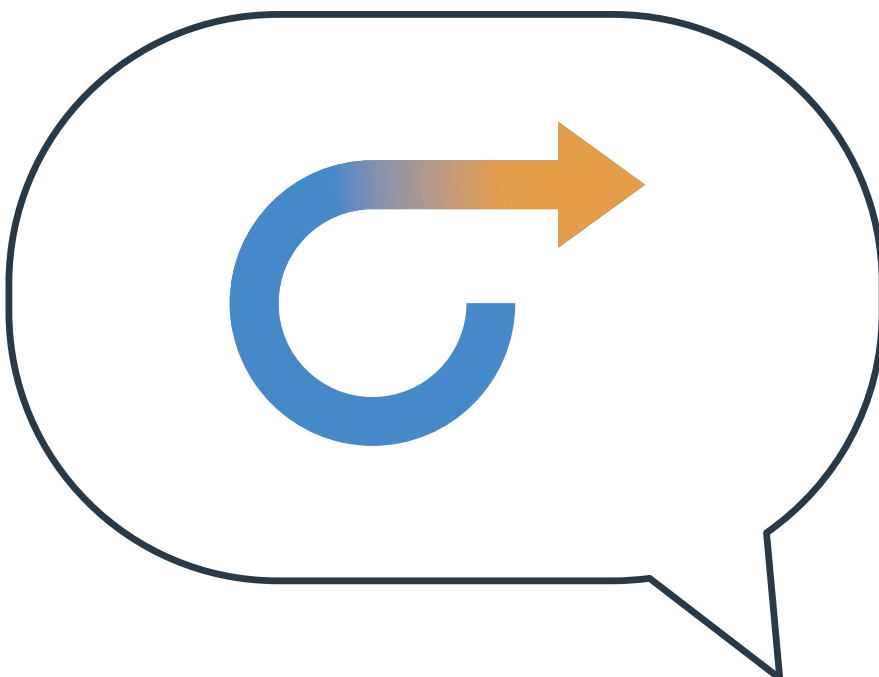
## 6 FAIL SAFE, FAIL FRUGAL

Failing fast is not a new concept, but many organisations are still reluctant to endorse failure of any kind. Failure does not need to be expensive, as experimenters in defence and transport have shown in Part Two. Neither should it lead to career risk. Brilliant innovators encourage innovation time among all their employees. Some even consider celebrating or rewarding near-miss ideas that were good, but not possible.

**89% OF LEADERS, COMPARED WITH 60% OF OTHERS, LEARN QUICKLY FROM MISTAKES IN INNOVATION.**

"Organisations need to be designed and managed in a way that allows for the sharing and reworking of ideas," says Hans Houmes, PA expert in consumer products and manufacturing. "If the structure and leadership prevents people from experimenting instead of supporting collaboration between people with different skills and from different backgrounds, then you have a major barrier to innovation."

"We talk about failing fast and failing frugally," explains Peter Erickson, Executive Vice President, Innovation-Technology-Quality at General Mills. "We know we are going to fail. It is part of the process of truly innovating. We have spent a lot of time trying to get to those failures earlier in the lifecycle of an innovation, with a smaller financial cost."



Do you give people across your organisation dedicated 'innovation time'? Do you reward and recognise your employees (financially and otherwise) for generating new and useful ideas and championing them in the organisation?

Do you give your people the necessary time and resource to nurture good ideas?

Do you have a dedicated innovation space where people can come together to innovate?

## 7 BRING IN ANTIBODIES TO FIGHT OFF STANDARD INNOVATION KILLERS

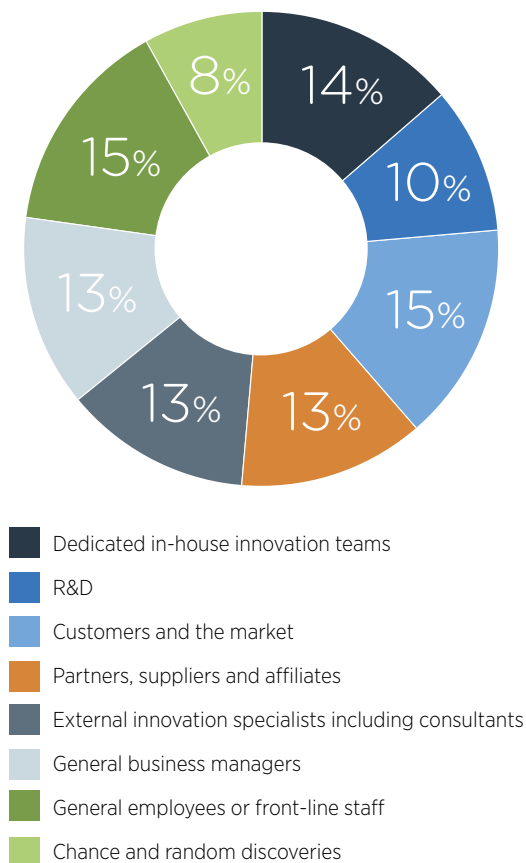
Across sectors, the same barriers to innovation crop up again and again. The resources are not available. Our creativity is stifled by rules and risk aversion. The infrastructure is inflexible. We have good ideas but struggle to implement them. Organisations can make these problems go away by putting a set of standard 'antibodies' in place:

- enable innovation and experimentation among all employees. According to our survey data, illustrated in Figure 3, organisations' best ideas come from all departments – not just R&D
- incentivise employees to come up with and implement ideas
- give department managers an 'innovation mandate' to talk through ideas, suggest rework and cherry-pick potential winners
- include the financial team early on to get input and buy-in on the value proposition.

**65% OF LEADERS, COMPARED WITH 35% OF OTHERS, MAKE INNOVATION A MAJOR FOCUS FOR EVERYONE IN THE ORGANISATION.**

**21% OF LEADERS, COMPARED WITH 12% OF OTHERS, MAKE INNOVATION PART OF THEIR EMPLOYEES' TOTAL REWARD.**

**FIGURE 3: SOURCES OF INNOVATION AS CITED BY SURVEY RESPONDENTS**



### SUMMARY

In the course of our research, several experts described 'innovation' as a catch-all term that meant different things to different people. Yet there is no denying that creative thinking – if suitably encouraged, nurtured and put into practice – leads to massive commercial advantage and new heights of internal efficiency. Embedding a more innovative culture cannot be done overnight, but it should not be thought of as an unrealistic or imprecise goal. As our findings show, innovation is certainly achievable – it may just mean challenging convention and 'the done thing' at the very heart of the organisation.



# Innovation leaders back high-value but risky innovation





# PART TWO: INNOVATION ACROSS SECTORS

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“We have an immense opportunity to move to a more consumer-driven, retail-type industry. My approach is to look outside healthcare for inspiration – at consumer packaged goods, retail and financial services industries.”

ANEESH KUMAR  
VICE PRESIDENT  
ENTERPRISE PRODUCT SOLUTIONS  
CIGNA

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## CLIENT EXPERIENCES



“The university seeks to bring small gaming companies together with banks and other financial services firms, with the former encouraged to suggest how the latter’s business model can be improved and how to create an innovative culture.”

ROY KRAMER, DIRECTOR,  
NYENRODE UNIVERSITY

“We may come up with an innovation, but if it does not fit our strategic core, we would be better to out-license it and let someone else get it to market rather than try and do it ourselves and be stuck with something that does not fit.”

PAUL JANSEN, PROFESSIONAL ENGINEER, ASSOCIATE VICE  
PRESIDENT MEDICAL DEVICE DEVELOPMENT, SANOFI

“We have anthropologists that go into consumers’ homes and ‘breathe their air’. We have even walked with them through the grocery store to find out what their problems are.”

JIM KIRKWOOD, CHIEF SCIENCE AND TECHNOLOGY DEVELOPMENT OFFICER,  
GENERAL MILLS

“Everybody joins as a junior officer and then grows through the organisation. There is a tendency, culturally, to think we are different and cannot apply the logic of other sectors to ourselves.”

AIR VICE-MARSHAL RICHARD KNIGHTON, ASSISTANT CHIEF OF THE AIR STAFF,  
UK MINISTRY OF DEFENCE

“We run innovation competitions twice a year where everybody can contribute ideas. We encourage everyone. Interesting ideas will be assigned to somebody to take care of and nurture.”

TOMASZ GOLDMAN,  
VICE PRESIDENT, JABRA  
TECHNOLOGY MANAGEMENT

“To change the culture, people need to be exposed to new ideas and entrepreneurs and some of the disruptions that are going on. To encourage this, Exelon has established a ‘Four i’s’ framework for innovation. We aim for this to *inspire* people, as well as to create opportunities for them to *ideate*. Then *investigate* and *implement* are the piloting and later scaling of those ideas.”

SONNY GARG, CHIEF INFORMATION AND INNOVATION  
OFFICER, EXELON

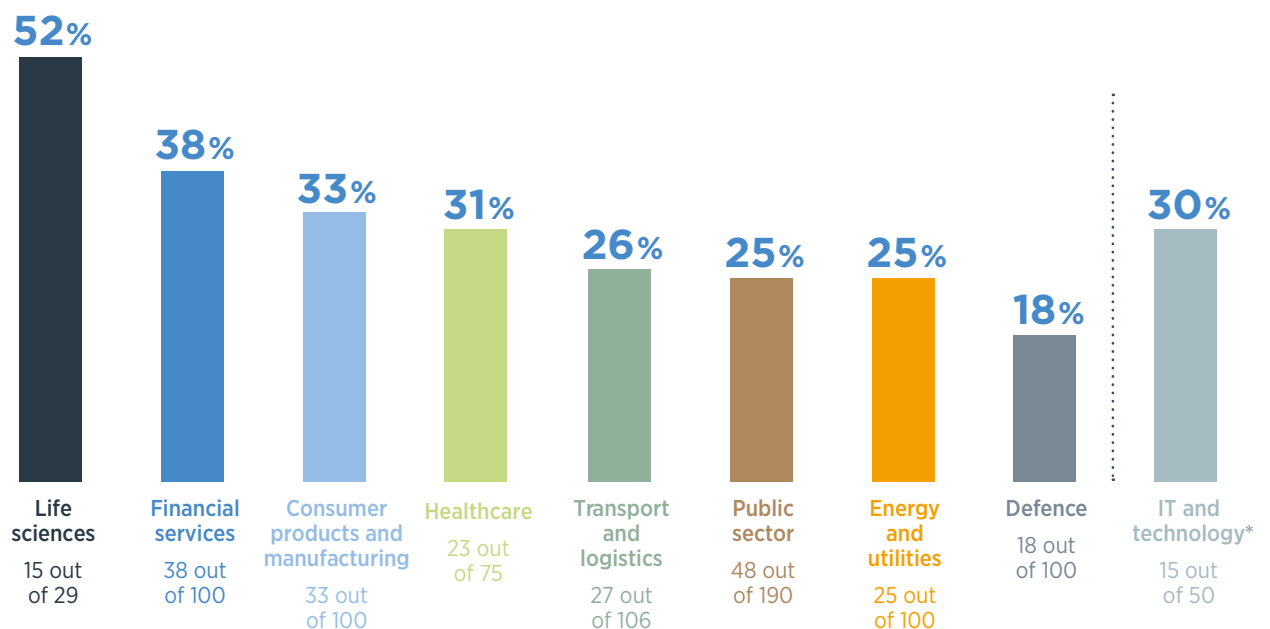


## INTRODUCTION TO OUR SECTOR ANALYSES

Our interviewees consistently highlighted how looking across sectors is one of the most useful ways to gain innovation inspiration. Over the following pages we focus on how eight different sectors are adapting to meet their specific innovation challenges and opportunities. Below, you can see the breakdown of the innovation leader group by sector. We encourage you to read the sector pieces you believe will challenge your thinking on innovation the most.

### SECTOR LEAGUE TABLE

Based on the number of innovation leaders in each sector



NB: The public sector respondents that made our leader group are also included in the relevant industry they work in for healthcare (11), transport (3) and defence (7). Two of the respondents in the leader group classified their businesses as both life sciences and healthcare and are therefore included in both of these groups.

\*We have not included a summary on the IT and technology sector in this report and have therefore removed them from our ranking.

## LIFE SCIENCES

### MANAGING HIGH-RISK INNOVATION

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Authored by PA life sciences expert:



**Innovation is a high-stakes affair in life sciences. Not only are R&D costs extremely high, but success or failure can literally be a matter of life and death. It is therefore unsurprising that life sciences came out top of our innovation leader group (see sector dashboard on the following page). A pharmaceutical or biotech company's ability to develop and bring to market a new treatment quickly can save thousands of lives. Getting that new treatment wrong can have the most tragic of consequences.**

Life sciences firms are not averse to taking risks in innovation. The clear majority (66%) of sector executives participating in our survey say their firms often back high-potential but risky innovations (see sector dashboard on the following page), outperforming our innovation leader group by 9%. Almost seven in 10 (69%) say they are focusing on radical rather than incremental innovation – the highest among all sectors in our survey.

“Necessity is the mother of innovation. The Ebola outbreak was something that could have potentially become a pandemic. It focused the minds and attentions of the pharmaceuticals and biotechs, resulting in a number of drugs that are now in clinical trials.”

NEIL SAWARD,  
PA EXPERT IN LIFE SCIENCES

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Life sciences companies do not just take these risks to stay ahead of the competition – policymakers and regulators often demand it, particularly when health emergencies arise. The most recent Ebola outbreak in Africa resulted in the fast-tracking of development and clinical trials in many countries in a matter of months. Ordinarily, the research, development and trial stages can last two or more years.

Such high stakes help explain why life sciences companies treat innovation as part of their DNA. Four out of five sector respondents (83%) say that innovation is core to their culture and mission – outperforming our innovation leader group by 12%.

A higher risk appetite does, however, inevitably lead to greater potential for failure. Life sciences companies may bring several new drugs and treatments to market each year, but 69% of respondents admit that innovation in their organisation has, at times, been a costly failure. This is the highest among the eight focus sectors covered in this report (only IT and technology scored higher on this question in the survey).

## HOW THE LIFE SCIENCES SECTOR COMPARES WITH THE INNOVATION LEADER GROUP

POSITION  
IN LEADER  
GROUP

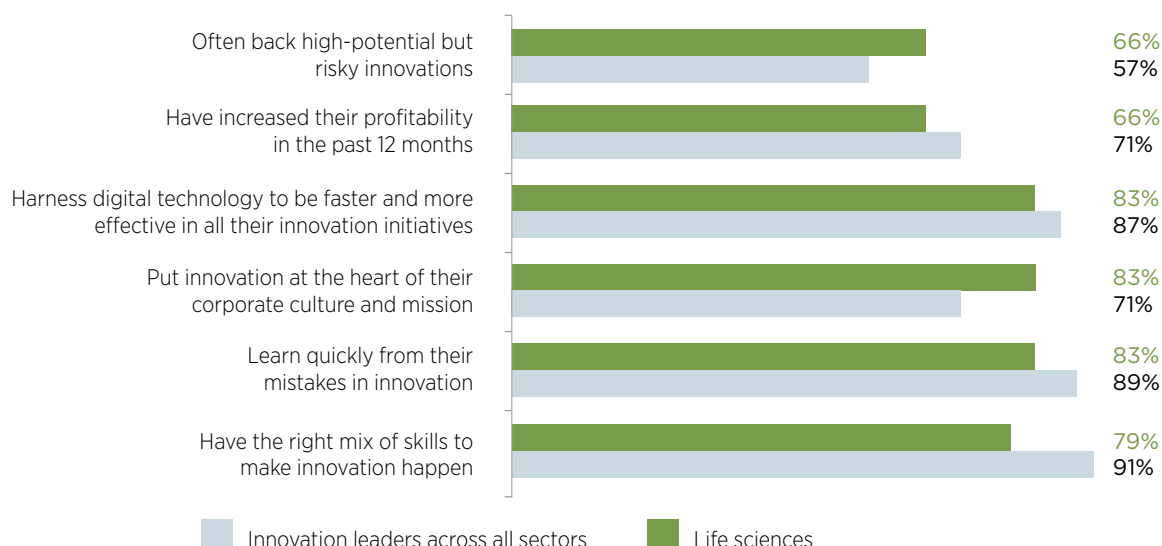
1/8

NUMBER OF  
INNOVATION  
LEADERS IN  
SECTOR SAMPLE

15/29

PERCENTAGE  
OF INNOVATION  
LEADERS IN  
SECTOR SAMPLE

52%



Pfizer's torcetrapib drug is a prime example. It was designed to treat hypercholesterolemia (elevated cholesterol levels) but preliminary trial data found the drug appeared to be linked with deaths and heart problems in the patients taking it. The company scrapped the drug – costing it a staggering \$800 million.<sup>10</sup> Late-stage clinical trial failures are also common throughout the sector and estimates of trial success rates at late stages – where most costs are incurred – range from 50% to 25% or below.<sup>11</sup>

### ANALYSIS OF SECTOR CHALLENGES

#### 1. Restrictive regulation

Restrictive sector-wide regulation is, along with embedding change and improvement in a sustained way, the joint highest barrier to innovation in life sciences, as cited by 35% of sector respondents to our survey. The regulatory approval process can work smoothly when there are health emergencies. However, when life-saving drugs are not involved, the mandated regulatory processes and body of evidence required to prove the safety and efficacy of drugs can be restrictive – particularly for smaller companies.

#### 2. Embedding change and improvement

As previously noted, this is the other major drag on innovation for survey respondents cited by 35%. Our research suggests life sciences firms find incremental innovation – such as process changes to enhance efficiency – harder than the development of new treatments.

“The term ‘innovation’ is often used to describe the process of generating good ideas, but the truth is you are really only innovative if you can get those ideas to market and people can see the value in them when they get there.”

PAUL JANSEN, PROFESSIONAL ENGINEER, ASSOCIATE VICE PRESIDENT MEDICAL DEVICE DEVELOPMENT, SANOFI.

#### 3. Implementation of ideas

Two-thirds of respondents have seen brilliant ideas fail for reasons that could have been avoided. The main cause, as cited by nearly half (42%) of respondents, is poor implementation of ideas, followed by difficulty moving beyond small scale (37%).

10. Matthew Herper, 'Behind Pfizer's failure', forbes.com, 12 April 2006, [www.forbes.com/2006/12/03/pfizer-heartdisease-drug-biz-cx\\_mh\\_1204torcetrapib.html](http://www.forbes.com/2006/12/03/pfizer-heartdisease-drug-biz-cx_mh_1204torcetrapib.html)

11. David Grainger, 'Why too many clinical trials fail – and a simple solution that could increase returns on pharma R&D', forbes.com, 29 January 2015, [www.forbes.com/sites/davidgrainger/2015/01/29/why-too-many-clinical-trials-fail-and-a-simple-solution-that-could-increase-returns-on-pharma-rd/](http://www.forbes.com/sites/davidgrainger/2015/01/29/why-too-many-clinical-trials-fail-and-a-simple-solution-that-could-increase-returns-on-pharma-rd/)

## ANALYSIS OF SECTOR OPPORTUNITIES

To adopt an innovative culture, one that is confident with risk-taking and learns quickly from failure, life sciences companies must focus on the following areas:

### 1. Collaborate to innovate

Over the past 10 to 15 years, we have seen pharmaceuticals begin to collaborate with biotechs and other pharmaceuticals frequently on sector-wide challenges. For example, we are seeing more industry solutions to problems such as sharing clinical trial data and providing industry-standard data models. Neil Saward, PA expert in life sciences says, "Pharmaceuticals can continue to learn from agile biotechs. Closer collaboration with the healthcare sector also has its advantages – insurance companies have electronic medical records that can help inform clinical trials, and many healthcare providers are starting to embrace wearable technology to help with patient monitoring."

### 2. Allow time and space to innovate

Innovators need time and space to develop good ideas. Internet firms such as Google and Facebook are famous for creating informal environments, but life sciences companies are doing the same. Just over one-third of survey respondents say their firms have created dedicated innovation spaces. Over half (55%) set aside time each day for employees to focus on innovative ideas.

### 3. Provide strong leadership and vision

Nearly nine in 10 life sciences respondents (86%) believe their leadership is good at encouraging and nurturing innovation. "Management needs to have a clear vision of what the company must achieve in innovation," says one senior expert interviewed for this report. "It should be able to determine and articulate the strategy, and ensure the organisation's financial and people resources are fully aligned to develop the right products, processes and outcomes."

