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The International Innovation Barometer 2020

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Introduction

The outlook for innovation is promising; globally, Research and Development (R&D) spending is on the up. In an increasingly dynamic and fast-paced global economy, market conditions are evolving and there is constant demand for new products, new services and updated models. As a result, it is imperative that businesses equip themselves with a competitive edge. In this report, we have taken a deep dive into the state of innovation worldwide. Our findings reveal significant variations between country, sector and even job functions, but there are some clear trends.

In a bid to incentivise innovation, governments across the globe have introduced new tax credit and grant schemes for organisations to fund R&D projects. As a result, innovation and finance teams are universally anticipating budgets to increase in the coming years and most are making plans accordingly. With schemes available in different countries, global companies face a choice of where to undertake their R&D. It is an exciting time indeed.

Significant collaborative initiatives, both on national and international scales, are providing opportunities for organisations to learn from one another, making the whole process more productive. It seems reasonable for our respondents to be optimistic about what lies ahead.

Yet innovation is not without its challenges and there remain huge strides to be made. The anticipated increase needs to be managed properly. Although there are lucrative incentive schemes in place, many organisations are not taking the opportunities available to them. Most government-set R&D spending targets are simply not being hit. Our respondents, which encompass R&D managers, c-suite executives including CFOs, and business owners are overwhelmingly satisfied with their levels of R&D activity, but it is clear that governments would like them to pick up the pace. It is vital they use all resources available to them and review their R&D funding methods.

Then, it seems there are some broader attitudinal factors at play. Innovation is skills-driven and there is a demand for new talent. Men make up the majority of R&D roles and diversity is widely seen as unimportant to innovation success. This view needs modernising. Working to bring more women to study STEM topics at university and then proceed into an R&D career will widen the talent pool and create a more diverse workforce. In order for innovation to thrive, business needs to open to its doors to more female talent.

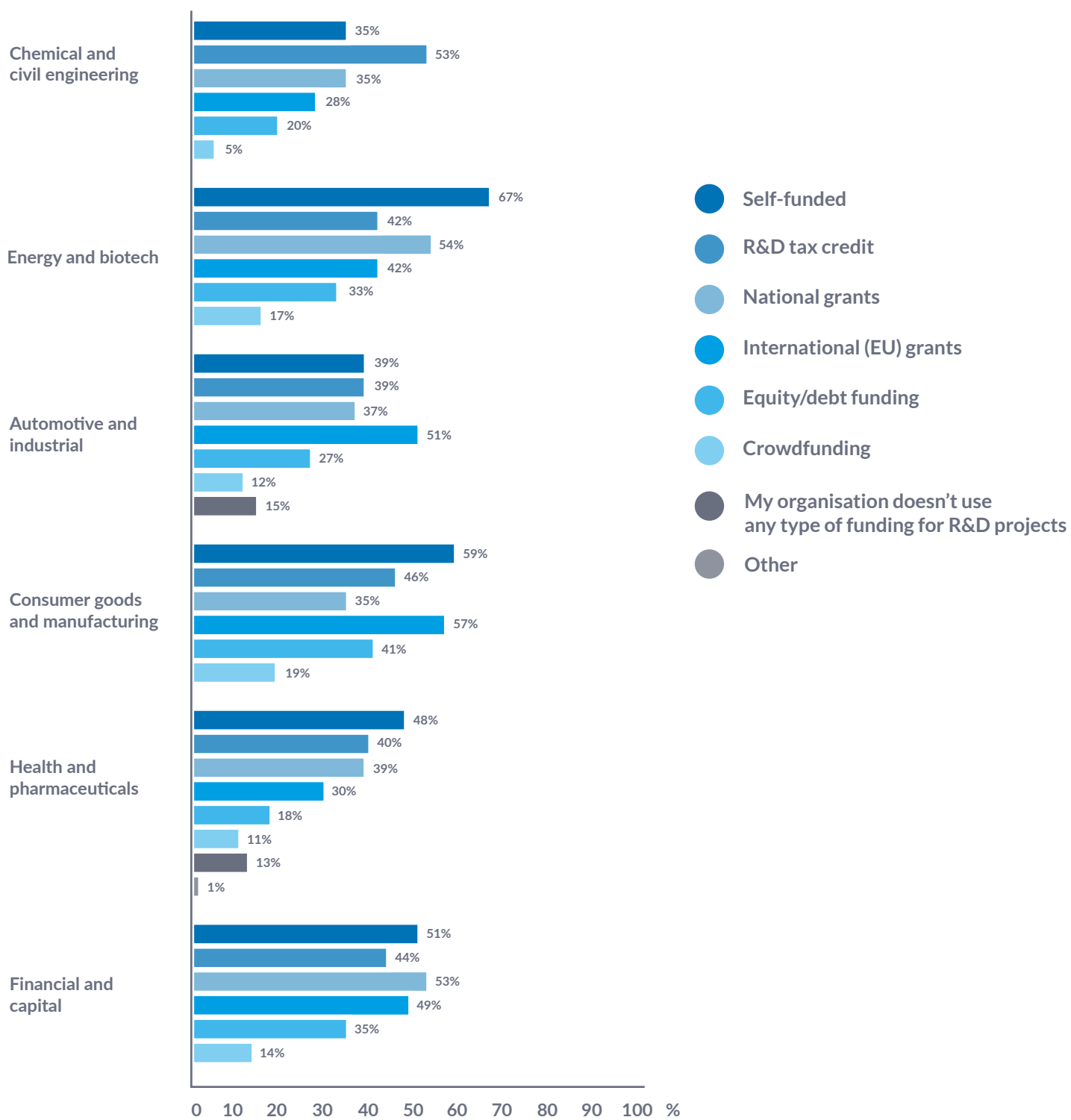
Overall, the prospects for the R&D field are encouraging, but businesses need to gain a better understanding of how to successfully scale activity and access all available resources. Innovation is needed now more than ever to find the answers to society's biggest challenges.