## CLIENT EXPERIENCE

### Sanofi's innovation spaces help create new patents

The physical environment for developing ideas has received management attention at Sanofi. One result is the creation of what Paul Jansen, Professional Engineer, Associate Vice President of Medical Device Development at Sanofi, terms 'the cone of silence' – a small room with a curved, insulated wall with a screen, along with a chair

and a computer. A Sanofi patent will appear on the screen in text and drawings, and employees are challenged to develop new ways of achieving the same result. This has helped the company expand its patent families of devices from 50 in 2006 to over 1,400 today, according to Paul.

“There is substantial innovation in the area of cancer drugs – in particular in harnessing the immune system to attack cancerous tissue. The regulators have recognised you cannot put people on trials for years when they have only got months to live. They are therefore fast-tracking potential breakthrough technologies. Bristol-Myers Squibb recently presented the outcomes of an international trial on 945 patients that found combined treatment with ipilimumab and nivolumab stopped advanced melanoma progressing for nearly a year in 58% of cases. Without the treatment, only 10% of patients would survive 12 months.”

NEIL SAWARD, PA EXPERT IN LIFE SCIENCES

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#### 4. Set clear focus and governance

Sanofi places a high priority on tightly focusing its innovation activity on areas it feels play to the company’s strengths. “We may come up with an innovation,” says Paul Jansen, Professional Engineer, Associate Vice President of Medical Device Development at Sanofi, “but if it does not fit our strategic core, we would be better to out-license it and let someone else get it to market rather than try and do it ourselves and be stuck with something that does not fit.”

Such an approach demands tight governance of the innovation process. The 72% of life sciences respondents who say their firms use a framework to structure innovation activity is the highest of any sector in the survey. For many firms, this means adopting a portfolio approach to their multiple innovation initiatives. Project managers often have freedom to experiment, but transparency and tight discipline mean that senior management can jettison or offload projects that do not look like delivering the desired results or do not fit the strategy.

“You need to have a legitimate idea that can be executed or implemented. If you want it to be sustainable, you need to have it fit within a strategy. How does it all fit together?”

PAUL JANSEN, PROFESSIONAL ENGINEER, ASSOCIATE VICE PRESIDENT MEDICAL DEVICE DEVELOPMENT, SANOFI

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#### ABOUT THE RESPONDENTS

Our survey comprised 29 respondents from the life sciences industry. Respondents were active in biotechnology (49%), pharmaceuticals (40%), healthcare provision (6%), healthcare supplies (3%) and related industries.

The vast majority of respondents (86%) held C-level positions, with the rest fulfilling other senior management roles. Over half (54%) came from organisations with annual revenues exceeding \$1 billion.

## FINANCIAL SERVICES

### BREAKING OUT OF THE REGULATION STRAITJACKET

Authored by PA financial services experts:



GAVIN NEILSON



DAVID TROMAN



“In the past year or so, we have seen a big shift from our banking and financial services clients towards seeking learning from the most innovative players in the broader marketplace.”

GAVIN NEILSON, PA EXPERT IN FINANCIAL SERVICES

**Among the most regulated of industries, incumbent banks and other financial institutions have been buffeted by waves of rule-making over the past decade, especially since the global financial crisis. As a result, banks and insurers have been preoccupied with remaining compliant and have focused less on how they innovate in the marketplace.**

Perhaps then, it should be of little surprise that the industry is one of the most inward facing among respondents. When asked which industries they are most likely to learn from when it comes to innovation, one-third (32%) of sector respondents say they look to other financial services firms and 23% cite the related field of professional services.

A large majority of financial services executives (68%) also say their firms obtain the greatest value from incremental innovation, which generally means improvements to processes and tweaks to existing products and services. While financial services firms view themselves as highly innovative (reflected in their second-place position in our leader group – see sector dashboard on the following page), just 35%, compared with the innovation leader group at 57%, often back high-potential but risky innovations and only one in 10 (11%) profess to focus strongly on breakthrough or radical innovation.

This is not to say that innovation is alien to the sector. ‘Fintechs’ – small, nimble software-based providers – have proven extremely disruptive, particularly in service delivery, and are likely to be among the 11% who say they do strongly pursue radical innovation. Some larger banks are also using digital technologies to expand their delivery options in areas such as mobile account access. In the insurance industry, many firms are pioneering technologies like in-car telematics to price risk more effectively, and mobile apps to make an inventory of personal property for household insurance policies.

Innovation initiatives of large financial services firms have tended to be reactive rather than entrepreneurial. Roy Kramer, Director of Nyenrode University (many of whose students are financial sector executives), believes large banks know they must innovate, but find they are restricted by many rules and regulations. “If you are a large bank, you cannot really be entrepreneurial,” he says.



## HOW THE FINANCIAL SERVICES SECTOR COMPARES WITH THE INNOVATION LEADER GROUP

POSITION  
IN LEADER  
GROUP

**2/8**

NUMBER OF  
INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**38/100**

PERCENTAGE  
OF INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**38%**



### ANALYSIS OF SECTOR CHALLENGES

#### 1. The rules-based regime stifles creativity

In our survey, 28% of financial services respondents list restrictive sector-wide regulation as their top barrier to innovation — making it the most commonly cited of all 13 available options, including insufficient investment and difficulty scaling up ideas for large-scale use. When good ideas fail, a similar proportion (27%) blame governance restrictions. Roy Kramer, Director of Nyenrode University, has a warning for big banks and insurers: “Having an innovative culture is quite different from having a compliance culture. At the same time, these regulations still protect the financial sector from new game changers. You can last quite well for five years but, after that, you will face a huge problem.”

#### 2. The compliance focus creates high risk aversion

Little more than a third of respondents (35%) say they often back high-potential but risky innovations – compared with 57% of the leader group (see sector dashboard above). Nearly half (46%) say their organisations talk more about innovation than they do innovation.

#### 3. Legacy systems hinder the implementation of good ideas

Established banks and insurers are often burdened by decades-old IT systems and databases, which prevent innovations developed by digital teams from being implemented quickly. Younger Fintechs and challenger banks have not only avoided the legacy trap, but their business models usually have digital at their core.

#### 4. Unclear ambitions lead to misplaced priorities

More than six in 10 respondents (63%) complain that people in their firms use the term ‘innovation’ to describe different things. This suggests that senior management may not have fully articulated what it wants to achieve through innovation. Innovation teams are often tasked with developing new technologies without determining the customer need or problem that needs to be solved.

“We are challenging an international Dutch bank and not on whether it can search for yield or a new distribution model. Instead, we are asking them, ‘Are you able to innovate and able to implement the innovation? Are you able to change, are you agile?’”

ROY KRAMER, DIRECTOR, NYENRODE UNIVERSITY

“When I arrived at the bank, the word ‘innovation’ would not have been used at all. It would have been ‘new product development’ or ‘product renovation’.”

SENIOR EXECUTIVE, MAJOR RETAIL BANK

## ANALYSIS OF SECTOR OPPORTUNITIES

To adopt an innovative culture, one that is confident with risk-taking and learns quickly from failure, financial services companies must focus on the following areas:

### 1. Look outside the sector for inspiration

Even among the large incumbent players, the desire and will to transform how they innovate is evident at senior management level. Some banks are partnering with tech sector firms, both to encourage the development of new ideas and also to learn how successful innovators bring good ideas to market. Deutsche Bank, for example, plans to open ‘innovation labs’ in several cities in conjunction with Microsoft, IBM and HCL.<sup>12</sup> Wells Fargo<sup>13</sup> and Spain’s BBVA<sup>14</sup> have also looked to the technology sector for potential partnerships.

Roy Kramer, Director of Nyenrode University, believes the serious gaming industry in particular has much to teach financial companies: “The university seeks to bring small gaming companies together with banks and other financial services firms, with the former encouraged to suggest how the latter’s business model can be improved and how to create an innovative culture.”

Others might look to hire in from the retail industry, where firms tend to have a greater understanding of customer needs and actively involve customers in idea generation. One recently hired senior executive we interviewed for this study, who is responsible for innovation at a major retail bank, came from the consumer products sector.

12. Deutsche Bank Media, 3 June 2015, [www.db.com/medien/en/content/5060\\_5196.htm%3Fkid%3Dpr.inter-ghpen.news&ie=utf-8&oe=utf-8&gws\\_rd=cr&ei=iZDEVd7dCoPxUKCts5AP](http://www.db.com/medien/en/content/5060_5196.htm%3Fkid%3Dpr.inter-ghpen.news&ie=utf-8&oe=utf-8&gws_rd=cr&ei=iZDEVd7dCoPxUKCts5AP)
13. Camilla Hall and Sarah Mishkin, ‘Wells Fargo chief turns to Silicon Valley for potential partners’, ft.com, 26 August 2014, [www.ft.com/cms/s/0/4d788320-2a63-11e4-a068-00144feabdc0.html?siteedition=uk#axzz3i7To4mRc](http://www.ft.com/cms/s/0/4d788320-2a63-11e4-a068-00144feabdc0.html?siteedition=uk#axzz3i7To4mRc)
14. Daniel Roberts, ‘Dwolla scores first big-bank partner for real-time payments’, fortune.com, 8 April 2015, <http://fortune.com/2015/04/08/dwolla-bbva-compass-real-time-transfers/>

“Innovation will not truly happen in banks until the way they approach innovation changes. Instead of having ‘waterfall’ programmes that take months to complete a project initiation document – by which time everyone has forgotten what they were actually trying to deliver – they need more agile techniques.”

DAVID TROMAN, PA EXPERT IN FINANCIAL SERVICES

“In consumer goods, the question of whether or not innovation is required will never be asked. Instead it is ‘How do we do it? How do we do it better? How do we do it faster?’ It is part of their DNA. In banking, the mindset is ‘Oh that seems hard. It is going to disrupt business as usual.’”

SENIOR EXECUTIVE, MAJOR RETAIL BANK

## 2. Build on digital success

This is easier said than done when legacy systems block the way, but many established banks and insurers have used digital to innovate on the periphery of their business models. Nearly eight in 10 (78%) sector respondents say their firms use digital technology to become faster and more effective in their innovation initiatives.

## 3. Focus on achievable innovation, even if it is not breakthrough

Incremental innovation can lead to big improvements. The aforementioned senior executive’s newly formed team began by exploring the potential for radical, breakthrough innovation. “In the end we decided this was a distraction. If you get obsessed with being radical or different, you forget you are there to help your customers manage what is going on in their lives financially.”

## ABOUT THE RESPONDENTS

Our survey comprised 100 respondents from the financial services sector. Respondents were active in retail banking (25%), insurance (24%), capital markets (18%), private equity (15%), wholesale banking (15%) and related industries.

The majority of respondents (67%) came from the C-suite, with the rest fulfilling other senior management roles. Over one-third (36%) came from organisations with annual revenues exceeding \$1 billion.

# CONSUMER PRODUCTS AND MANUFACTURING

## RISKING EVERYTHING BY PLAYING IT SAFE?

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Authored by PA consumer products  
and manufacturing experts:



TIM LAWRENCE



WIL  
SCHOENMAKERS



**If they cannot get innovation right, manufacturing and consumer goods companies may as well give up. “Across the board, people have come to the conclusion that you have got to change or die,” says Jim Kirkwood, Chief Science and Technology Development Officer at General Mills. “The only way to get growth is through being a truly superior innovator.”**

Innovation is essential in a sector that is fast-moving and unpredictable on several fronts:

- consumer demands are shifting – changing behaviours, such as digital shopping, mean people are less loyal to brands
- manufacturers are increasingly selling data-driven services as well as products
- new entrants, many using digital platforms to customise goods and respond fast to trends, are threatening established players.

The need for innovation is clear, but our research reveals that most companies in the industry are playing it safe when it comes to innovation.

In our survey, 40% of sector respondents agree with the statement that they often back high-potential but risky innovations (see sector dashboard on the next page), but this drops to just one in 10 for executives that ‘strongly agree’ with it.

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“The big mistake is when companies follow the trusted approach [to innovation] and become stagnant. One day you wake up and you are irrelevant. Drifting towards irrelevance happens slowly, but it is a dangerous trap.”

WILL PAPA, SENIOR VICE PRESIDENT AND CHIEF RESEARCH  
AND DEVELOPMENT OFFICER, THE HERSHEY COMPANY

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## HOW THE CONSUMER PRODUCTS AND MANUFACTURING SECTOR COMPARES WITH THE INNOVATION LEADER GROUP

POSITION  
IN LEADER  
GROUP

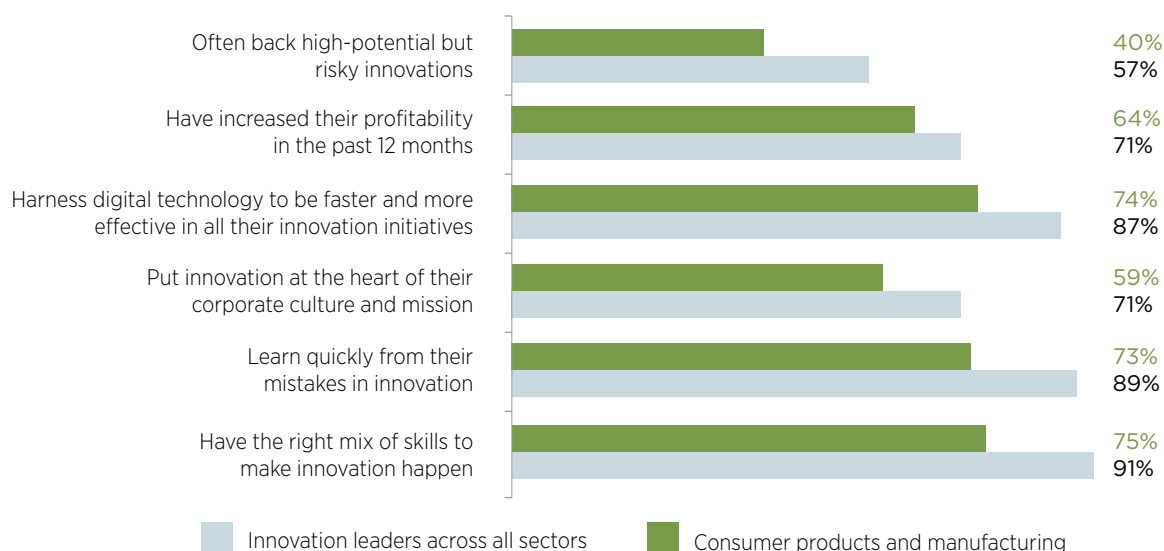
**3/8**

NUMBER OF  
INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**33/100**

PERCENTAGE  
OF INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**33%**



“On average only one in 11 projects is successful. It is a difficult thing for quite an old-fashioned industry like ours to understand.”

ANNALISA GIGANTE, SENIOR VICE PRESIDENT HEAD OF INNOVATION, HOLCIM

“The multicultural nature of our group can facilitate innovation. Diverse teams tend to be more innovative and creative. Creating an environment where teams can spark and work together is significant.”

PAUL KAHN, PRESIDENT, AIRBUS GROUP UK

### ANALYSIS OF SECTOR CHALLENGES

#### 1. Today's costs hinder tomorrow's opportunity

Two in five sector respondents (38%) say they have seen a brilliant idea fail because there were insufficient resources to make it happen. In the majority of firms (52%), the final decision is made by the CEO — who may feel that the potential total cost is simply too high. Costs for creating new product lines can run into tens of millions of dollars.

#### 2. Closed mindsets

Only 44% are strong on entrepreneurial thinking – compared with 76% in IT and technology, and 69% in life sciences. If they are unwilling to explore new ways of approaching the market, such as by buying smaller rivals or pursuing bold ventures, they risk losing opportunities to adapt quickly to market demand.

#### 3. Digital hesitancy

Three-quarters (74%) say digital is helping them become faster and more efficient. While this is encouraging, a lower proportion (58%) say they are actively developing digital capabilities to disrupt or lead their sector. Companies do not appear to be using digital to its full potential.

#### 4. Narrow scope within functions

A quarter (24%) say lack of co-ordination between production/marketing/sales has quashed a brilliant idea. A similar number (22%) blame lack of active management support. This may be down to how success is measured across departments. A chief supply chain officer will get measured on cost, a chief technology officer on growth. Inevitably, they may disagree on the best innovations to pursue.

## ANALYSIS OF SECTOR OPPORTUNITIES

To adopt an innovative culture, one that is confident with risk-taking and learns quickly from failure, consumer products and manufacturing companies must focus on the following areas:

### 1. Fail frugally

Will Papa, Senior Vice President and Chief Research and Development Officer of The Hershey Company, believes companies should find ways to get their products in front of consumers as soon as possible. “Stop talking about it,” he says. “Make it and get it in front of people. See their reaction.” While companies might be concerned about the costs of traditional product pilots, they do not have to be expensive.

### 2. Know customers better than they know themselves

Product innovation is built around understanding consumer and customer needs. To justify investment, companies must ensure they are backing the right products. Some are looking for insight beyond the traditional focus group. General Mills, for example, is using techniques borrowed from social sciences. Jim Kirkwood, Chief Science and Technology Development Officer at General Mills, says, “We have anthropologists that go into consumers’ homes and ‘breathe their air’. We have even walked with them through the grocery store to find out what their problems are.” In machine manufacturing, companies are using predictive maintenance to better meet customer needs by monitoring the condition of machines and estimating when problems are going to occur. This can be done by identifying the symptoms of wear to avoid any disruption in service.

### 3. Enable new ways of operating

Consumer products and manufacturing companies have yet to embrace the entrepreneurial mindset that has created strong results in the IT and technology sector. Bigger firms today are in a position where they can watch innovative start-ups hit the ground running on new ideas. By the time the start-up is suitably matured, they can buy the company.

Companies should also consider operating in new ways, such as collaborating with external partners or pursuing joint ventures. One industry source from a global manufacturer says, “Innovation comes down to partnership. The key to success is open innovation. You need to have a network of companies – vendors or customers – around you that help you to innovate. It can be challenging, but if you do it well you will be a successful innovator in the future.”

### 4. Take ownership of digital

Our findings suggest that digital is primarily being used to enable efficiencies in innovation. As the market becomes more competitive, product development teams need to take greater ownership of their companies’ digital strategies. Some are already leading the market by exploring such technologies. The Hershey Company is experimenting with 3D printing to reduce inventories and enable personalisation. Many manufacturers are also exploring how to use the Internet of Things and data analytics to develop new services.

## 5. Democratise innovation

Notably, 38% say they have seen some of their best ideas originate among rank-and-file employees – higher than R&D (32%) and in-house innovation teams (28%). By enabling employees to contribute, companies create greater enthusiasm for innovation. They will help functions support each other in making innovation happen. “We run innovation competitions twice a year where everybody can contribute ideas,” says Tomasz Goldman, Vice President of Jabra Technology Management. “We encourage everyone. Interesting ideas will be assigned to somebody to take care of and nurture.”

## ABOUT THE RESPONDENTS

Our survey comprised 100 respondents from the consumer products and manufacturing sectors. Respondents were active in consumer products (35%), industrial engineering (33%), automotive (18%) and related industries (14%).

The majority of respondents (68%) came from the C-suite, with the rest from other senior management roles. Almost one-third (30%) came from organisations with annual revenues exceeding \$1 billion.

### CLIENT EXPERIENCE

#### **Sharing expertise to improve electric vehicle performance and overcome risk aversion**

“The production of electric vehicles (EVs) offers carmakers potential future profits as countries move to a green economy, yet take-up by consumers has been frustratingly slow,” says Tim Lawrence, PA expert in consumer products and manufacturing. “But by combining their respective technological strengths through high-profile collaborations, carmakers can produce high-performance, desirable cars that challenge popular misconceptions about EVs and open up the market to a lucrative new consumer base.

BMW and Toyota’s plan to work together on a sports car and EV technology is a great example. The two carmakers will play to each other’s strengths: Toyota excels in battery know-how and hybrids, while BMW’s expertise lies in light-weight technologies and electric vehicles. The two carmakers are well positioned to develop an innovative electric sports car together.”

## HEALTHCARE OVERWHELMED BY CHANGE

Authored by PA healthcare experts:



CATHARINE  
BERWICK



LARRY SCINTO



**Health professionals are, at best, sceptical about the effectiveness of innovation within their sector. “Human ingenuity is one of our most precious resources,” says Dr Keith McNeil, Chief Executive Officer of Cambridge University Hospitals, “and the thing we most abuse and subjugate. We pay lip service to innovation and create systems that stifle it.”**

Human ingenuity is an area the sector desperately needs to address. This is because:

- complex patient needs – an older, increasingly overweight population and soaring diabetes rates – are putting pressure on already stretched systems
- sweeping market reform – such as the Affordable Care Act in the US – is forcing established players to rethink their delivery models and create room for new entrants
- digital technologies – from wearable monitors to advanced patient-data analytics – are enabling more preventative approaches to care
- changing payment models – such as fee-for-value, where providers potentially will not get paid for low-quality care – are disrupting existing business models.

Much of the sector’s problem with innovation comes down to internal, structural resistance to change. According to our survey, the main barrier to innovation is embedding change and improvement in a sustained

“One of the reasons Visiting Nurse Service of New York created my innovation group was that there was acknowledgement at the executive level that the world is changing. We have been around for 125 years, we are in every big health policy conversation and there are a couple of big forks in the road coming up. It is going to be difficult for a pure homecare agency to survive.”

STEVE PREWITT, VICE PRESIDENT OF NEW BUSINESS SOLUTIONS, VISITING NURSE SERVICE OF NEW YORK

way (29%), followed closely by too many rules and restrictions within the organisation (28%).

Despite this, healthcare leaders interviewed for this report assert there is no shortage of good ideas in their organisations. Our survey also suggests that ambition for innovation is high. Almost half (43%) believe a ‘true innovator’ inspires others to think or act in completely different ways within the organisation.

The difficulties come when people try to scale up or implement their ideas. This can hold up innovations from getting to market on time, and at worst, delay the potential benefits to patients. For example, one hospital executive said improvements to morphine-administering pumps were held back because his hospital’s clinical

“We get a lot of grassroots ideas. But the barriers to innovation have largely been organisational. A person in the medical records room will say ‘80% of this work could be delivered more cheaply.’ It will not happen until a senior leader says ‘We need to reduce medical records costs by 80%.’”

STEVE PREWITT, VICE PRESIDENT OF NEW BUSINESS SOLUTIONS, VISITING NURSE SERVICE OF NEW YORK



## HOW THE HEALTHCARE SECTOR COMPARES WITH THE INNOVATION LEADER GROUP

POSITION  
IN LEADER  
GROUP

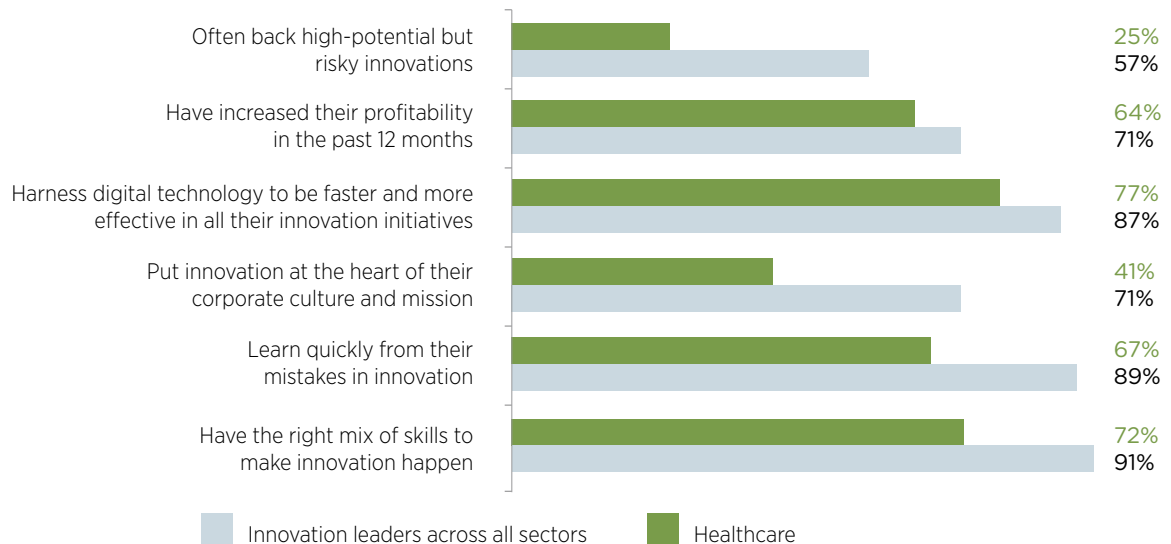
4/8

NUMBER OF  
INNOVATION  
LEADERS IN  
SECTOR SAMPLE

23/75

PERCENTAGE  
OF INNOVATION  
LEADERS IN  
SECTOR SAMPLE

31%



innovation group was not adequately supportive. Others face challenges when trying to drive adoption of innovations outside the clinical setting. Leading insurers are providing companies with incentives to give employees wireless fitness devices to help them monitor their wellbeing. Yet reports suggest the majority of users stop using these devices after the novelty wears off.

### ANALYSIS OF SECTOR CHALLENGES

#### 1. Bureaucracy and red tape

The most frequently mentioned barrier to innovation in our interviews with senior executives was too many rules and regulations. This is also reinforced by our survey data (as mentioned in the introduction to this sector). Dr Keith McNeil, Chief Executive Officer of Cambridge University Hospitals, stresses that bureaucracy and innovation do not mix. "You would almost think they had deliberately set up the system to stop innovation from happening," he says.

#### 2. Cost saving trumps the greater good

When healthcare organisations measure innovation, their principal metric is cost saving (87%). This is higher than the number that measure innovation by its ability to improve patients' lives (84%). "Most people understand we are trying to do something for the benefit of people," says Dr Basil Matta, Divisional Director of Emergency and Perioperative Care at Addenbrooke's Hospital. "The reluctance to adopt is

not necessarily about risk aversion. It is about making sure people understand that they may be missing a real opportunity by not understanding the benefit of the innovation being introduced."

#### 3. Small-picture thinking

Despite a high percentage of healthcare survey respondents indicating they have the right mix of skills to make innovation happen (see sector dashboard above), many still fall short on some of the skills they most need to accept the longer-term potential of innovation. In our survey, almost half (43%) say they are weak on strategic foresight and future planning and thinking. One-third (33%) say they do not have the skills they need in customer insight and intelligence. "With innovation, where you start and where you end up are usually very different places," says Dr Keith McNeil, Chief Executive Officer of Cambridge University Hospitals. "If you focus too much on ROI up front, you stifle creativity. It is only when people come up with ideas that look good and have promise that you should start putting rigour around the ROI."

#### 4. Inconsistent support and lack of ongoing investment

For change to take hold across an established system, everyone needs to get behind it. In healthcare, 57% say some people spend a great deal of time on innovation, whereas others do not. This unevenness is the highest among all sectors in our survey.

“We have an immense opportunity to move to a more consumer-driven, retail-type industry. My approach is to look outside healthcare for inspiration – at consumer packaged goods, retail and financial services industries.”

ANEESH KUMAR, VICE PRESIDENT, ENTERPRISE PRODUCT SOLUTIONS, CIGNA

## ANALYSIS OF SECTOR OPPORTUNITIES

To adopt an innovative culture, one that is confident with risk-taking and learns quickly from failure, healthcare companies must focus on the following areas:

### 1. Allow freedom to experiment

Employees should be encouraged to spend time developing innovations that will help the system provide better care and deliver more effective treatment. In our survey, just 21% of healthcare respondents say they allow ‘innovation time’ – the second lowest among all sectors. This compares markedly with life sciences companies, of which 55% allow innovation time, and private defence companies, of which 43% follow this approach. Two in five (40%) say overzealous risk management hinders innovation

in their organisation. Too many rules, and a risk-averse culture focused on justifying costs up front, will dissuade people from sharing and experimenting with potentially brilliant ideas. Organisations need to change their business models to focus less on utilisation and procedures, and more on rewarding innovation.

### 2. Give guidance before prohibition

While people should be encouraged to experiment with a wide range of ideas, management should put aside time to review and direct innovation activity when it gets to a stage of relative maturity. This will ensure the innovation is pursued appropriately, through the right channels. It will also prevent people from wasting time on ideas that are not ready to be scaled up.

## CLIENT EXPERIENCE

### How Addenbrooke’s inspires people to think and act in new ways

“In my opinion, one of the most important things in innovation is allowing the people who come up with ideas to have control of their innovation,” says Dr Basil Matta, Divisional Director of Emergency and Perioperative Care at Addenbrooke’s Hospital. He says it is also important that managers experienced in innovation spend time talking with people about their ideas. “You listen to them and say, ‘this is great, how can we realise the benefits?’ or you tell them ‘look, this is not really innovation but more research, and has to be handled differently’. It is important because some people want to scale up and develop something sometimes before they really understand what it is they are trying to scale up.”

Dr Matta says the priority of innovation should not be about saving money at the early stages. “We should ask how the innovation is going to make patient care better. If the innovation is saving nurses’ time, then it will make patient care better by allowing us to admit and discharge people more quickly, or use the spare time created to concentrate on more patient contact. That is ultimately a more successful approach than saying, ‘you have invented a new breathing tube? Great. Now, is there some commercial value in that?’”

“The only entities that have made meaningful headway in innovative care coordination and prevention-based systems are integrated delivery networks like Kaiser Permanente and Intermountain Healthcare, where the delivery system and the insurance company are one.”

ANEESH KUMAR, VICE PRESIDENT, ENTERPRISE PRODUCT SOLUTIONS, CIGNA

### 3. Seek additional advice on cost forecasting

When ideas fail for avoidable reasons, the single largest cause cited by healthcare respondents is lack of resources (42%). At present, many healthcare organisations do not involve their future financial backers, whether commissioners or venture funds, in the initial cost-forecasting stage for approved innovations. Doing so, they risk miscalculating the total cost of change. In the US, integrated healthcare companies – which include both payers and providers – are frequently the most innovative.

Other healthcare organisations often struggle to prioritise limited budgets and set aside enough money to provide ongoing support for innovative ideas.

### 4. Look to manufacturing to move faster

Even for innovations where a commercial application has been agreed, it can typically still take up to five years for the final product to be realised. One industry that healthcare can learn from here is manufacturing. In Asian healthcare systems, innovation is more automated and systematic, reflecting the industrialisation you see in the manufacturing world.

### 5. Set bold ambitions from the top

To drive health advances on a large scale, the whole organisation needs to be involved. In large defence contracts – whether the development of a submarine or new fighter jet – everyone comes together and works towards the outcome. In healthcare, the ‘big picture’ strategic goals are frequently not expressed in consistent terms from senior management down. The result is that the organisation as a whole does not move together towards innovation on a large scale.

### ABOUT THE RESPONDENTS

Our survey comprised 75 respondents from the healthcare sector, 25 from public sector organisations and 50 from private sector organisations. Private sector respondents were active in healthcare provision (69%), healthcare supplies (17%), pharmaceuticals (7%) and biotechnology (7%).

The majority of private sector respondents (67%) came from the C-suite, with the rest from other senior management roles. Almost one-third (32%) of private sector organisations came from organisations with annual revenues exceeding \$1 billion. In the public sector, 36% came from organisations with annual expenditure exceeding \$1 billion.

#### CLIENT EXPERIENCE

### Why Cigna is creating new rivals through business strategy innovation

“We recognise that we need to enter uncontested or untried market spaces,” says Aneesh Kumar, Vice President of Enterprise Product Solutions at Cigna. “And we need a differentiated value proposition. That forces us to look at things differently.

“We recently purchased a company called Qualcare which provides insurance plan activities

to hospitals. Now we can go to hospitals and enable them to become insurance companies – in direct competition to Cigna. It is an innovative solution because it is creating hospital-based insurance plans, which are a new class of competitors for us.”

## TRANSPORT AND LOGISTICS

### STUCK ON INCREMENTAL?

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Authored by PA experts in transport and logistics:



**For the transport and logistics sector, innovation is largely used for small-scale improvement. Indeed, 69% of sector respondents to our survey maintain their organisations get more value from incremental innovation than from breakthroughs. Separately, only 40% of organisations say they often back high-potential but risky innovation – compared with 57% of the leader group (see sector dashboard on the next page).**

Why does the sector have an apparent aversion to high-risk/high-reward innovation? First of all, the sector is very safety focused: it is dedicated to maintaining extremely high standards of safety for those delivering transport services as well as those using the transport network. Delivering innovation in this context can be extremely challenging, which makes many avoid riskier projects.

Secondly, the transport infrastructure is so extensive that delivering revolutionary innovation can involve huge change and cost. One example is the challenge of introducing on-street electric vehicle charging. While the benefits of widespread electric vehicle use have been proven, an extensive network of charging points needs to be established before it can work.

Finally, the transport and logistics sector operates at very low margins. According to the head of innovation at a global transportation company: “The industry is too much of a commodity market. We do have to respond to things coming from outside the market

but, generally, we focus on smaller steps that will not bring disruptive change. We discuss bigger changes, but the more they impact on our core model, the more difficult it will be to convince management that it is a good idea.”

Incrementalism may reign, but transport organisations have certainly proven capable of delivering meaningful and impactful innovation. Airports, for example, have innovated to become significant retail and entertainment centres. Airlines and airports have used digital technology, including social media, to good effect in improving the passenger experience. Even seemingly tradition-bound government road agencies have proven adept at using technology to improve motorways.

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“Big organisations can be like supertankers – they go along very well, but try to stop them or turn them off course and it is a big task. Organisations need to be agile enough to alter course, or do things in a different way at pace.”

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DAVID STONES, DIVISIONAL DIRECTOR IN PROFESSIONAL AND TECHNICAL SOLUTIONS, HIGHWAYS ENGLAND

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## HOW THE TRANSPORT AND LOGISTICS SECTOR COMPARES WITH THE INNOVATION LEADER GROUP

POSITION  
IN LEADER  
GROUP

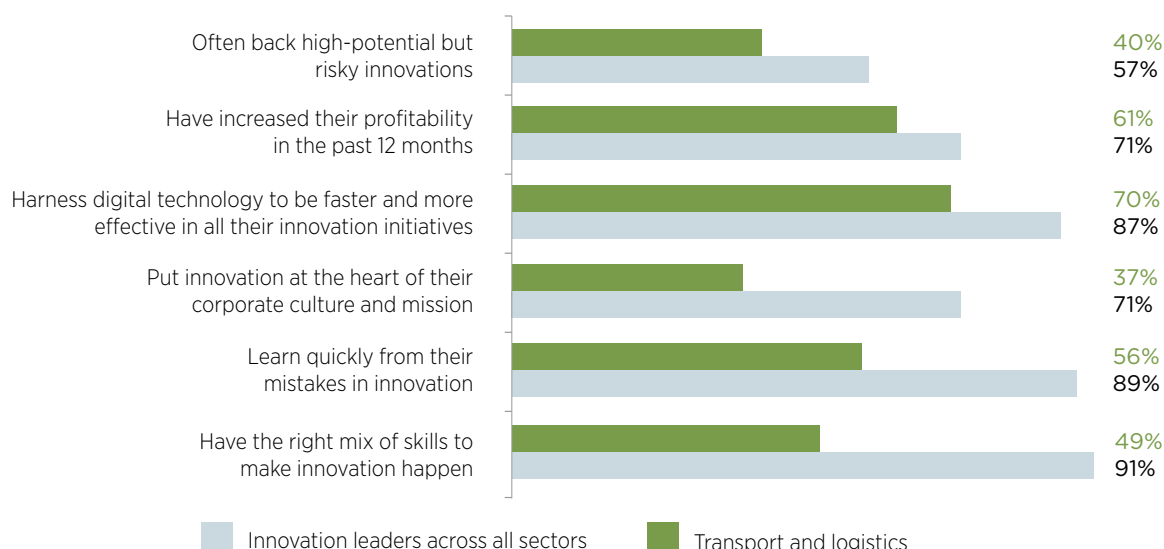
5/8

NUMBER OF  
INNOVATION  
LEADERS IN  
SECTOR SAMPLE

27/106

PERCENTAGE  
OF INNOVATION  
LEADERS IN  
SECTOR SAMPLE

26%



### CLIENT EXPERIENCE

#### The 'smart motorway' uses technology to expand capacity

One of Highways England's recent innovation successes has been to reimagine the use of the hard shoulder on motorways. David Stones, Divisional Director in Professional and Technical Solutions at Highways England, says his team believed the hard shoulder – designed and traditionally used by drivers only in emergencies, such as a breakdown – could also be used to handle normal traffic. Recognising that modern vehicles rarely break down and that the original purpose of the hard shoulder was increasingly redundant, Highways England developed the capability to 'switch on' the lane (using digital signage) for use by general traffic when capacity was needed, and 'switch off' when not. "It meant we did not have to take land to build another lane, with all the disruption to houses nearby. It has reduced accidents and increased capacity at a fraction of the cost and time of adding another lane. It is a pretty big innovation."

### ANALYSIS OF SECTOR CHALLENGES

#### 1. Limited resources

Asked to pick from 13 potential barriers to innovation – from lack of ideas to difficulty scaling up ideas for large-scale use – sector respondents point first and foremost to insufficient investment (29%). Separately, respondents' most frequently cited reason for good ideas failing – out of 11 potential options – is lack of budget, people or skills (35%). A senior executive at a global transport and logistics company confirmed: "Innovation and R&D teams in transport are not nearly as well funded as in other sectors, such as life sciences or consumer goods." This creates greater pressure to innovate frugally and identify failed ideas as early as possible.

#### 2. Failure to embed change

Over half of surveyed executives (51%) say they have seen a brilliant idea fail for reasons that could have been avoided. Poor implementation of ideas is given as the second largest cause of failure. Similarly, scaling up ideas for large-scale use was sector respondents' second most cited barrier to innovation (28%) after insufficient investment. Embedding change in the transport sector has always been a major challenge. Rail, road and aviation infrastructure tends to be extensive and widely distributed, typically nationally and sometimes globally. As a result, implementing

new technologies or even new processes can take years. This can defeat or stagnate innovation even in organisations where governance and commitment are strong.

### 3. Poor communication

In the view of David Stones, Divisional Director in Professional and Technical Solutions at Highways England, “We need to get better at explaining why we are innovating. It is as important to explain why you are trying to change something as much as explaining the change itself.” Our research highlights the need to describe to customers and the market the proposed innovation is as important as explaining to employees – without this buy-in, the adoption of an innovation can fail.

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“In baggage-handling, new ideas often need to be implemented worldwide, in every airport, to be effective. This is a big hurdle to innovation in our sector.”

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KJETIL HÅBJØRG, VICE PRESIDENT  
FOR GROUND HANDLING, SAS

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## ANALYSIS OF SECTOR OPPORTUNITIES

To adopt an innovative culture, one that is confident with risk-taking and learns quickly from failure, transport and logistics companies must focus on the following areas:

### 1. Get the problem and answer the right way round

The driverless vehicle is a good example of an exciting and cutting-edge technology and concept that was developed (outside the industry) without much thought about the customer problem it was meant to address. Innovation teams need to be disciplined about identifying the customer problem before innovating and developing the solution.

### 2. Adopt a portfolio approach

Rather than attempting to minimise risk in every single project, effective innovators seek to minimise it across a portfolio. A portfolio balances a few high-risk/high-reward projects with a large number of low-risk/low-reward ones. Viewing the totality of innovation projects in this way helps management become more accepting of failure – a necessary part of successful innovation.

### 3. Fail frugally

Failure need not be stigmatised – it can provide a team with valuable information and experience. Good governance of the innovation process can also help companies test ideas economically and identify ideas that are more likely to fail. The innovation team at a global transport and logistics company examines technologies already on the market and asks itself if adopting that technology could rapidly create value for the organisation. “If that is not the case,” says a senior executive, “we ditch the idea quickly.” Organisations need to adopt a similar approach to innovation, avoiding over-managing the innovation process and recognising that not all innovations have to work. Where innovations fail, organisations simply need to learn and move on.

## CLIENT EXPERIENCE

**How a global transport and logistics company learnt from other sectors to fail more economically**

“Once we identify what might be a good idea, we have a technique where we pretend we have perfected it and then invite in customers and stakeholders. We simulate it on a computer and ask them ‘Is it really a good idea?’ In reality it might not be. It is a technique that was developed by people at Google. The huge advantage is that you do not need to invest much money to test it.”

**ABOUT THE RESPONDENTS**

Our survey comprised 106 respondents from the transport and logistics sector. Respondents were active in freight transport (33%), warehousing, storage and handling (23%), passenger transport (21%), maritime and ports (15%), postal/courier services (7%) and related industries.

The majority of respondents (69%) came from the C-suite, with the rest fulfilling other senior management roles. Around a quarter (24%) came from organisations with annual revenues exceeding \$1 billion.