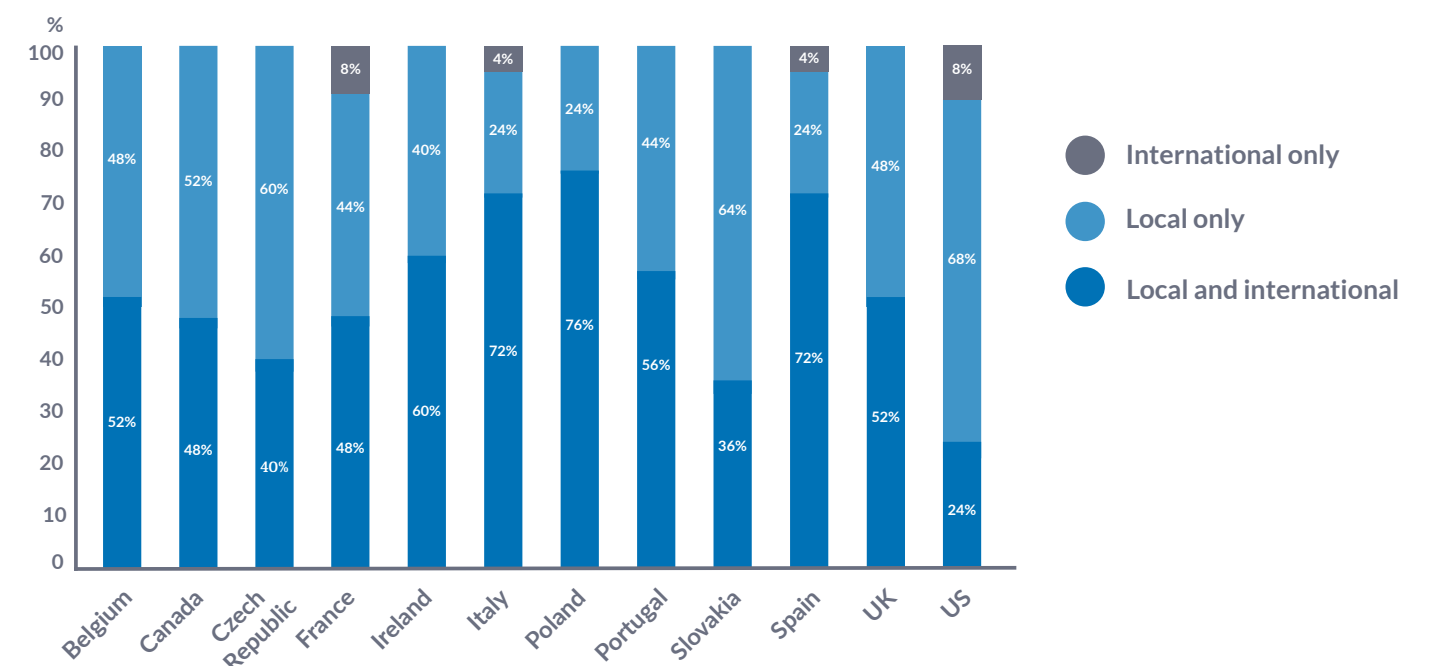
Hervé Amar,
President, Ayming

Report highlights