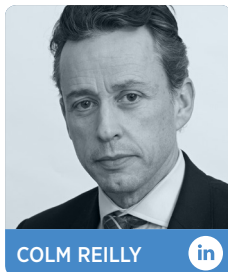


## PUBLIC SECTOR SHARPENING THE APPETITE

Authored by PA government experts:



MARK BRETT



COLM REILLY



**Little more than one in 20 (6%) respondents to our survey look to government as a sector to learn from when it comes to innovation. It would appear that many public servants also downplay the innovativeness of their organisations. More than two-fifths (41%) of government respondents – from backgrounds ranging from education to economic development, from healthcare to defence – agree that they are less innovative than their peers.**

But is this perception fair? In recent years, governments have achieved considerable success across the two core areas where they focus their innovation activity – using innovation to improve public services, and facilitating research and technological development.

The public sector's adoption of digital technologies is a good example of its use of innovation to improve public services. In our survey, over three-quarters (77%) of sector respondents believe digital is helping them become faster and more effective innovators – which compares favourably with the 69% of private sector respondents who feel the same. The UK government's gov.uk website – which showpieces its 'digital by default' approach – has been highly praised for the positive impact it is expected to have on people's lives.<sup>15</sup>

“Wherever you have got a bureaucratic setup, the system sets itself up to be self-perpetuating and can lose touch with what it is actually there to do. Political and institutional barriers stop people progressing ideas easily and quickly.”

DR KEITH MCNEIL,  
CHIEF EXECUTIVE OFFICER,  
CAMBRIDGE UNIVERSITY  
HOSPITALS

Governments have also played a vital – yet frequently overlooked – role in financing, encouraging and enabling technological innovation on a market-wide level.

“In Silicon Valley, the US government funded many of the innovations behind the information technology revolution. The iPhone, often heralded as the perfect example of what happens when a hands-off government allows entrepreneurs to flourish, actually had government involvement. GPS began as a 1970s US military programme and even Siri, the iPhone's voice-recognising personal assistant, can trace its lineage to the US government. In the UK the MRI scanner was derived from work completed by the Medical Research Council,” explains Colm Reilly, PA expert in government.

If governments achieve such successes when they get innovation right, why does it not happen more often? And why are other industries so sceptical about the public sector's ability to be creative?

One explanation is that the public sector remains notably less bold and ambitious in its approach to creative thinking than the private sector. As Figure 1 on page 54 illustrates, private sector organisations are far more likely to take big bets on innovation than their peers in government.

15. Nick Clark, 'The design "Oscars": Gov.uk website beats the Olympic Cauldron and the Shard to top award', independent.co.uk, 16 April 2013, [www.independent.co.uk/arts-entertainment/art/news/the-design-oscars-govuk-website-beats-the-olympic-cauldron-and-the-shard-to-top-award-8575687.html](http://www.independent.co.uk/arts-entertainment/art/news/the-design-oscars-govuk-website-beats-the-olympic-cauldron-and-the-shard-to-top-award-8575687.html)



## HOW THE PUBLIC SECTOR COMPARES WITH THE INNOVATION LEADER GROUP

POSITION  
IN LEADER  
GROUP

**6/8**

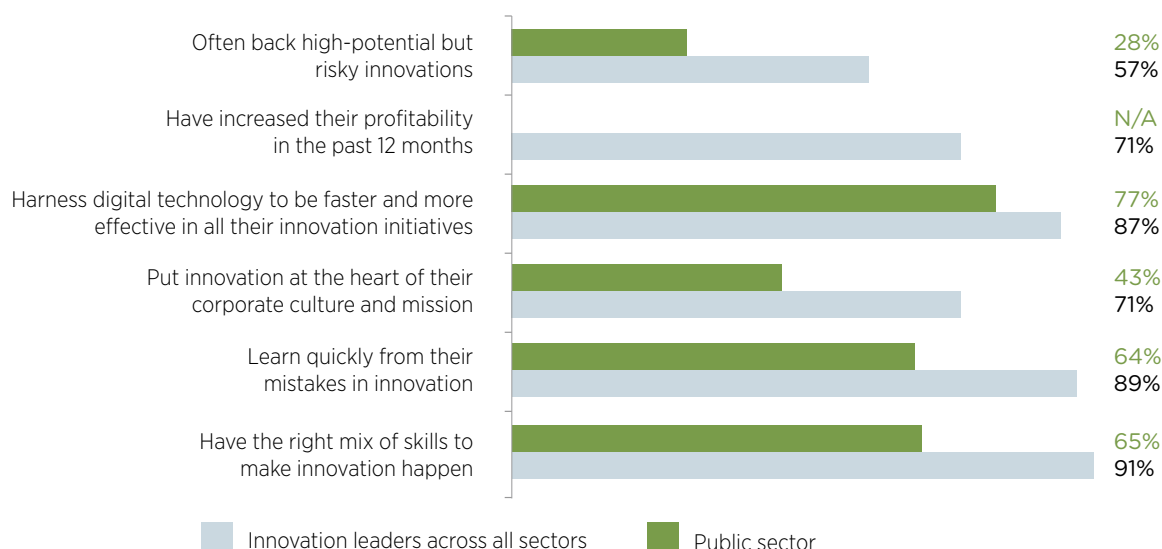
tied with energy  
and utilities sector

NUMBER OF  
INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**48/190**

PERCENTAGE  
OF INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**25%**



## ANALYSIS OF SECTOR CHALLENGES

### 1. Policy demands

The key difference between the public and private sector is that the latter is always pushing for innovation in the pursuit of profit. In the public sector, direction on innovation comes from what the government thinks is right. Policymakers will select where innovation will happen, and this varies depending on who is in power. In our survey, when asked which individuals had the biggest practical influence in deciding which innovations the organisation should support and how much they should invest in each initiative, 21% of government respondents say policymakers and elected politicians. This is lower than the number that pointed to the CEO (40%) and to senior managerial leadership (34%), but still suggests that politicians influence over a fifth of all innovation decisions in the public sector.

### 2. Underfed innovation cultures

Only two in five (43%) public sector respondents say that innovation is core to their culture and mission, compared with 54% of private sector respondents. Public sector executives are also less likely to say their leadership is good at encouraging and nurturing innovation than their counterparts in the private sector – 25% agree strongly with this sentiment, compared to 30% of private sector respondents.

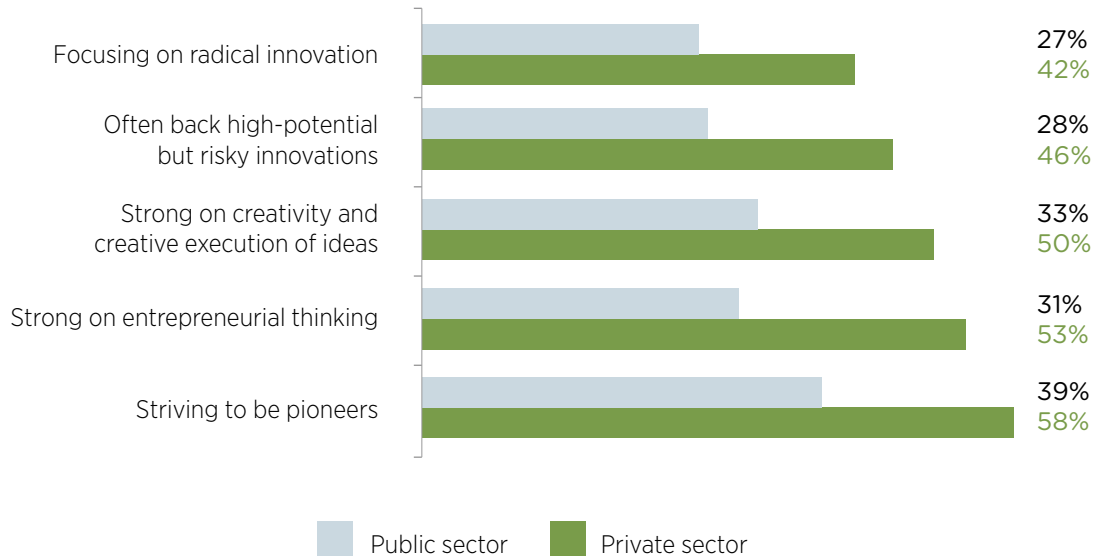
“Our longevity is going to stand or fall on our ability to turn recommendations into reality. But it is difficult to find evidence – even when you talk to long-established innovation labs – that innovations end up in real outcomes. It is a major concern.”

MALCOLM BEATTIE, HEAD OF INNOVATION LAB,  
UK DEPARTMENT OF FINANCE AND PERSONNEL,  
NORTHERN IRELAND

### 3. Shrinking budgets creating fear of failure

When asked which factors have held back innovation within their organisations, government respondents are most likely to cite lack of budget, people or skills (37%), followed by overzealous risk management (28%) and perception that innovation was beyond the organisation's remit (22%). Public bodies are often focused on more than just financial outcomes. The effect on public services and wider qualitative impacts can be the most important aspect of any innovation. As a result, there can be difficulties in measuring the full outcome, and a simple ROI calculation, although

FIGURE 1: COMPARING THE PRIVATE TO PUBLIC SECTOR



often given great importance, will not reflect all that is achieved by an innovation. This makes leaders hesitant about spending on innovation. When asked to name their biggest barriers to innovation, 25% of government respondents say difficulty in measuring ROI – making it the most common answer out of all 13 barriers to choose from.

#### 4. Difficulty replicating at scale

The majority of government organisations (51%) say they talk about innovation more than they do innovation. Among the 13 innovation barriers selected by respondents, scaling up ideas for large-scale use comes second (24%), close behind difficulty in measuring ROI.

“We were almost in a group of one until a decade ago, but the competitive pressure resulting from government initiatives has stimulated others to move into our space. We had better sharpen up to defend our distinctive position.”

PROFESSOR CLIFFORD FRIEND, PRO-VICE-CHANCELLOR – REGIONAL AND INTERNATIONAL AFFAIRS, CRANFIELD UNIVERSITY

#### CLIENT EXPERIENCE

##### How suppliers rethought the UK passport

“One of the issues with the old UK passport was that they were manufactured after people had ordered them. You would get seasonal peaks, especially in early summer. The new supplier found a way to create the books out of season, when they were less in demand, and then

personalise them later. It sounds straightforward but there were enormous technical issues in making sure that randomly numbered passports contained the right data. It cut out a quarter of the previous costs.” Mark Brett, PA expert in government.

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“We have recently completed a piece on data analytics. We will have to build steps, measures and ways of getting traction into the recommendations themselves. That is where the process needs to evolve, to give it necessary momentum. Otherwise, despite good feedback, recommendations can end up in no-man’s-land.”

MALCOLM BEATTIE, HEAD OF INNOVATION LAB, UK DEPARTMENT OF FINANCE AND PERSONNEL, NORTHERN IRELAND

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## ANALYSIS OF SECTOR OPPORTUNITIES

To adopt an innovative culture, one that is confident with risk-taking and learns quickly from failure, public sector organisations must focus on the following areas:

### 1. Urge private sector suppliers to compete for contracts

In recent years, governments have achieved some of their greatest successes in innovation by working closely with private sector suppliers. During large-scale public procurements, governments should ensure supplier competition is as wide and open as possible – even if this adds to the time it takes for the contract to be awarded. Competition ensures suppliers outdo each other in their attempts to create better and more cost-effective innovations, which ultimately benefit the public. The Danish government’s recent procurement of 275 state-of-the-art electric trains is just one illustration of technological innovation arising through private sector competition (you can read more about this story in Part Four).

### 2. Overcome analysis paralysis

A common concern of innovators within government is that their recommendations will end up gathering dust as in-depth conversations are held about ROI and the right approach to implementation. To overcome this,

idea generators include detailed steps and approaches up front that anticipate and resolve likely concerns. The public sector could also learn from private sector approaches to ‘failing frugally’. Asked whether they learn quickly from their mistakes in innovation, 64% of government respondents agree, compared with 70% of private sector respondents. Yet some public sector organisations in public healthcare, such as Cambridge University Hospitals (see our healthcare analysis), are pioneering approaches to experiment and demonstrate the success of new ideas before funding is required.

### 3. Use digital proficiency to challenge assumptions and goals

There is an expectation in the public sector that some services – such as running schools or collecting household recycling – have seen as much innovation as they ever will. Where innovation does still happen, it is often incrementally done to try to meet budgetary pressures and reduce costs.

Senior government professionals should encourage a culture in which public servants use their growing digital proficiency to rethink public services on a radical level. Already, over eight in 10 (82%) measure innovation on its ability to contribute to the greater good (such as making lives easier). By adopting such a ‘digitally disruptive’ approach to rethinking their own services, public sector organisations could enhance them significantly.

## CLIENT EXPERIENCE

### A focused way of measuring benefits is essential

To respond to significant cost pressures and rising demand, Hampshire County Council decided to implement a telecare strategy to look after vulnerable residents. In the first year, their overall savings, after costs, totalled £806,000.

One of the key reasons this approach has been so successful is the focused way the council measures benefits. For instance, the referral process trains the social worker and requires

them to state what other care components can be taken away or avoided as a result of using telecare. After auditing by the council, these values are tracked, user by user, and provide robust evidence of the savings achieved. With domiciliary care costing an average of £160 per week and a fully funded week in residential care typically over £500 per week, these are significant cost reductions.

#### In the first year of the service



#### Feedback and recognition

**98%** calls answered in under 60 seconds – exceeds Telecare Services Association (TSA) standard

**92%** of users surveyed believe Argenti telecare has made them feel more safe and secure

**95%** of users surveyed would recommend the service to others

#### Award nominations

Finalists in both Local Government Chronicle and Municipal Journal awards 2015

#### 2014 media recognition

Featured in Municipal Journal as a model of best practice and featured in the Guardian<sup>16</sup> later in the year

TSA's International Telecare and Telehealth Conference 2014 – Argenti held up as example of best practice

16. [www.paconsulting.com/introducing-pas-media-site/highlighting-pas-expertise-in-the-media/opinion-pieces-by-pas-experts/the-guardian-it-is-time-to-bring-telecare-into-the-mainstream-30-june-2014/](http://www.paconsulting.com/introducing-pas-media-site/highlighting-pas-expertise-in-the-media/opinion-pieces-by-pas-experts/the-guardian-it-is-time-to-bring-telecare-into-the-mainstream-30-june-2014/)

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### ABOUT THE RESPONDENTS

Our survey contained 190 respondents from the public sector, comprising 26% from healthcare, 21% from defence, 12% from education, 9% from economic development, 8% from arts and culture, and 6% from local government. The rest came from agriculture, borders, natural resources, policing, regulation and transport.

The majority of respondents (65%) came from the executive team, with the rest from other senior management roles. Over half (52%) came from organisations employing more than 1,000 people, and over a quarter (26%) have annual expenditure exceeding \$1 billion.

“Public servants are often more demanding in what they view as truly successful. They are held accountable to such an extent that generally they will only call something successful if it is well-evidenced.”

MARK BRETT, PA EXPERT IN GOVERNMENT

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## ENERGY AND UTILITIES

### BALANCING INNOVATION AND RISK

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Authored by PA energy and utilities experts:



**It must be tempting for energy and utility companies to blame the regulator for stifling innovation. And yet, in recent years, regulators have been incentivising innovation to ensure customers receive the best service possible. Today, companies must face the challenge of rolling out new technologies and solutions across their businesses.**

Introducing new technology is not, however, their only challenge. Most parts of the sector – power generation, transmission and distribution, and oil and gas production for instance – are extremely capital intensive. This impedes market entry by new players and shields incumbents from the ravages of disruption – and the urgent need to innovate. As a result, the focus is on capital efficiency and minimum disruption.

At a more fundamental level, a conservative, engineer-oriented mindset focused on established practices and standards rather than innovation remains prevalent across the sector. There is no shortage of traditional science and engineering skills. But resistance to change is strong and, with a few exceptions, entrepreneurialism and creative thinking are in short supply with many (46%) ready to admit they lack the skills necessary to make innovation happen (see sector dashboard on the following page).

“In our experience, getting new and innovative solutions deployed sustainably across the business and maximising the benefits is the toughest task for companies. First-stage trials are conducted in a safe environment to prove the concept, but companies stumble when faced with rolling them out across their organisation to deliver real business benefit.”

MARC TRITSCHLER, PA EXPERT IN  
ENERGY AND UTILITIES

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A lack of innovative talent may explain why over four in 10 sector respondents (42%) to our survey – more than in any other sector – admit their firms are less innovative than their peers. And it almost certainly contributes to the sector’s high innovation failure rate: 63% have seen a brilliant idea fail for reasons that could have been avoided.

## HOW THE ENERGY AND UTILITIES SECTOR COMPARES WITH THE INNOVATION LEADER GROUP

POSITION  
IN LEADER  
GROUP

**6/8**

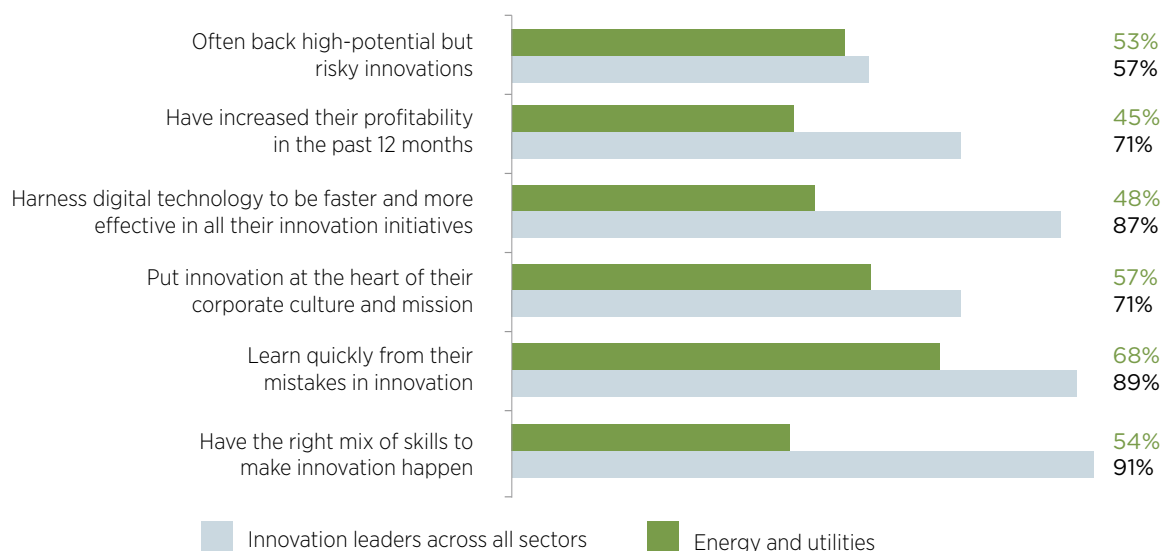
tied with public  
sector

NUMBER OF  
INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**25/100**

PERCENTAGE  
OF INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**25%**



“Some people have been working in utilities for many years and have a specific way of doing things. Making people step outside their comfort zone is difficult – accepting change is not always easy.”

DR CRISTIANO MARANTES, INTERIM DIRECTOR OF STRATEGY AND REGULATION, UK POWER NETWORKS

There are pockets of innovation, some of which are proving disruptive. Shale gas producers in the US are some that are leading the pack. They have changed the economics of extraction by perfecting hydraulic fracturing, thus challenging the power of the dominant global energy companies. Smart grid infrastructure and renewable technologies deployed at the edge of the grid have the potential to be disruptive.

Nevertheless, by and large, the sector’s innovation ‘wins’ have been on a small scale – in process change rather than new technologies or business models. Over half of sector respondents (52%) say they get more value from incremental innovation than from breakthroughs and major changes.

Sonny Garg, Chief Information and Innovation Officer at Exelon, agrees that incremental innovation has been the norm. He also believes this may soon change. “Breakthrough is becoming more real as a possibility,” he says. “There was this sense that it is not going to happen. But now we see that solar and battery storage is a reality. Examples like that could change attitudes.”

## ANALYSIS OF SECTOR CHALLENGES

### 1. Top management is often indifferent

Good ideas fail all too often in energy. When they do, a lack of active management support is more often than not the reason. “Leadership is key,” says Dr Cristiano Marantes, Interim Director of Strategy and Regulation at UK Power Networks. “Employees need to be taken on a journey and to understand the need for and benefits of change. Clear direction from the top of the organisation is paramount.”

### 2. Implementing at scale is fiendishly difficult

Industry executives say scaling up ideas for large-scale use is their toughest barrier to rolling out innovative solutions. In power transmission and distribution, trials of new equipment are often successful across small areas of a utility’s network, but fail when attempts are made to implement them more widely. This failure may be due to a lack of regulatory approval, a lack of implementation skills or risk aversion.

### 3. In-house teams are under-resourced

Internal R&D and innovation teams, particularly in utilities, have suffered from years of low investment. Utility executives acknowledge that technologies and processes tend to be provided by the vendor community. Collaborative innovation is a positive force, but only where all parties bring strengths to the table. Indeed, energy and utility companies have an increasing need to position themselves to compete with the technology sector for top talent and resources.

### 4. Risk management can be stifling

Respondents cite overzealous risk management as a major reason why good ideas fail. This is understandable when the costs of network or equipment failure can be so high, as evidenced by the Deepwater Horizon disaster in the Gulf of Mexico. But a continuous focus on playing it safe should not be used as a reason to stifle creativity.

## CLIENT EXPERIENCE

### Exelon’s ‘Four i’s’

“To change the culture, people need to be exposed to new ideas and entrepreneurs and some of the disruptions that are going on,” says Sonny Garg, Chief Information and Innovation Officer at Exelon. “To encourage this, Exelon has

established a ‘Four i’s’ framework for innovation. We aim for this to *inspire* people, as well as to create opportunities for them to *ideate*. Then, *investigate* and *implement* are the piloting and later scaling of those ideas.”



“We are seeing companies such as SolarCity and Tesla innovate across the traditional energy value chain and chart new courses of growth in the industry. For utilities to react effectively to this shifting landscape, they should ensure that innovation is an integral part of their core competencies – in strategy, design and execution. The first step in that direction should be the development of a clear strategy that leverages both innovations within the utility and at the edge of the traditional grid.”

DAVID GROARKE, PA EXPERT IN ENERGY AND UTILITIES

## ANALYSIS OF SECTOR OPPORTUNITIES

To adopt an innovative culture, one that is confident with risk-taking and learns quickly from failure, energy and utilities companies must focus on the following areas:

### 1. Establishing accountability

Innovation sceptics in the industry doubt that real change can be achieved. This need not be the case. According to Dr Cristiano Marantes, Interim Director of Strategy and Regulation at UK Power Networks, his organisation’s approach has been to involve staff from different parts of the business in innovation project teams. “They go through the journey with us to understand the new tools and solutions. Then they become champions of change.”

### 2. Designing a structure and framework to support innovation

Too many energy firms associate R&D purely with innovation – or have no consistent view of what they actually mean by the term. Six in 10 respondents (59%), for example, say their colleagues use the term ‘innovation’ to refer to different things. At leading companies, management are explicitly defining what types of innovation they are looking for and creating separate structures to support it.

### 3. Doing more with digital

Less than half the sector firms represented in our survey use digital technology to enhance the innovation process. Mobile solutions can be particularly effective in helping to embed new ways of working, as employees tend to be comfortable using similar technologies in their personal lives.

### 4. Learning from outsiders – even competitors

Exelon organises ‘innovation expos’ to demonstrate to employees that innovation can really happen. Sonny Garg, Chief Information and Innovation Officer at Exelon, relates that other companies from the industry – some of them rivals – are often invited in to present. “Our employees can see that there are people out there trying to take our customers away from us.”

## ABOUT THE RESPONDENTS

Our survey comprised 100 respondents from the energy and utilities sector. Respondents were active in power generation (24%), gas/power utilities (21%), oil and natural gas (19%), energy retail (12%), trading (9%), water/waste water (9%) and related industries.

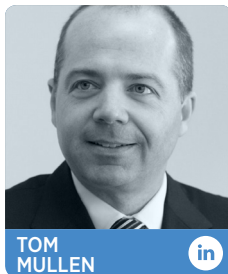
The majority of respondents (60%) came from the C-suite, with the rest fulfilling other senior management roles. Over one-third (37%) came from organisations with annual revenues exceeding \$1 billion.

## DEFENCE

### THE NEW WORLD OF INNOVATION

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Authored by PA defence experts:



**Defence and innovation have always been inextricably linked. “We are constantly seeking a competitive edge over our potential enemies,” says Air Vice-Marshal Richard Knighton, Assistant Chief of the Air Staff at the UK Ministry of Defence (MOD). “The rate of technological change is driving a requirement for innovative thinking and solutions in a way we have not had before.”**

Keeping up with future adversaries is not, however, the only reason why radical innovation is crucial in today’s sector. Defence departments must innovate to maintain national security on significantly reduced budgets. Flat markets at home are also forcing private defence companies to pursue new opportunities overseas and even consider potential new markets.

A decade of sustained operations in Iraq and Afghanistan has accelerated innovation in frontline combat and support equipment. Infantry troops are unrecognisable from their 2005 predecessors in terms of personal equipment, protection and weaponry, and there have been remarkable developments in areas such as armour protection, unmanned combat aerial vehicles, counter-IED and deployed medical services. While there are some great examples of innovation across defence, and recognising the very significant levels of spend on R&D, survey respondents (across many parts of the defence sector) perceive a culture that stifles the pace of innovation – impacting

the sector’s ability to reach its full potential and its position in our innovation leader group. In recent decades, innovation in defence has increasingly become synonymous with incremental improvements. Once developed, even the most complex major platforms – such as battleships and aircraft – have been successfully extended through regular upgrades over time. The Boeing B-52 was launched just after World War II, but the relatively low cost and risk of making upgrades – compared to developing new platforms – means it is still in service today. In our survey, 45% of public and private sector defence respondents say they often back high-potential but risky innovations (see how the defence sector measures up against our innovation leader group in the sector dashboard on the following page). However, when you separate out the two, we can see a vast difference in their willingness to back risky innovations; as shown in Figure 1 on page 64.

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“Winston Churchill’s famous quote can be applied to today’s defence sector – ‘Gentlemen, we have run out of money; now we must think.’”

ANDREW CREBER,  
PA EXPERT IN DEFENCE

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## HOW THE DEFENCE SECTOR COMPARES WITH THE INNOVATION LEADER GROUP

POSITION  
IN LEADER  
GROUP

**8/8**

NUMBER OF  
INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**18/100**

PERCENTAGE  
OF INNOVATION  
LEADERS IN  
SECTOR SAMPLE

**18%**



\*Only includes private sector defence companies

This suggests that public and private defence organisations face very different challenges as they seek to achieve competitive advantage through innovation.

### PUBLIC SECTOR DEFENCE: REGIMENTED CREATIVITY

Our survey suggests public sector defence organisations are considerably less effective at innovation than their peers in the private sector, as illustrated in Figure 1 on page 64. They fail more often even though they take far fewer risks.

Our findings indicate that public defence organisations' principal innovation challenges revolve around inflexibility, bureaucracy and an underdeveloped culture of innovation.

"Everybody joins as a junior officer and then grows through the organisation. There is a tendency, culturally, to think we are different and can not apply the logic of other sectors to ourselves."

AIR VICE-MARSHAL RICHARD KNIGHTON, ASSISTANT CHIEF OF THE AIR STAFF, UK MINISTRY OF DEFENCE (MOD)

### ANALYSIS OF PUBLIC SECTOR DEFENCE CHALLENGES

#### 1. Decision freeze

Government defence bodies struggle to manage risk in the decision-making process. Poor governance and overzealous risk management were both cited by respondents to our survey as top hindrances to innovation. "When you put us in a bureaucratic setting, we can become less willing to take risk," says Air Vice-Marshal Richard Knighton, Assistant Chief of the Air Staff at the MOD. "We build in checks and balances and do not always empower individuals."

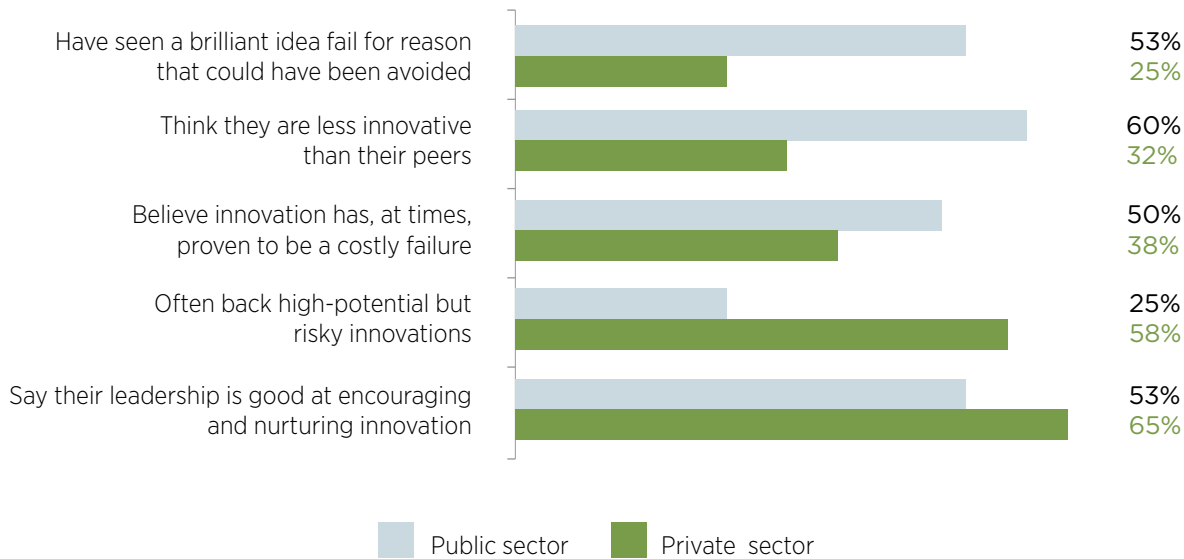
#### 2. Words, not actions

The clear majority of government respondents (58%) say they talk about innovation more than they apply innovation, and poor implementation of ideas was cited by a third (33%) as a key cause of brilliant ideas failing for avoidable reasons.

#### 3. Linear thinking

Respondents complain that brilliant ideas are frequently quashed by preconceptions about what the organisation should and should not do. The talent mix may be to blame. Public sector defence is notably strong in policy research (cited by 70%) and science, technology, engineering and mathematics (55%). It is far weaker in creativity (38%), entrepreneurial thinking (35%) and customer insight (40%).

FIGURE 1: WHERE PUBLIC AND PRIVATE SECTOR DEFENCE DIFFER



### PRIVATE SECTOR DEFENCE: BRAVE NEW MARKETS

Where private defence companies are weak on innovation, it principally comes down to their relationships with consumers and the market.

“Innovation provides one of the most effective ways to think and do things differently. The key lies in accelerating the change in behaviours in a traditionally cautious sector. While this is always difficult, the time is now to put our feet on the pedal – in terms of finding new markets, ways of working and acquisition models.”

ANDREW CREBER, PA EXPERT IN DEFENCE

### ANALYSIS OF PRIVATE SECTOR DEFENCE CHALLENGES

#### 1. Knowing the market

For private defence companies, there is no bigger barrier to innovation than inadequate market insight and intelligence (35%). Respondents also say they are much weaker on customer insight and intelligence than they are in all other skills and talents.

#### 2. Talking to the market

When a brilliant idea fails for avoidable reasons, the single biggest cause is poor communication to customers and the market (47%). This is notably higher than the other top causes of innovation failure, such as perception that innovation was beyond the organisation’s remit (40%), governance restrictions (33%) and difficulty scaling up ideas for large-scale use (33%). While the defence ‘market’ is unusual, it is still critical defence companies treat it as one to which they must ‘sell’ innovative ideas.

#### 3. Looking in the wrong places?

Private defence companies are more likely to say they are focusing primarily on innovation in internal operations (38%) and product and service development (34%) than they are on business strategy innovation (28%). As domestic markets shrink, they may benefit from putting greater emphasis on where and how they can create new value.

## ANALYSIS OF SECTOR OPPORTUNITIES

To adopt an innovative culture, one that is confident with risk-taking and learns quickly from failure, defence companies must focus on the following areas:

### 1. Working closer together

Recent years have seen a number of successful private-public innovation partnerships. Through such initiatives, government can learn from organisations that have more advanced innovative cultures – see Figure 2 on page 66 – while private companies can develop deeper insight into client requirements. The US Navy's work with the lead contractor on its Virginia Class submarines is a good example of a solution that cut costs while meeting requirements.

#### CLIENT EXPERIENCE

### Airbus A400M combines best of business and government

To develop the Airbus A400M, Airbus drew on its latest commercial advances and applied them in a military environment. "The A400M has moved things forward in applying commercial technology into the military airspace," says Paul Kahn, President of Airbus Group UK. "Being a military product, it was made to order – rather than speculatively – but it has got a more commercial approach to cockpit and flight control. Its carbon fibre wings were a breakthrough. It has also a more integrated solution in terms of automation and the ability to airdrop cargo automatically."

"Given the inevitable need to 'achieve more from less' in defence, with stretched budgets and many threats, innovation is critical. For the public sector, the easiest place to look for ideas on how to improve on innovation is the private sector that they already interact with. Learning lessons from Silicon Valley is exciting, but hard to put into practice. Learning lessons from Defense Inc and Defence PLC is a good place to start."

TOM MULLEN, PA EXPERT IN DEFENCE

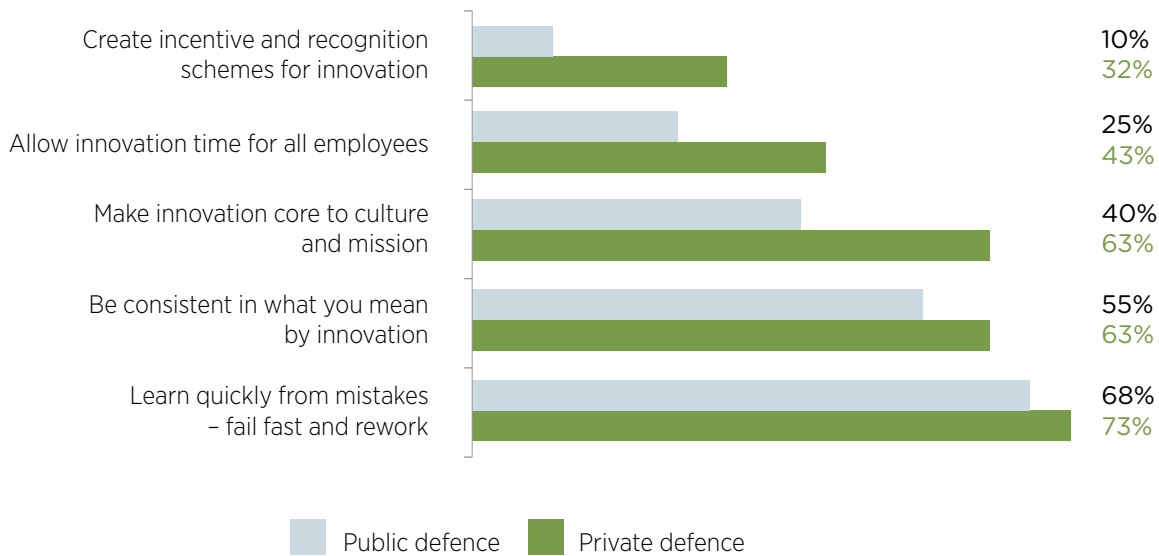
#### CLIENT EXPERIENCE

### Global defence company gives new employees room to experiment

"We have created a dedicated space with 3D printers, printed wire-board, tools, lathes and different materials," says one industry source. "Young employees can go in there in their free time and design and build what they like. There is a certain amount of training that has to be done, but we find our employees want to spend their own time doing those things. A generation is coming up that is eager to give up their personal time to do what we do as a business."

### 2. Targeting 'smart creatives'

The defence industry may offer some highly rewarding career opportunities for 'smart creatives' – those combining engineering and technical backgrounds with creativity and business understanding. One obstacle may be that this talent group does not automatically consider defence to be a viable or exciting career option. For defence organisations, the answer to recruiting the right talent may simply come down to communicating their positive challenges more clearly. "We are leading Mars exploration with the Mars Rover," says Paul Kahn, President of Airbus Group UK. "We design wings for aircraft. That is exciting and that attracts talent."

**FIGURE 2: WHERE PUBLIC SECTOR DEFENCE CAN LEARN FROM PRIVATE SECTOR DEFENCE**

### 3. Innovation through diversity

Leading defence organisations mix people from different backgrounds to create a more innovative culture. “A diverse, international team creates an innovative environment. If you have got the flair of French engineers, the rigour of German engineers, the entrepreneurial zeal of Americans – and you can throw in some pragmatic Australian and British engineers for good measure – you can conquer the world,” says Paul Kahn, President of Airbus Group UK. Indeed, more diverse teams may also be key enablers in achieving the other approaches suggested above – working better with customers and attracting smart creatives.

#### CLIENT EXPERIENCE

##### **Global defence company uses robot wars to involve all employees in innovation**

“We want every employee, every day, to think about innovation,” says one senior executive at a global defence company. “That is everyone from scientists to clerks. One initiative was to use vacuum cleaner robots in a competition. Employees had to pretend the robots were airplanes attacking ground targets, as well as defending airplanes. They had to stay away from the bad red airplanes and still try and get close enough to launch a weapon to the target area. We made the robots available, but employees had to do all the programming on their own.”

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“Winning in defence requires looking beyond the government business model. It is easy to fall into the trap of over-focusing on the perverse incentives of government programmes to maximise short-term profits. But there are a few firms who are looking beyond short-term incentives and taking action to improve long-term value to customers. It is these companies, that value business leadership over financial engineering, that we expect to triumph in the coming decade.”

TOM MULLEN, PA EXPERT IN DEFENCE

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#### ABOUT THE RESPONDENTS

Our survey comprised 100 respondents from the defence sector, 40 from public sector organisations and 60 from private sector organisations. Private sector respondents were active in manufacturing (51%), maintenance (39%) and consultancy (10%).

The majority of private sector respondents (82%) came from the C-suite, with the rest from other senior management roles. Almost half (48%) came from organisations with annual revenues exceeding \$1 billion. In the public sector, almost three-quarters (73%) came from the executive team, with 28% from organisations with annual expenditure exceeding \$1 billion.

**Innovation leaders  
have a mix of creative and  
results-driven talent  
in the leadership team**





## PART THREE: DATA OVERVIEW BY COUNTRY

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“A diverse, international team creates an innovative environment. If you have got the flair of French engineers, the rigour of German engineers, the entrepreneurial zeal of Americans – and you can throw in some pragmatic Australian and British engineers for good measure – you can conquer the world.”

PAUL KAHN  
PRESIDENT  
AIRBUS GROUP UK

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## COUNTRY HIGHLIGHTS

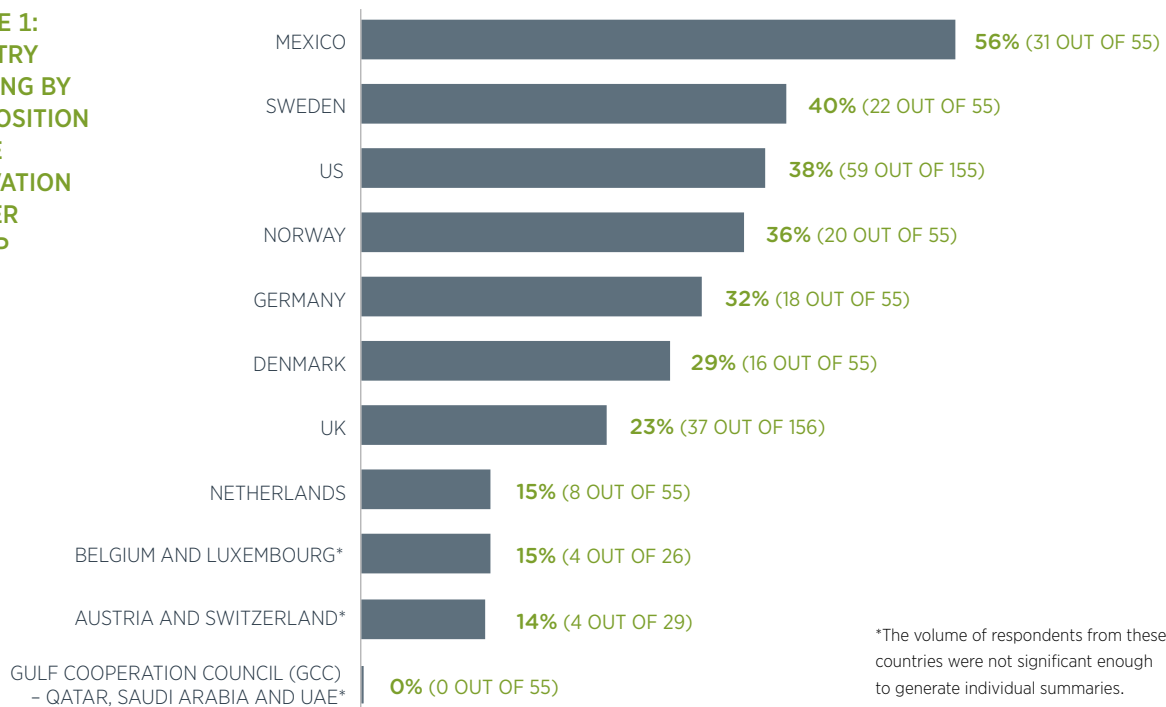
Over the following pages we present our survey results by country – highlighting the challenges and opportunities faced by each of the countries included in our research.