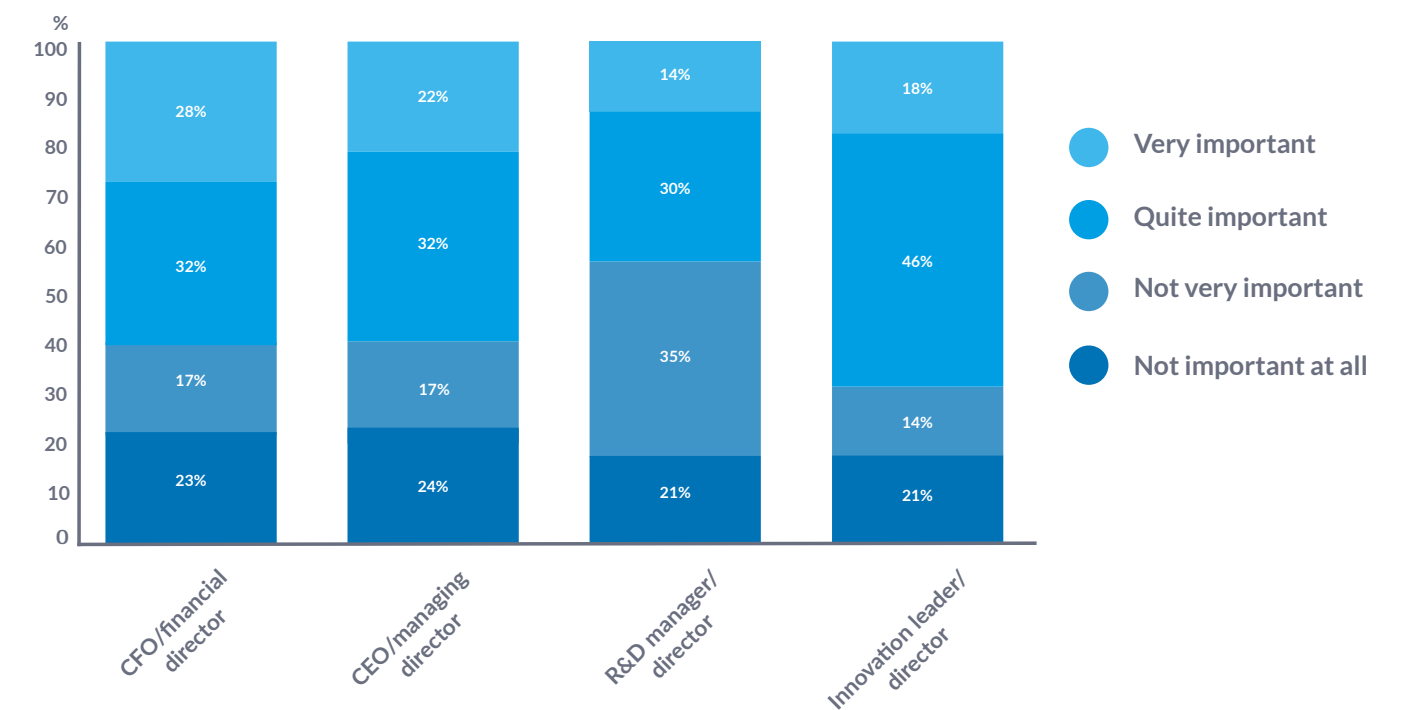
What types of funding does your organisation use for R&D projects?