While our data does not show how innovative a country is per se, it does indicate how effective organisations in that country are at embedding a culture of innovation, and helps to identify where they should focus their efforts to improve.

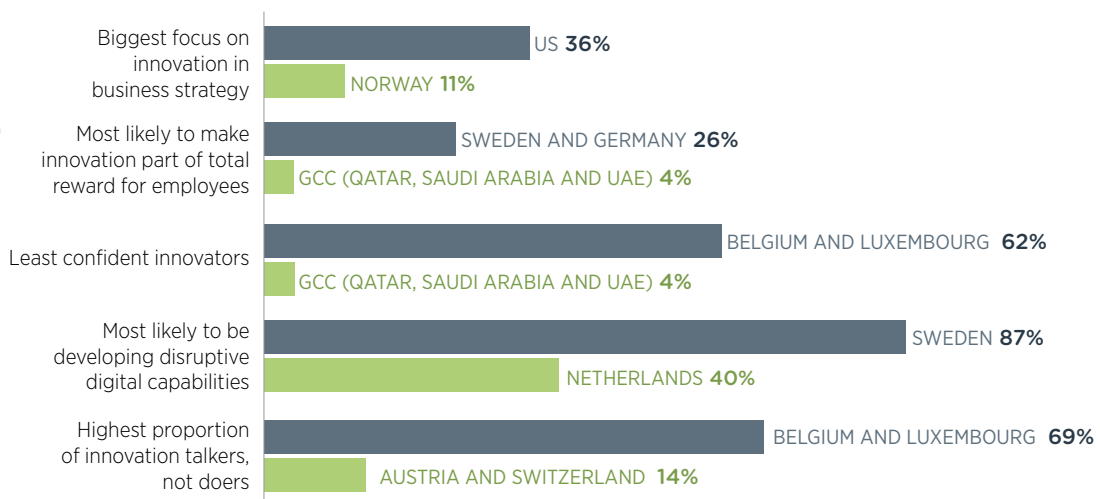
We also compare the data across countries: Figure 1 ranks the countries by the number of innovation leaders in the survey sample group, while Figure 2 highlights the biggest differences in attitudes and approaches to innovation between countries.

For information on our methodology for selecting the innovation leader group, please see page 14.

**FIGURE 1:  
COUNTRY  
RANKING BY  
COMPOSITION  
IN THE  
INNOVATION  
LEADER  
GROUP**

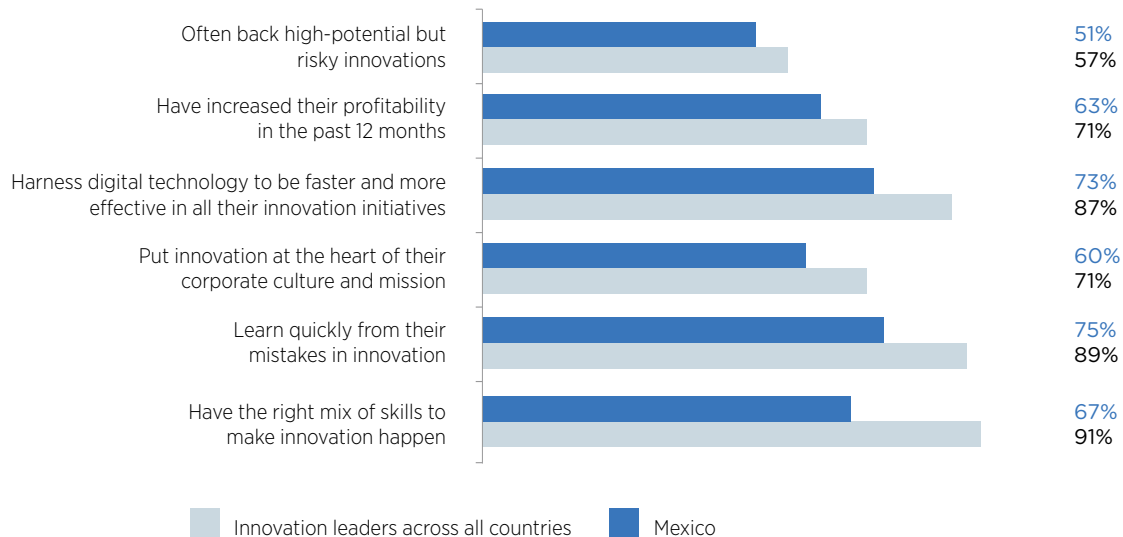


**FIGURE 2:  
DIFFERENCES  
IN THE  
ATTITUDE AND  
APPROACH TO  
INNOVATION  
BETWEEN  
COUNTRIES**



## MEXICO

### HOW PARTICIPANTS IN MEXICO COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR MEXICO

- 78%** Have seen a brilliant idea fail for reasons that could have been avoided
- 58%** Are striving to be pioneers
- 55%** Are developing digital capabilities to disrupt or lead their sector
- 38%** Say innovation has, at times, proven to be a costly failure
- 47%** Talk about innovation more than they do innovation
- 64%** Say people use 'innovation' to describe different things
- 18%** Provide rewards or bonuses to staff to encourage innovation
- 56%** Strongly agree their leadership is good at nurturing innovation

- **Top barrier to innovation**  
36% – Insufficient investment
- **Top strategy to improve innovation**  
66% – Open innovation
- **Top area for investment**  
52% – Product and service development

#### Mexican organisations report high failure rates and insufficient funding.

While Mexico tops our innovation leader group by country, nearly eight in 10 Mexico-based executives (78%) have seen a brilliant idea fail for reasons that could have been avoided. Luckily, they also appear to learn quickly from mistakes and have pulled off enough big wins from the risks they take to ensure a positive, profitable outcome.

Despite these positive findings and the fact Mexico-based executives make the right noises on innovation, they do not always translate this into action. Almost seven in 10 (67%) say they have the right mix of skills to make innovation happen, but around half (47%) say they end up talking about innovation more than they do innovation. When they do back creative ideas, however, a healthy majority (75%) say that they learn quickly from their mistakes.

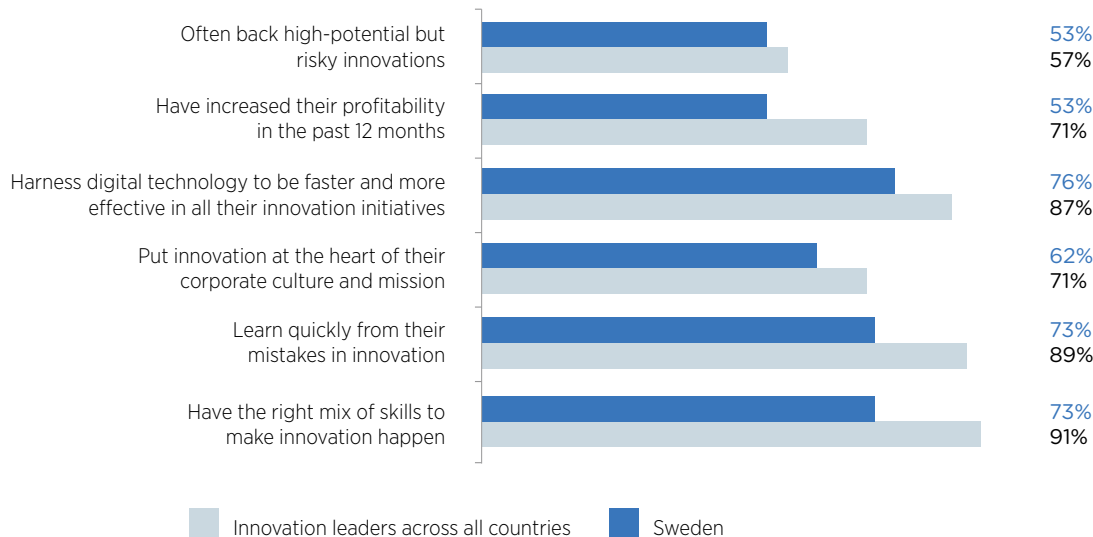
Lack of resources is the primary hindrance to more effective innovation. Mexico-based managers want to nurture innovation, but many organisations have insufficient funding. When good ideas fail, the main causes are a lack of budget, people or skills and also a lack of active management support (both 40%).



**LUIS RAMOS**  
PA INNOVATION EXPERT  
FOR MEXICO

## SWEDEN

### HOW PARTICIPANTS IN SWEDEN COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR SWEDEN

- 62%** Have seen a brilliant idea fail for reasons that could have been avoided
- 69%** Are striving to be pioneers
- 87%** Are developing digital capabilities to disrupt or lead their sector
- 55%** Say innovation has, at times, proven to be a costly failure
- 26%** Talk about innovation more than they do innovation
- 47%** Say people use 'innovation' to describe different things
- 26%** Provide rewards or bonuses to staff to encourage innovation
- 40%** Strongly agree their leadership is good at nurturing innovation

- **Top barrier to innovation**  
38% – Inadequate market insight and intelligence
- **Top strategy to improve innovation**  
38% – Developing staff to think more creatively
- **Top priority for investment**  
44% – Product and service development

#### Swedish organisations have high ambitions for digital innovation.

Almost nine out of 10 (87%) say they are developing new digital capabilities to disrupt or lead their sector – this is more than from any other country in the survey. Three-quarters (76%) also believe digital is helping them to become faster, more effective innovators (see country dashboard above).

Swedish organisations are also more accepting of risk in the innovation process than those elsewhere. Over half of Sweden-based respondents (53%) – more than from any other country in the survey – say they often back high-potential but risky innovations, and almost 70% are striving to be pioneers (69%). Pressure to innovate is likely to be a factor, with 73% saying they are most innovative when under pressure.

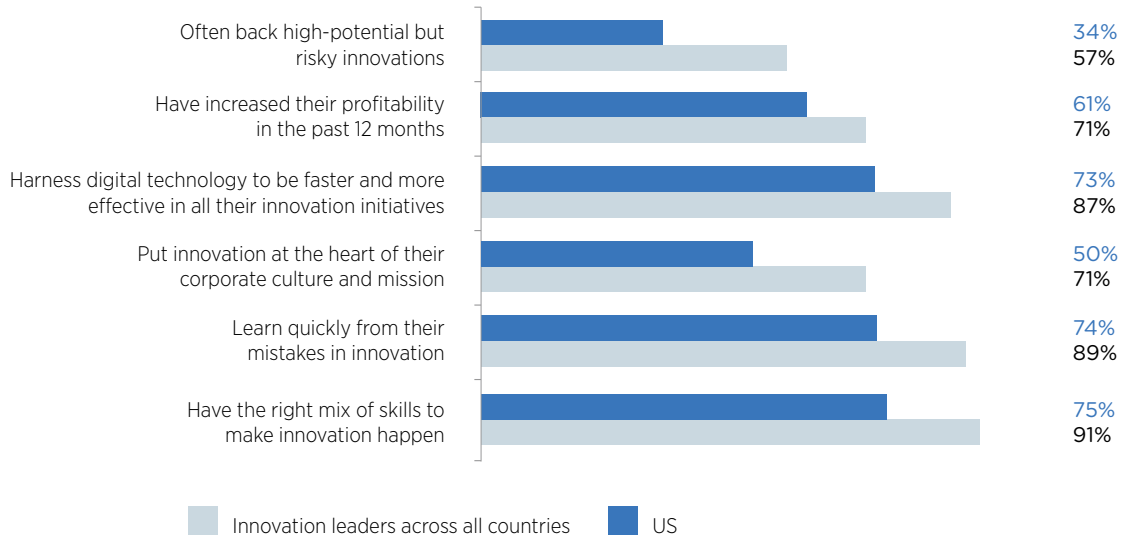


**JOHAN SAKS**  
PA INNOVATION EXPERT  
FOR SWEDEN



## UNITED STATES

### HOW PARTICIPANTS IN THE US COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR THE US

- 53%** Have seen a brilliant idea fail for reasons that could have been avoided
- 54%** Are striving to be pioneers
- 49%** Are developing digital capabilities to disrupt or lead their sector
- 41%** Say innovation has, at times, proven to be a costly failure
- 46%** Talk about innovation more than they do innovation
- 63%** Say people use 'innovation' to describe different things
- 16%** Provide rewards or bonuses to staff to encourage innovation
- 38%** Strongly agree their leadership is good at nurturing innovation

- **Top barrier to innovation**  
23% – Too many rules and scaling up ideas
- **Top strategy to improve innovation**  
46% – Developing staff to think more creatively
- **Top area for investment**  
38% – Product and service development

#### Post-crisis rules have dampened US entrepreneurial spirit.

The US has a strong reputation for innovation and has produced many of the most innovative companies of the past decades. But Silicon Valley is not the norm. More than half of US-based executives (53%) are seeing brilliant ideas fail for reasons that could have been avoided, and only 34% are backing high-potential but risky innovations (see country dashboard above). Almost half (46%) talk about innovation more than they do innovation. For a country famed for its entrepreneurial spirit, it is perhaps surprising to see that only 16% of organisations provide financial rewards for employees' specific contributions to innovation. Too many rules is one of the top barriers to success in the country's innovation projects.

Business strategy is a major focus of innovation in the US – more so than in other countries in the survey. More than one-third (36%) of US organisations focus their investments primarily on how and where new value is created. This is only slightly less than the share (38%) who focus innovation on new products and services, and more than those concentrating it on internal operations (26%).

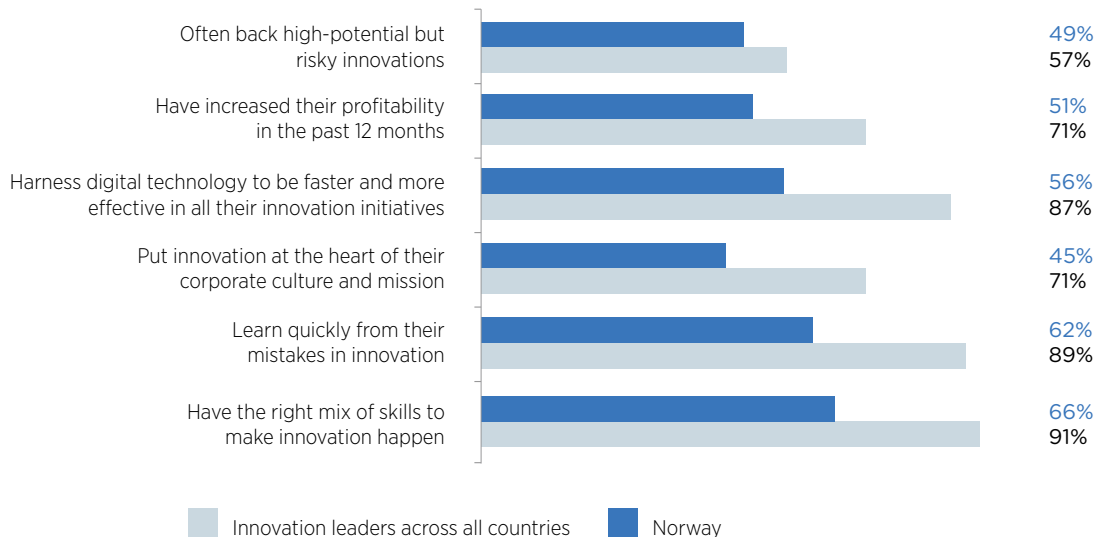


**PETER SIGGINS**  
PA INNOVATION EXPERT  
FOR THE US



## NORWAY

## HOW PARTICIPANTS IN NORWAY COMPARE WITH THE INNOVATION LEADER GROUP



## SCORECARD FOR NORWAY

- 78%** Have seen a brilliant idea fail for reasons that could have been avoided
- 56%** Are striving to be pioneers
- 78%** Are developing digital capabilities to disrupt or lead their sector
- 65%** Say innovation has, at times, proven to be a costly failure
- 33%** Talk about innovation more than they do innovation
- 36%** Say people use 'innovation' to describe different things
- 20%** Provide rewards or bonuses to staff to encourage innovation
- 36%** Strongly agree their leadership is good at nurturing innovation

• **Top barrier to innovation**  
42% - Scaling up ideas

• **Top strategy to improve innovation**  
42% - Developing staff to think more creatively

• **Top priority for investment**  
58% - Internal operations

## Brilliant ideas fail too often in Norwegian organisations.

While more than three-quarters of Norway-based executives (78%) say they have seen a brilliant idea fail for reasons that could have been avoided, this is not putting nearly half of them off (49%) from backing high-potential but risky innovations (see country dashboard above). This helps explain why 65% of country respondents report that innovation in their organisation has, at times, proven to be a costly failure.

When asked about the most difficult barriers to innovation in their organisation, by far the most frequently cited response is scaling up ideas for large-scale use (42%). When brilliant ideas fail, a host of related factors come into play for survey respondents. Alongside scaling issues, Norway-based respondents also point to overzealous risk management.

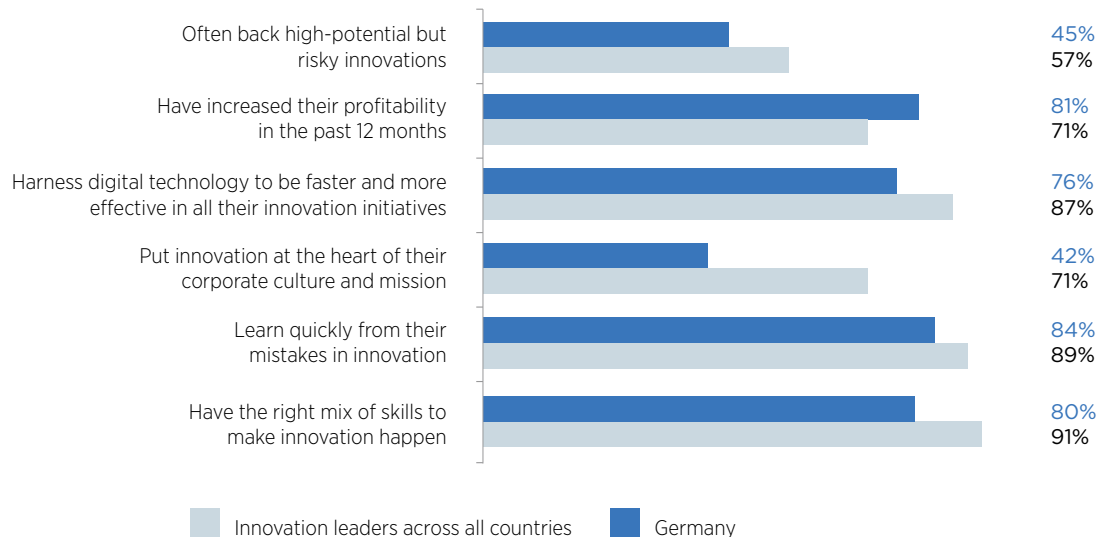


**THOMAS BJØRNSTAD**  
PA INNOVATION EXPERT  
FOR NORWAY



## GERMANY

### HOW PARTICIPANTS IN GERMANY COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR GERMANY

- 35%** Have seen a brilliant idea fail for reasons that could have been avoided
- 56%** Are striving to be pioneers
- 44%** Are developing digital capabilities to disrupt or lead their sector
- 47%** Say innovation has, at times, proven to be a costly failure
- 35%** Talk about innovation more than they do innovation
- 64%** Say people use 'innovation' to describe different things
- 26%** Provide rewards or bonuses to staff to encourage innovation
- 33%** Strongly agree their leadership is good at nurturing innovation

- **Top barrier to innovation**  
33% – Scaling up ideas
- **Top strategy to improve innovation**  
60% – Open innovation
- **Top priority for investment**  
38% – Product and service development

#### Incremental innovation is more important than breakthroughs for German organisations.

Germany-based executives are extremely confident in their organisations' capacity to innovate and generally perform very well against the criteria we have used to define our innovation leader group. For instance, eight in 10 (more than any other country) believe they have the right mix of skills to generate ideas and make them a reality (see country dashboard above). However, the focus tends to be on incremental improvements rather than radical breakthroughs, with 76% of respondents saying they derive greater value from incremental innovation.

When asked about the toughest barriers to innovation in their organisations, top of the list for German-based respondents (33%) is difficulty in scaling up ideas for large-scale use. One solution to this may be collaborating with partners to help accelerate the development of ideas. Open innovation is a major focus, with 60% of German organisations citing this as their top ranked strategy for improving innovation.

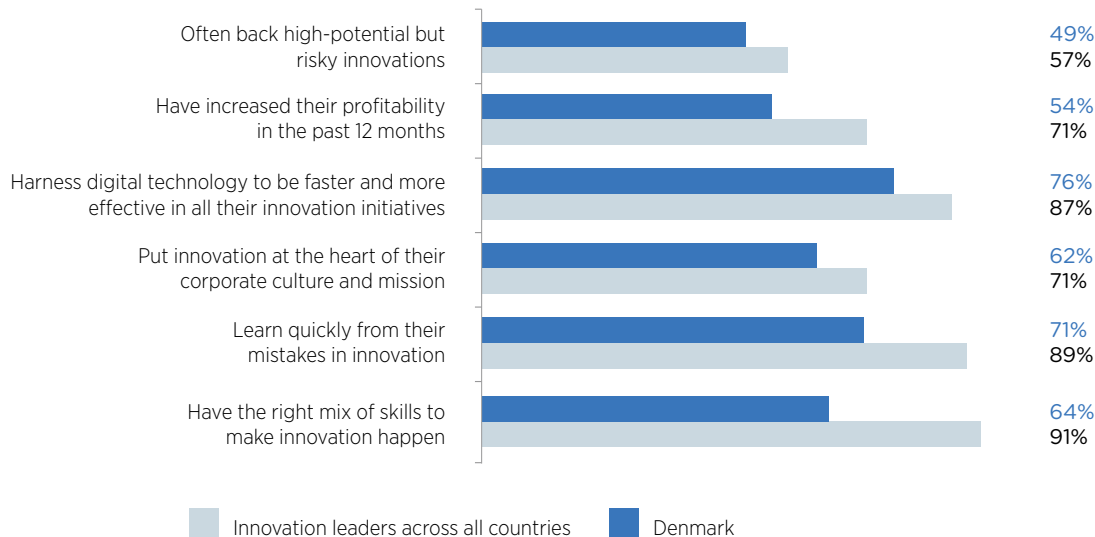


**STEFAN LIPPAUTZ AND THOMAS BRAND**  
PA INNOVATION EXPERTS FOR GERMANY



## DENMARK

### HOW PARTICIPANTS IN DENMARK COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR DENMARK

- 71%** Have seen a brilliant idea fail for reasons that could have been avoided
- 62%** Are striving to be pioneers
- 80%** Are developing digital capabilities to disrupt or lead their sector
- 56%** Say innovation has, at times, proven to be a costly failure
- 27%** Talk about innovation more than they do innovation
- 42%** Say people use 'innovation' to describe different things
- 22%** Provide rewards or bonuses to staff to encourage innovation
- 29%** Strongly agree their leadership is good at nurturing innovation

#### • Top barrier to innovation

36% - Embedding change and improvement in a sustained way

#### • Top strategy to improve innovation

35% - Developing staff to think more creatively

#### • Top priority for investment

42% - Internal operations

### The Danish are doers when it comes to innovation.

Only 27% of surveyed executives agree they talk more about innovation than do innovation. This compares with 46% in the US and 62% in the UK that are more likely to talk about innovation than act. More than six in 10 say innovation is core to their culture and mission (see country dashboard above).

As with Sweden, digital is central to Danish innovation efforts. Eight in 10 respondents say their firms are developing new digital capabilities to disrupt or lead their sector. Similarly, 76% say digital technology is helping them to be faster and more effective in all their innovation initiatives.



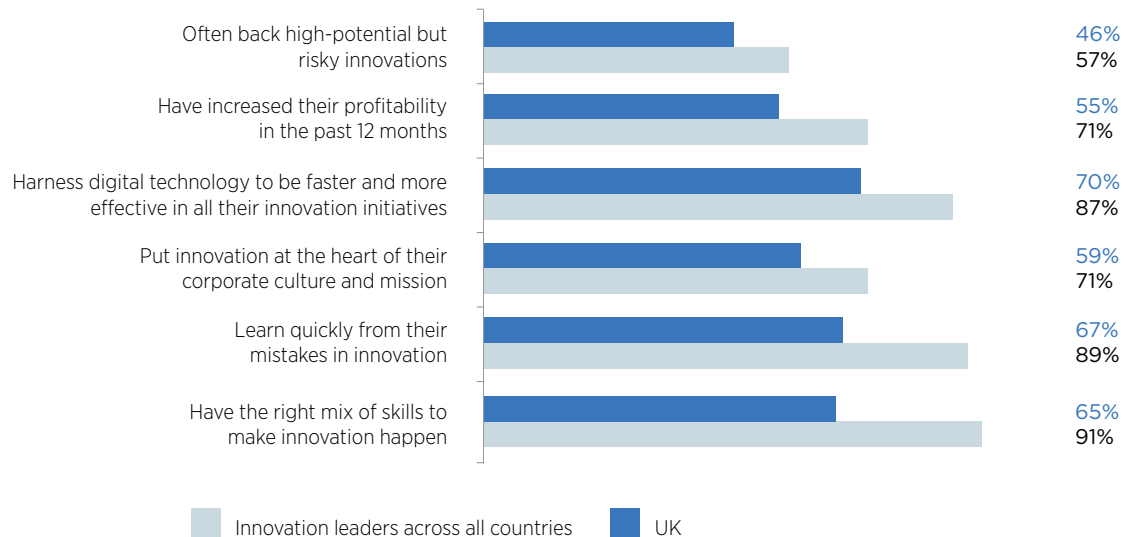
**MADS KJØLLER DAMKJÆR**  
PA INNOVATION EXPERT  
FOR DENMARK





## UNITED KINGDOM

### HOW PARTICIPANTS IN THE UK COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR THE UK

- 33%** Have seen a brilliant idea fail for reasons that could have been avoided
- 57%** Are striving to be pioneers
- 53%** Are developing digital capabilities to disrupt or lead their sector
- 51%** Say innovation has, at times, proven to be a costly failure
- 62%** Talk about innovation more than they do innovation
- 64%** Say people use 'innovation' to describe different things
- 7%** Provide rewards or bonuses to staff to encourage innovation
- 24%** Strongly agree their leadership is good at nurturing innovation

- **Top barrier to innovation**  
30% – The difficulty in measuring ROI in innovation
- **Top strategy to improve innovation**  
47% – Open innovation
- **Top priority for investment**  
42% – Internal operations

#### Almost two-thirds of UK organisations talk more about innovation than they act on it.

With the exception of Belgium and Luxembourg, the proportion of UK organisations that say they talk about innovation more than they do innovation (62%) is more than any other market in the survey. Other challenges include the fact that only 24% of UK organisations strongly agree their leadership is good at nurturing innovation, and only 7% provide rewards or bonuses to incentivise innovation. More than half of UK-based executives (51%) say innovation in their organisation has, at times, proven to be a costly failure.

UK organisations do not lack for ambition. The majority are striving to be pioneers, and nearly half (46%) of country respondents say they often back high-potential but risky innovations (see country dashboard above). But the country's innovators are held back from pursuing their ideas by concerns over obtaining an ROI. Lack of focus on their innovation objectives also appears to be an obstacle. As many as 64% of survey respondents say their people use the term 'innovation' to describe different things – a higher proportion than in any other market in the survey.

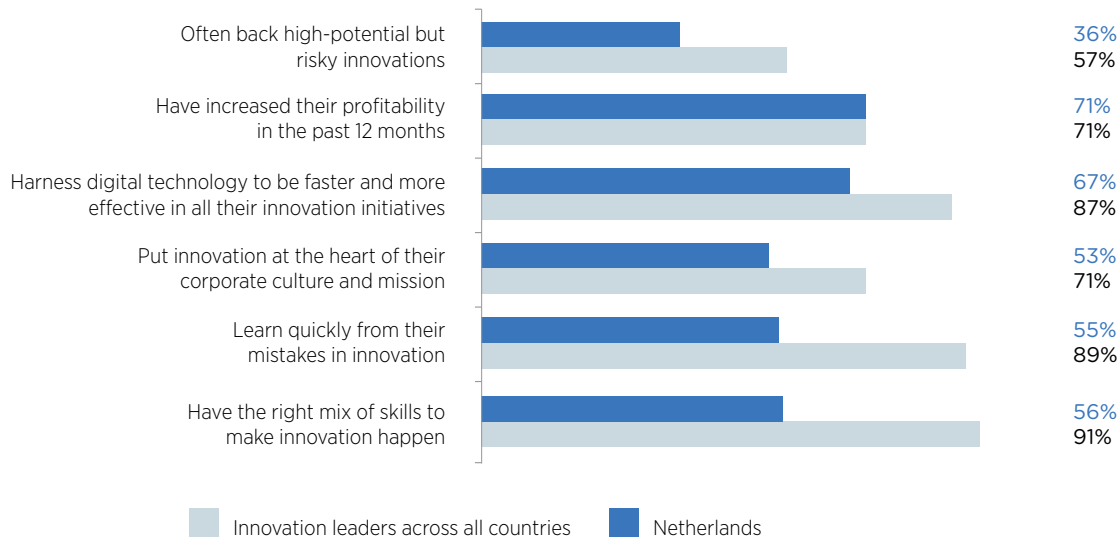


**COLM REILLY**  
PA INNOVATION EXPERT  
FOR THE UK



## NETHERLANDS

### HOW PARTICIPANTS IN THE NETHERLANDS COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR THE NETHERLANDS

- 53%** Have seen a brilliant idea fail for reasons that could have been avoided
- 40%** Are striving to be pioneers
- 40%** Are developing digital capabilities to disrupt or lead their sector
- 35%** Say innovation has, at times, proven to be a costly failure
- 40%** Talk about innovation more than they do innovation
- 38%** Say people use 'innovation' to describe different things
- 9%** Provide rewards or bonuses to staff to encourage innovation
- 15%** Strongly agree their leadership is good at nurturing innovation

• **Top barrier to innovation**  
33% - Scaling up ideas

• **Top strategy to improve innovation**  
58% - Open innovation

• **Top area for investment**  
42% - Product and service development

#### To reach their full potential, organisations in the Netherlands need to incentivise innovation and get better at implementation

The Netherlands' performance on innovation is mixed. Open innovation is cited by 58% of respondents as their top strategy to improve innovation, and this approach is delivering fruitful results. However, only 15% of the executives based in the country strongly agree their leadership is good at nurturing innovation and just 9% incentivise their staff to innovate. These findings suggest that Netherlands-based executives need to communicate stronger support for idea generation.

To improve on implementation, Netherlands-based organisations could take inspiration from our leader group and their peers in the Nordics. For instance, just 55% of respondents in the Netherlands say they learn quickly from their mistakes (vs 89% of the leader group) and only 56% have the right mix of skills to make innovation happen (vs 91% of the leader group). Furthermore, just 40% are developing the digital capabilities to disrupt and lead their sector - while in countries such as Norway and Denmark this figure is much higher.



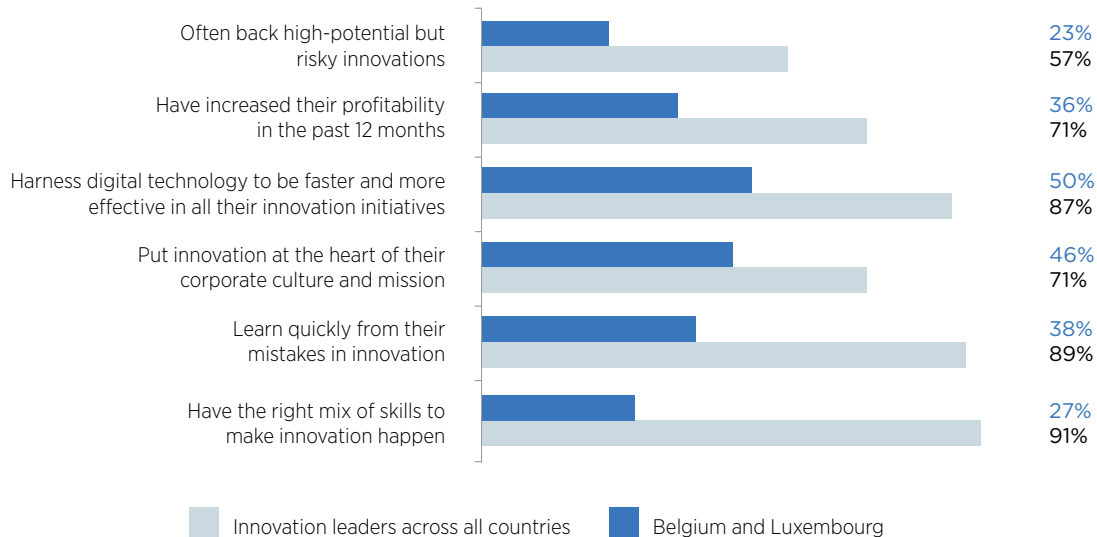
**HANS HOUMES**

PA INNOVATION EXPERT FOR  
THE NETHERLANDS



## BELGIUM AND LUXEMBOURG

### HOW PARTICIPANTS IN BELGIUM AND LUXEMBOURG COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR BELGIUM AND LUXEMBOURG

- 89%** Have seen a brilliant idea fail for reasons that could have been avoided
- 35%** Are striving to be pioneers
- 81%** Are developing digital capabilities to disrupt or lead their sector
- 39%** Say innovation has, at times, proven to be a costly failure
- 69%** Talk about innovation more than they do innovation
- 50%** Say people use 'innovation' to describe different things
- 8%** Provide rewards or bonuses to staff to encourage innovation
- 15%** Strongly agree their leadership is good at nurturing innovation

- **Top barrier to innovation**  
35% – Restrictive sector-wide regulation
- **Top strategy to improve innovation**  
50% – Hiring specialists such as innovation consultants and advisors
- **Top area for investment**  
50% – Internal operations

#### Unconfident organisations in Belgium and Luxembourg at risk of 'failing slowly'.

Nearly nine in 10 (89%) organisations in Belgium and Luxembourg have seen a brilliant idea fail for reasons that could have been avoided – higher than any other market in our survey. Worryingly, however, respondents from these countries do not appear to have mastered the art of 'failing fast'. Just 38% say they learn quickly from their mistakes in innovation (see region dashboard above), which compares unfavourably to Germany (84%), Mexico (75%) and the US (74%).

A high proportion of respondents (69%) in Belgium and Luxembourg say they talk about innovation more than they do innovation, which is notably higher than the GCC countries (22%), Sweden (26%) and Denmark (27%). This could be because a relatively low proportion of respondents (27%) believe they have the right mix of skills to make innovation happen. Perhaps as a result of this, 62% of respondents admit to feeling less innovative than their peers.

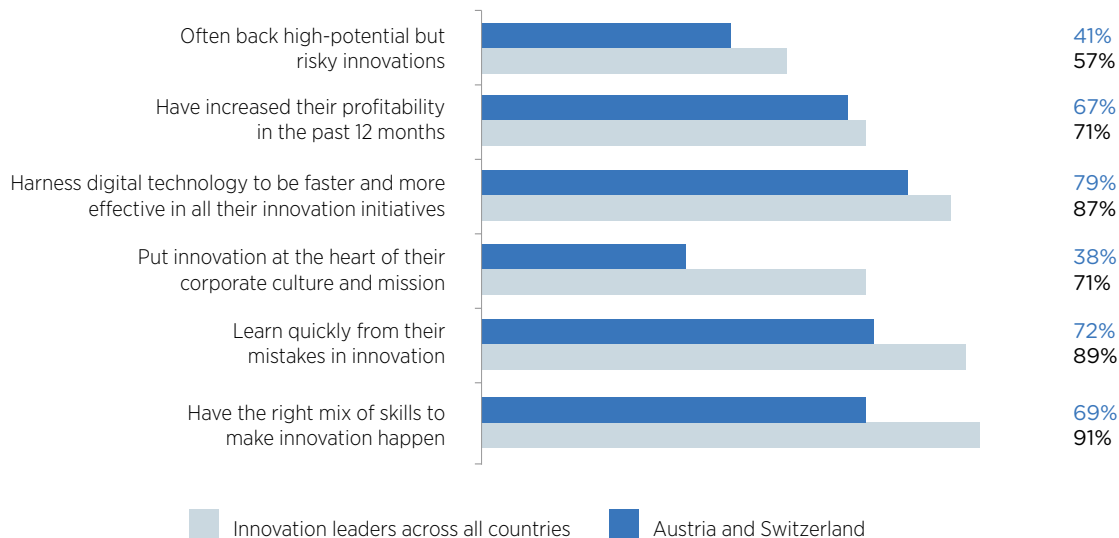


**HANS HOUMES**  
PA INNOVATION EXPERT FOR  
BELGIUM AND LUXEMBOURG



## AUSTRIA AND SWITZERLAND

### HOW PARTICIPANTS IN AUSTRIA AND SWITZERLAND COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR AUSTRIA AND SWITZERLAND

- 17%** Have seen a brilliant idea fail for reasons that could have been avoided
- 45%** Are striving to be pioneers
- 72%** Are developing digital capabilities to disrupt or lead their sector
- 48%** Say innovation has, at times, proven to be a costly failure
- 14%** Talk about innovation more than they do innovation
- 17%** Say people use 'innovation' to describe different things
- 14%** Provide rewards or bonuses to staff to encourage innovation
- 14%** Strongly agree their leadership is good at nurturing innovation

- **Top barrier to innovation**  
41% – Scaling up ideas
- **Top strategy to improve innovation**  
55% – Developing staff to think creatively
- **Top area for investment**  
38% – Internal operations  
38% – Product and service development

#### Austrian and Swiss organisations make innovation happen, but avoid big bets.

Austrian and Swiss organisations are clearly doing some things right when it comes to making innovation happen. In our survey, just 17% say they have seen a brilliant idea fail for reasons that could have been avoided. This compares favourably with the cross-sector average (50%) and with peers in Belgium and Luxembourg (89%), Norway (78%) and Mexico (78%). Austrian and Swiss organisations are also primarily 'doers' not talkers: just 14% say they talk about innovation more than they do innovation, unlike 69% of their peers in Belgium and Luxembourg.

It is worth asking, however, whether organisations in these countries are backing the most financially rewarding innovations. For example, Austrian and Swiss organisations appear to be taking a relatively hesitant approach to innovation. A mediocre two in five (41%) respondents say they often back high-potential but risky innovations (see region dashboard above), and just 45% say they are striving to be pioneers – compared with 69% in Sweden, 62% in Denmark and 57% in the UK.



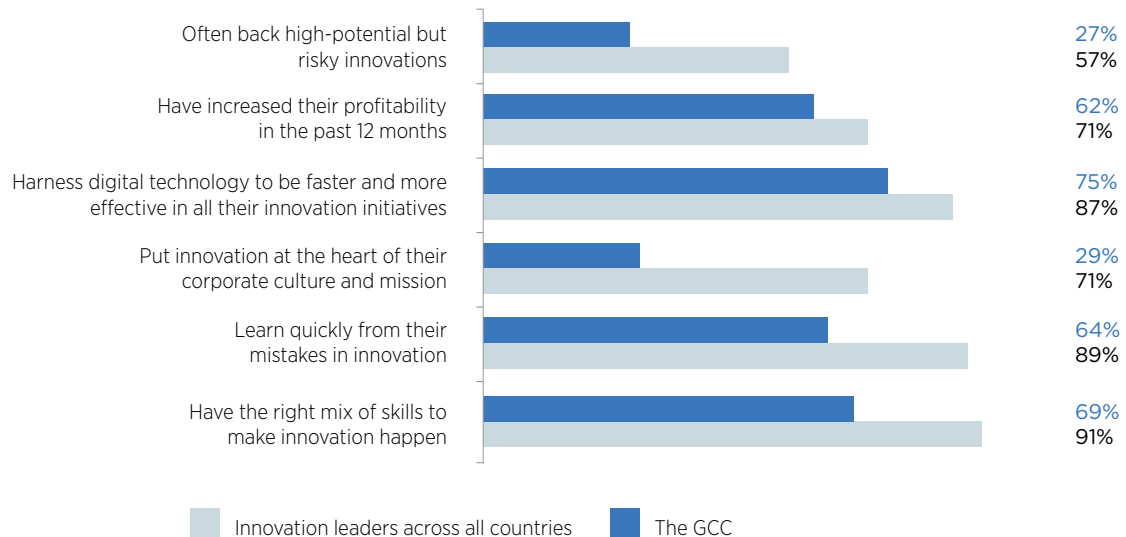
**THOMAS BRAND**  
PA INNOVATION EXPERT FOR  
AUSTRIA AND SWITZERLAND



## GULF COOPERATION COUNCIL (GCC)

Qatar, Saudi Arabia and UAE

### HOW PARTICIPANTS IN THE GCC COMPARE WITH THE INNOVATION LEADER GROUP



#### SCORECARD FOR THE GCC

- 16%** Have seen a brilliant idea fail for reasons that could have been avoided
- 27%** Are striving to be pioneers
- 60%** Are developing digital capabilities to disrupt or lead their sector
- 38%** Say innovation has, at times, proven to be a costly failure
- 22%** Talk about innovation more than they do innovation
- 35%** Say people use 'innovation' to describe different things
- 4%** Provide rewards or bonuses to staff to encourage innovation
- 0%** Strongly agree their leadership is good at nurturing innovation

- **Top barrier to innovation**  
44% – Difficulty in measuring ROI
- **Top strategy to improve innovation**  
78% – Developing staff to think creatively
- **Top area for investment**  
49% – Product and service development

#### Organisations in these countries are not big risk-takers when it comes to innovation.

Only 27% of organisations in these countries are striving to be pioneers or pursuing risky but high-potential innovations. Less risky types of incremental innovation deliver greater value to them than breakthroughs, according to 67% of GCC respondents from these countries.