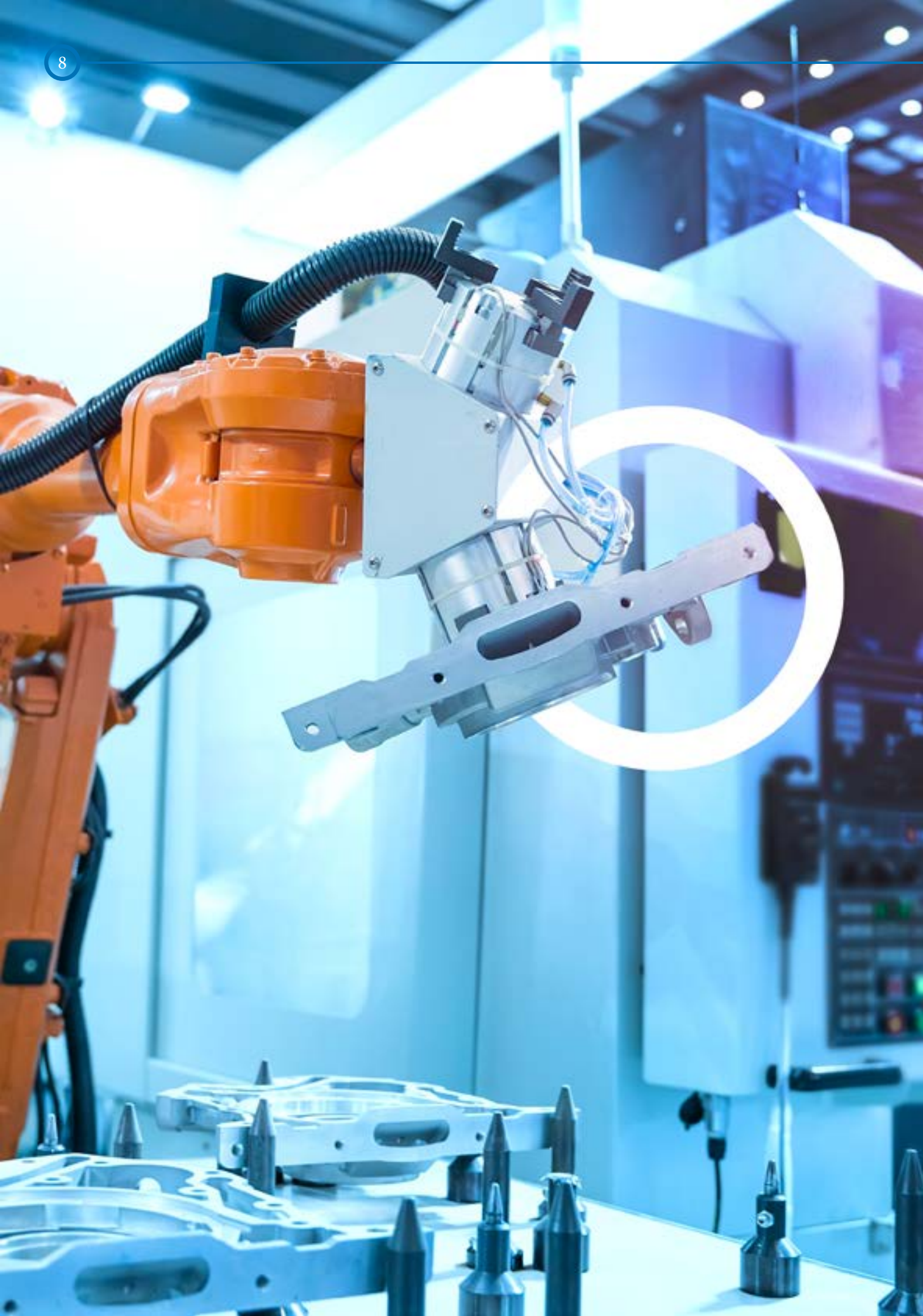


What resources do you rely on for your innovation/R&D?



How important is gender diversity to the success of your organisation's innovation/R&D efforts?





Methodology

Ayming's 2020 International Barometer provides comprehensive, yet accessible insights into the biggest challenges and opportunities facing R&D and finance professionals around the world.

The report provides readers with an enhanced understanding of the current international landscape for innovation, as well as an analysis of R&D and finance participants' understanding of the funding environment and views on the business-critical issue of gender balance among innovators.

To complete the Barometer, Ayming conducted a detailed survey of 300 senior R&D professionals, CFOs, c-suite executives and business owners in the following 12 countries:



Belgium



Canada



Czech
Republic



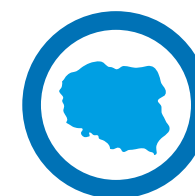
France



Ireland



Italy



Poland



Portugal



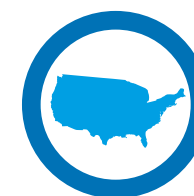
Slovakia



Spain

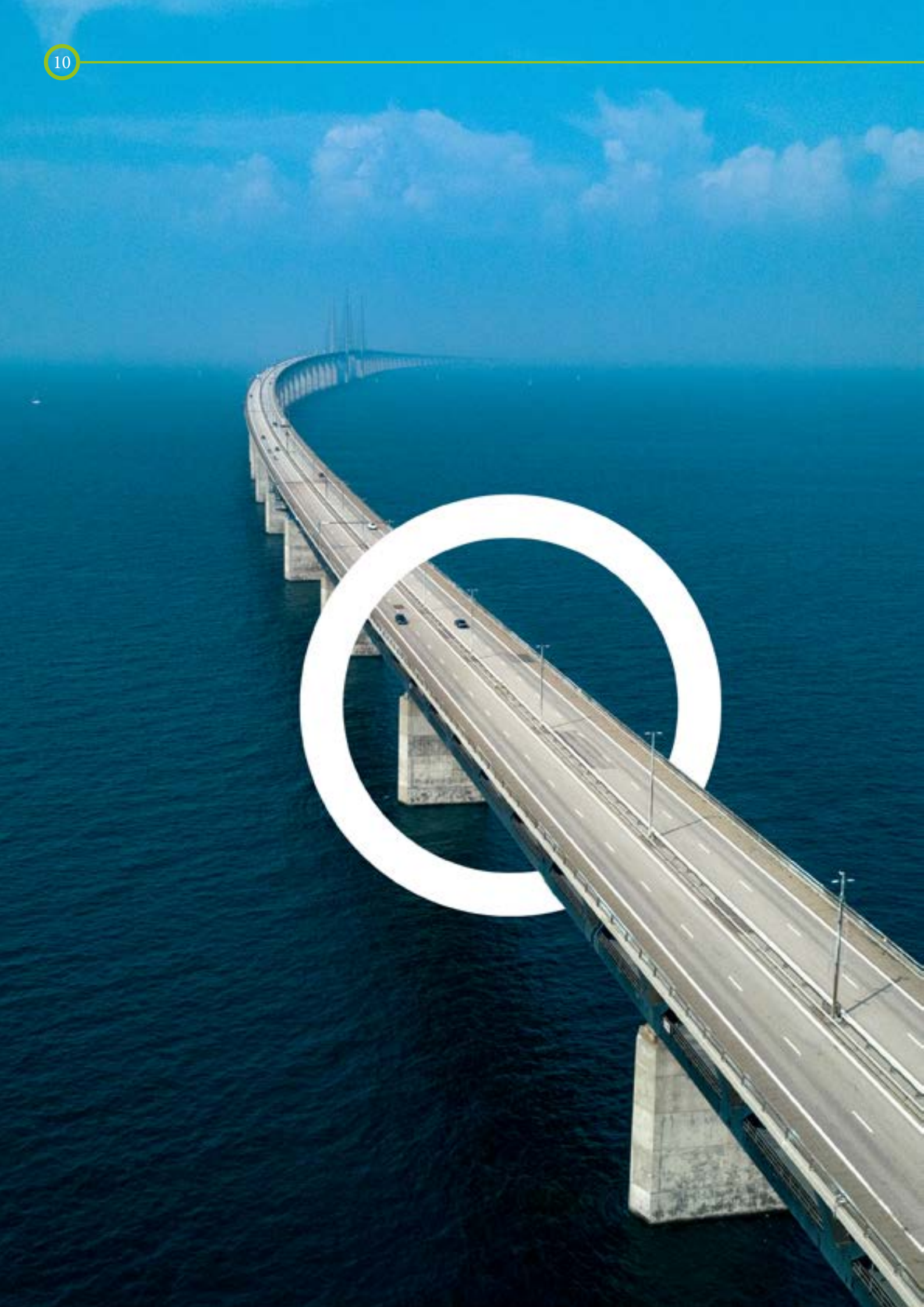


United
Kingdom



United
States

Senior members of the Ayming global innovation team have immersed themselves in the resulting data and have added analysis to the findings, all of which is detailed in this report.