Organisations that play it safe on innovation are less likely to see high failure rates. Fewer than four in 10 (38%) – less than other countries in the survey, apart from Mexico (38%) and the Netherlands (35%) – say innovation in their organisations has, at times, proven to fail in a costly manner. No more than 22% of these GCC-based respondents say they talk more about innovation than they do it. These figures are encouraging, but a low failure rate does not mean the best ideas are being developed in the region. Leaders in the region appear to acknowledge the need for more creative approaches – 78% say they need to develop staff to think more creatively.



**JASON HARBOROW**  
PA INNOVATION EXPERT  
FOR MIDDLE EAST AND NORTH AFRICA



**Innovation leaders  
put innovation at the heart  
of their corporate culture**



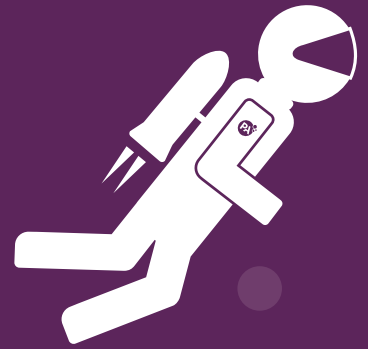
# PART FOUR: INNOVATION IN ACTION

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“Stop talking about it, make it  
and get it in front of people.  
See their reaction.”

WILL PAPA  
SENIOR VICE PRESIDENT AND  
CHIEF RESEARCH AND DEVELOPMENT OFFICER  
THE HERSHEY COMPANY

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# MAKING THE DIFFERENCE FOR OUR CLIENTS THROUGH INNOVATION

As a leading consulting, technology and innovation firm, we have over 70 years' experience of helping our clients excel at innovation. From collaborating with leadership teams to deliver breakthrough business models, to developing award-winning products in our Technology Centre, we partner with organisations worldwide to solve their biggest innovation challenges.

It is this experience, combined with our research findings, on which we have based the recommendations set out in this report.

To bring these recommendations to life, over the following pages you can read practical examples of how we have helped organisations in each of our eight focus sectors to strengthen their approach to innovation and take their best ideas to market. We have also provided a summary of our recent research reports that focus on different aspects of innovation across the sectors in which we operate.

To find out more about how we can support your organisation to overcome innovation challenges and seize new opportunities, please visit [www.paconsulting.com/makethedifference](http://www.paconsulting.com/makethedifference)

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## CONSUMER PRODUCTS AND MANUFACTURING

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### BETTER ALL ROUND

#### Taking the Ora kitchen towel from concept to store within 12 months

Although there has been a climb in market demand, the household kitchen towel sector has seen no genuine innovation since its inception in 1931. Working closely with our client, Better All Round, we developed, and are supplying the market with, a revolutionary new kitchen towel – Ora.

Ora has been designed to make using kitchen towels easier by layering single round sheets through an innovative stacking system. As there are no perforations, you simply lift off a sheet with one hand. Each stack contains the equivalent of two traditional kitchen towel rolls held in a waterproof card base rather than on a roll. Everyone wins: Ora's space-saving design and round shape means 20% less packaging, over 30% fewer trucks on the road and less space required in the supermarket and in the home. And less waste for our planet. Driving this development – from the business design and concept to finished product in store within 12 months – has been a real achievement. With no pre-existing equipment available, we developed a completely new manufacturing process at our Technology Centre in Cambridge.

Our expertise across packaging, new product development and manufacturing meant that PA could make it happen. The combination of a great concept, a great team and ultimately a great product has resulted in almost 60% of consumers surveyed saying they would switch brands and buy Ora.

Ora is currently available in selected UK Tesco stores.




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“Getting the product on supermarket shelves within 12 months of starting the project is a real achievement [...] And when you do not just do that work but help build the machinery and, in my case, operate the supply chain – that is tremendous, that is groundbreaking.”

ODAY ABBOSH  
CEO  
BETTER ALL ROUND

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## DEFENCE

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### UK MINISTRY OF DEFENCE

#### Protecting soldiers from improvised explosive devices

To protect soldiers in Afghanistan, the UK Ministry of Defence (MOD) urgently needed a vehicle-based system to detect improvised explosive devices hidden below road surfaces. Off-the-shelf solutions existed but were considered unsatisfactory.

Customising a solution, however, would extend the timescale and leave soldiers at risk for longer. PA resolved the MOD's dilemma, finding a middle path between an off-the-shelf solution and a full development programme. We met the urgent timescales without compromising performance by applying an innovative approach to both the solution design and its procurement. Our work included assessing a wide range of candidate systems and subsystems to help the MOD select the right solution and secure buy-in from senior stakeholders. We then provided support to enable the MOD to work directly with empowered and incentivised suppliers without the usual prime contract arrangements.

It took just 11 months to move from investment decision to operational use. The system has been saving lives since early 2011. The procurement approach saved an estimated £9 million of upfront costs plus projected lifetime costs of a further £8 million.

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“Together we have achieved results that many, both within and outside of the team, thought impossible at the outset. PA helped us to execute the role with confidence and convert scepticism amongst key stakeholders to commitment. Perhaps most importantly, PA has helped to make Panama a source of pride within the MOD as we continue to ensure we fully support the needs of our soldiers in Afghanistan.”

LIEUTENANT COLONEL  
ADRIAN PARKER OBE, SENIOR  
REQUIREMENTS MANAGER,  
MANOEUVRE SUPPORT TEAM,  
UK MOD

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## ENERGY AND UTILITIES

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### BDR THERMEA

#### Developing an intelligent heating system to drive millions of euros in revenue

BDR Thermea is one of the world's largest manufacturers of high-efficiency boilers, with annual revenues in the region of €1.7 billion. Faced with increasing competition from new technologies, the company announced plans to develop an intelligent heating system that would make it easier for customers across Europe to manage their energy consumption.

Based on our world-class engineering, product design and manufacturing capability, BDR Thermea asked PA to develop the

new system from concept through to completion. Our market research revealed that consumers often feel nervous about interacting with their boiler to manage the temperature of their home, and instead want a thermostat that is attractive and easy to use. At the same time, installers want the lowest-risk installation process. Based on these findings, we designed two separate products – a consumer-friendly thermostat for homeowners to interact with and an installer interface for the boiler, focused on making the installation process as reliable as possible.

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As well as helping customers to save energy and reduce their bills, the new heating system is expected to drive millions of euros in revenue.

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In just nine months, PA's in-house design agency developed both products to provide a fantastic user experience as well as meeting demanding cost targets. Importantly, the thermostats can be placed in multiple rooms to ensure the house is heated evenly – reducing unnecessary energy consumption and making life more comfortable for residents. Customers can also control the thermostats remotely via a smartphone app. Following incredibly positive feedback in trials, BDR Thermea is now rolling the new system out across Europe. As well as helping customers to save energy and reduce their bills, it is expected to drive millions of euros in revenue.

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“The talent they presented us with really demonstrated that they have good depth on the bench. They are a very experienced, very professional, supportive firm.”

ANNA MAZZONE,  
THOMSON REUTERS

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## FINANCIAL SERVICES

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### THOMSON REUTERS

#### Launching the market's first managed service for 'Know Your Customer'

Complying with anti-money-laundering regulation is a highly complex and expensive task for financial institutions. But while the bills can be eye-watering, they pale in comparison to the potential fines, which have cost the sector \$7.2 billion in the last three years.

Thomson Reuters had spotted an opportunity to provide a managed service – Thomson Reuters Org ID – that would free banks from the risky, resource-intensive task of complying with Know Your Customer (KYC) regulation, a key component of the anti-money-laundering regime. Through its new service, it planned to undertake all necessary due diligence checks on banks' customers, gathering and verifying critical information, and maintaining and updating data in line with regulatory changes.

PA was approached to help design, build and launch the

new service, which is expected to support 650,000 firms. Over a period of 12 months, we supported critical elements of Thomson Reuters Org ID, taking on roles such as project management, business modelling, IT operating model definition and data security assessment. We also helped to deliver workshops to develop a global KYC policy with potential customers, and supported the creation of a comprehensive go-to-market plan. With PA's support, Thomson Reuters launched Thomson Reuters Org ID ahead of the competition as the industry's first managed service for KYC. Thomson Reuters Org ID has been providing high-quality service from day one. This impressive start was confirmed when it was recognised as the 'Best KYC and Client On-Boarding Solution' at the second annual Data Management Summit Awards 2014.





## HEALTHCARE

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### VISITING NURSE SERVICE OF NEW YORK

#### Ensuring 65,000 patients receive quality healthcare at home

On any given day, the Visiting Nurse Service of New York (VNSNY), the United States's largest not-for-profit home- and community-based healthcare organisation, has more than 65,000 patients and health plan members under direct and co-ordinated care. As they transform their business to align with the opportunities presented by the Affordable Care Act, we have been working with VNSNY to design and implement a major upgrade to their IT infrastructure and core applications. This will enable VNSNY to achieve their vision of being the most significant, best-in-class not-for-profit community-based healthcare system, providing superior care co-ordination and healthcare services to vulnerable populations across a broad regional footprint.

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Caregivers can remotely monitor a number of critical parameters, including fetal position, fetal heart rate, maternal heart rate and uterine activity.

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## LIFE SCIENCES

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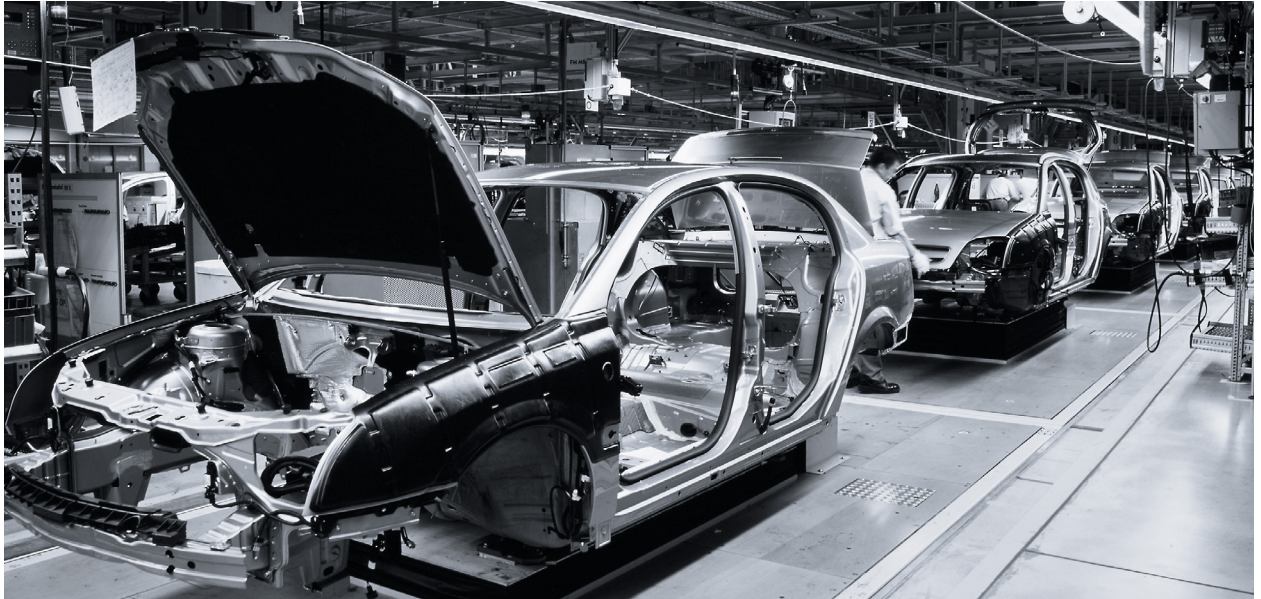
### MONICA HEALTHCARE

#### Saving the lives of thousands of babies each year

Monica Healthcare specialises in creating innovative wearable devices that monitor the health of unborn babies at home and in the hospital. Its patented technology is based on the acquisition of electrophysiological signals detected by cordless electrodes positioned on the maternal abdomen.

From these signals, caregivers can remotely monitor a number of critical parameters, including fetal position, fetal heart rate, maternal heart rate and uterine activity. As well as improving pregnancy outcomes, Monica's at-home technology can help expectant mothers avoid a lengthy hospital stay – reducing healthcare costs by millions of dollars.

Our technology experts are working with Monica to develop the next phase of the company's pioneering technology, which is expected to save the lives of thousands of babies each year.



## PUBLIC SECTOR

We evaluated overseas trade opportunities exceeding £500 million and engaged UK companies with the capability to meet demand.

### UK TRADE & INVESTMENT

#### Boosting exports by £13bn in three years

UK Trade & Investment (UKTI) works with UK-based businesses to ensure their success in international markets, supporting the UK's economic recovery through job creation.

We have been working with UKTI to increase trade across the UK and realise the country's export potential. In support of this aim, we developed and delivered UKTI's High Value Opportunities Programme to help UK businesses win major international contracts.

To deliver the programme, we evaluated overseas trade opportunities exceeding £500 million and engaged UK

companies with the capability to meet demand. Driven by our sector experts at ground level, and the IT system we developed to allow real-time decision-making, the programme delivered against over 100 large-scale projects globally. We also developed and supported training to over 400 members of UKTI staff to help them achieve ongoing success.

Between April 2011 and March 2014, our work with UKTI has increased the value of UK export activities by £13.8 billion. The High Value Opportunities Programme remains UKTI's flagship trade initiative.



## TRANSPORT AND LOGISTICS

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### DSB

#### Providing advice for the procurement of electric trains in Denmark

The Danish government is in the process of driving the largest rail investment in the country's history. As part of this initiative, DSB – the government-owned operator of metropolitan, regional and intercity train services – is about to procure up to 275 state-of-the-art electric trains.

The £3 billion procurement represents an almost total replacement and simplification of DSB's current regional and intercity fleet.

In recognition of the politically sensitive nature of this procurement, which will be exposed to considerable public scrutiny, we were asked to support the development of a comprehensive decision paper and procurement strategy.

Drawing on our team's procurement, rolling stock and rail sector expertise, we conducted in-depth technical analyses over a 10-month period and prepared 10 technical reports that explored crucial aspects of the procurement, including market state, maintenance requirements, tendering and commercial approach, change management and programme execution. We worked closely with DSB to author the 140-page decision paper, outlining the procurement strategy. Furthermore, we transferred knowledge around essential concepts – including modern rolling stock procurement, train producer perspectives and programme governance – to DSB's senior teams to give them a shared understanding and consistent knowledge base.

By providing deep technical insight and programme management expertise, we helped establish confidence in the Transport Ministry that DSB would be capable of carrying out the procurement in a reliable and cost-effective way.

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## ABOUT OUR RESEARCH

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**Our innovation study is based on an international survey conducted with Longitude Research between March and May 2015. In total, 751 senior business and government executives completed the survey.**

Private sector respondents comprised 75% of the total and came from the following sectors: energy and utilities, financial services, transport and logistics, consumer products and manufacturing, defence, life sciences, healthcare, and IT and technology. Of these, almost half (47%) had annual revenues between \$100 million and \$1 billion, and almost a third (32%) had revenues exceeding \$1 billion. Public sector respondents came from organisations across government, including defence, healthcare and transportation. Over half (52%) of these organisations employed in excess of 1,000 people.

Our survey included 156 respondents from the UK (21%); 155 from the US (21%); 55 (7%) each from Denmark, Germany, the GCC (Qatar, Saudi Arabia and UAE), Mexico, the Netherlands, Norway and Sweden; 29 in total from Austria and Switzerland; and 26 in total from Belgium and Luxembourg.

In spring and early summer 2015, we conducted in-depth interviews with senior leaders from 24 leading organisations across our chosen regions and sectors, who provided additional insight.

In the course of our analysis, a group of 'innovation leaders' emerged. We found that respondents in this group were achieving more profitable growth – as measured by earnings before interest, tax, depreciation and amortisation (EBITDA) – than other private sector organisations in the survey. For more on our leader group methodology please see page 14.

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For further information about our research, please contact:



**Lisa Freeman**

Content Marketing Manager

+44 20 7730 9000

[lisa.freeman@paconsulting.com](mailto:lisa.freeman@paconsulting.com)

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For media-related enquiries, please contact:



**Laura Hamblin**

PR Manager

+44 20 7730 9000

[laura.hamblin@paconsulting.com](mailto:laura.hamblin@paconsulting.com)

## OUR COMMITMENT TO RESEARCH

At PA, we believe our consulting work should be underpinned by in-depth research into how organisations tackle their biggest challenges.

Covering the most pressing topics across sectors, our research reports are market-leading, thought-provoking and practical. Whatever the subject, we go beyond analysis to provide examples of how real decision-makers in real organisations are handling the issues of the moment – and we offer detailed recommendations on how to put our findings into action.

Below are a few examples of our recent reports from across sectors, each of which focuses on a different aspect of innovation.



**The Future Is Fluid**  
Talent management challenges facing CEOs and how to overcome them.



**Innovation Race**  
Why UK universities are falling behind in the global innovation race.



**Simply Better**  
Deconstructing the myths of complexity in the manufacturing sector.



**Cybercrime Tipping Point**  
How UK policing is responding to this new and growing threat.



**Energy Investment Map**  
Mapping risk and return in energy markets across the world.



**Driving Innovation in the Roads Sector**  
How innovation can deliver a more sophisticated roads infrastructure.



**Innovation for Peak Performance**  
How to improve your innovation capabilities to drive R&D excellence.





CONSULTING  
TECHNOLOGY  
INNOVATION

### We Make the Difference

An employee-owned firm of over 2,500 people, we operate globally from offices across the Americas, Europe, the Nordics, the GCC and Asia Pacific.

We are experts in energy, financial services, life sciences and healthcare, manufacturing, government and public services, defence and security, telecommunications, transport and logistics.

Our deep industry knowledge together with skills in management consulting, technology and innovation allows us to challenge conventional thinking and deliver exceptional results that have a lasting impact on businesses, governments and communities worldwide.

Our clients choose us because we do not just believe in making a difference. We believe in making the difference.

### Corporate headquarters

123 Buckingham Palace Road  
London SW1W 9SR  
United Kingdom  
+44 20 7730 9000

Cambridge Technology Centre  
Melbourn  
Herts SG8 6DP  
United Kingdom  
Tel: +44 1763 261222

### Denmark

Portland Towers  
GöteborgPlads1  
DK-2150 Nordhavn  
+45 3925 5000

### Germany

Eschersheimer Landstraße 223  
60320 Frankfurt am Main  
+49 69 71 70 20

### Netherlands

Orteliusaan 1001  
3528 BE Utrecht, Netherlands  
+31 30 282 9600

### Norway

Verkstedveien 1  
PO Box 150 Skøyen  
0212 Oslo  
+47 67 58 67 58

### Sweden

Jakobsbergsgatan 17  
111 44 Stockholm  
Sweden  
+46 8 45 419 00

### UAE

Middle East and North Africa  
Abu Dhabi Office  
403, SEHA Building  
Khalifa Park  
Abu Dhabi, UAE  
+971 2 4080911

### United States

45th Floor, The Chrysler Building  
405 Lexington Avenue  
New York, 10174 USA  
+1 212 973 5900

### paconsulting.com

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