Innovation landscape

In order to gauge where we are going, it's important to establish where we are now. The environment for innovation professionals is changing rapidly and there is a recognisable buzz among the community about the current landscape.

However, R&D processes and strategy could be improved. Companies need to ensure they are fully appraised of their R&D environment and that they are making the most of any opportunities.

Is “enough” enough?

An overwhelming majority of those we surveyed are satisfied with the level of R&D being undertaken by their organisation, with 83 per cent answering positively compared to only 13 per cent of negative answers.

It certainly seems like good news, but does this reflect satisfaction with a job well done, or complacency and a low bar for ambition? For many businesses, “enough” R&D will be managing to remain competitive, but they are unlikely to be making the most of the opportunities out there.

Mark Smith, Partner, Innovation Incentives at Ayming UK and Ireland says, “This level of satisfaction should give us pause for thought. In my view, there's no such thing as ‘enough’ R&D. Governments appear to recognise this, but businesses will have to as well if our economies are to thrive and our societies progress as quickly as we hope.”

The evidence suggests that most businesses aren't undertaking enough R&D as government spending targets are generally not being hit, particularly in Europe. There is a clear mismatch between what governments think needs to happen and the opinion of those in the field.

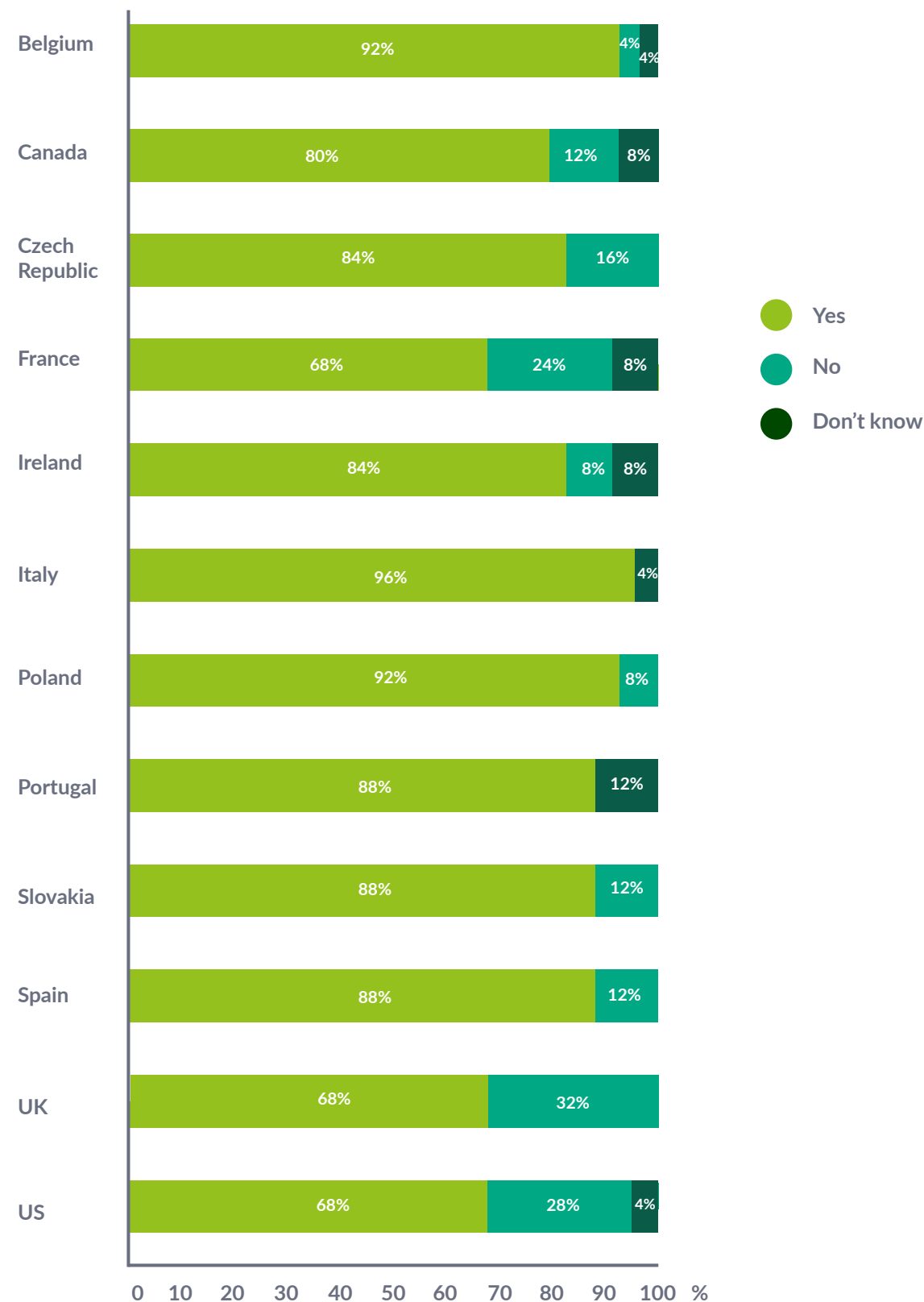
And what about the payoff? It is one thing carrying out R&D, but making that investment worthwhile and successfully innovating is another thing altogether.

Businesses need to think more about their future state rather than just their current products or business models. “They simply aren't thinking about breakthroughs and how they can be the disrupting force in their own industry. The management willingness to re-challenge major cultural assumptions like the company “why” is key in the innovation process to identify and assess the most impactful projects for the future,” suggests Fabien Mathieu, Managing Director, of Ayming France.

“This level of satisfaction should give us pause for thought. In my view, there's no such thing as ‘enough’ R&D. Governments appear to recognise this, but businesses will have to as well if our economies are to thrive and our societies progress as quickly as we hope.”

Mark Smith, Partner, Innovation Incentives, Ayming UK & Ireland

Does your organisation undertake enough innovation/research and development (R&D) work?



“The amount they are pumping into R&D is enormous. Japan, South Korea and Singapore all have companies which actively challenge big US businesses. It’s innovate or lose market share.”

Thomas Folsom, Managing Director, Ayming US

Italians are most confident about their levels of innovation, with 96 per cent of respondents declaring satisfaction with current levels of R&D. Poland and Belgium are close behind with 92 per cent apiece. The UK, US and France by contrast lag behind, on par at 68 per cent.

There are perhaps a couple of reasons for this. First, considering that these less confident countries are the largest economies surveyed, with arguably the biggest reputations for innovation, could satisfaction levels be, in part, a reflection of the relative expectations of participants in each market?

For example, for the US, UK and France, there is the international context to bear in mind when seeing the pressure their governments are applying on businesses to ramp up R&D efforts. Asian economies are still growing more quickly than Western economies with rapid market expansion. Thomas Folsom, Managing Director of Ayming US, points out “The amount they are pumping into R&D is enormous. Japan, South Korea and Singapore all have companies which actively challenge big US businesses. It’s innovate or lose market share.”

Economic legacy also plays its part. Take the example of Italy: some of its core industries – such as luxury clothing and footwear – have less need to innovate. For them, it’s more of a process of ensuring high quality.

In support of this, 95 per cent of both consumer goods/ manufacturing and finance respondents believe they undertake sufficient R&D. Whereas, only 70 per cent of health/pharma executives consider their R&D activity to be enough.

This comes down to how the sectors operate. “Health and pharma businesses require constant product development and improvement, and are heavily reliant on R&D which is bound to affect satisfaction levels. Comparatively, consumer goods such as food and clothes require less aggressive R&D,” suggests Magdalena Burzynska, Managing Director of Ayming Poland.

It’s clear that businesses need to ramp up R&D efforts to achieve government targets and give innovation a much-needed boost. Companies might assume their R&D is satisfactory without realising their future outlook is not looking brilliant. Western markets have enjoyed a long period of commercial dominance, yet the axis is turning to the east and complacency is a danger.

Support to succeed

Most of the organisations we surveyed (63 per cent) rely on internal resources to carry out R&D, meaning they keep all their R&D activity in-house.

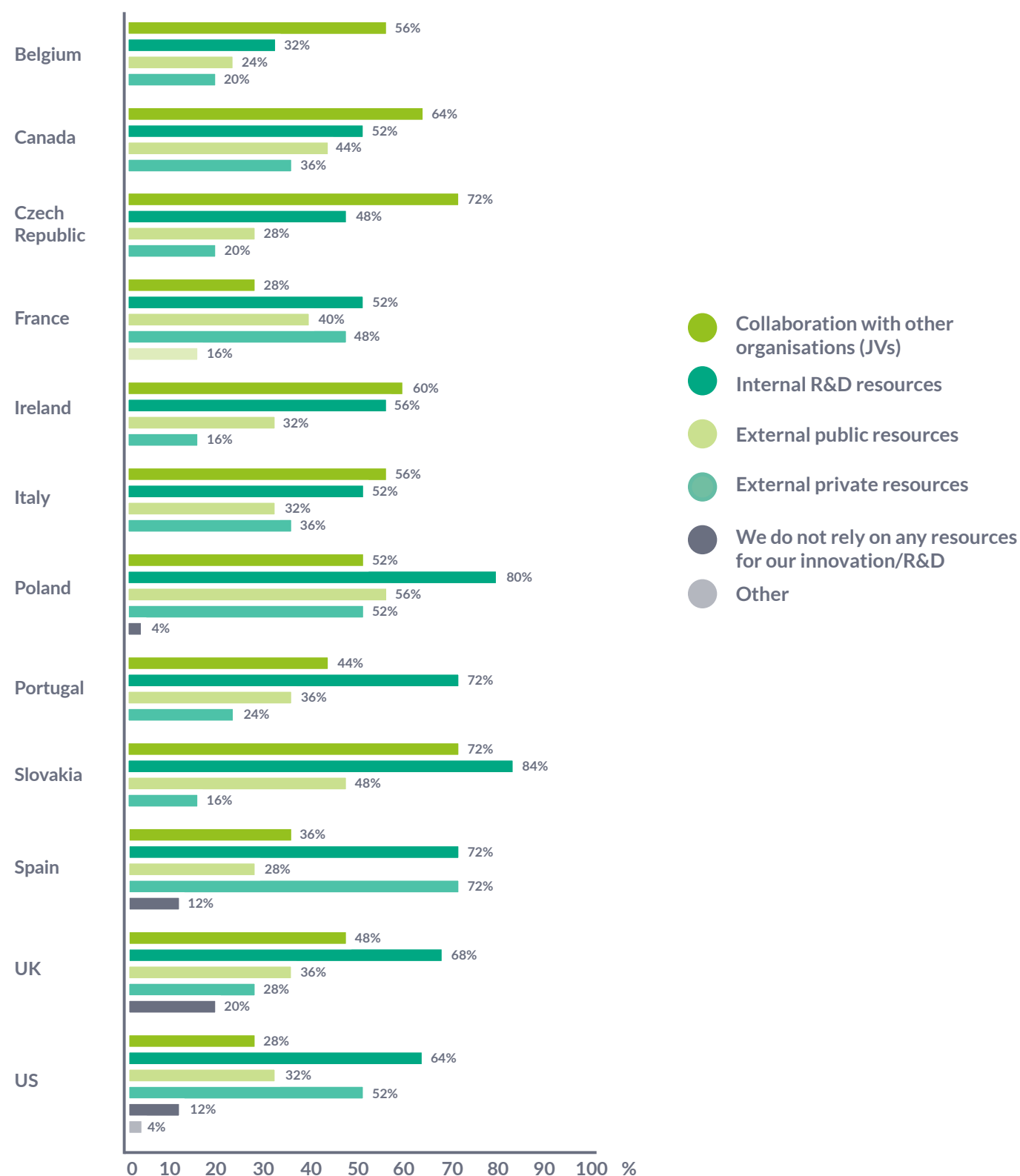
Use of external resources on the other hand, either public or private, is less widespread, with one in three using each and only half collaborating with other organisations.

So why are businesses not sharing more? Surely businesses should be maximising opportunities?

Fundamentally, R&D is often secretive. Businesses are extremely careful to retain all their intellectual property. Burzynska argues, “It’s natural. Innovation is often sensitive so things are kept internal. There is a risk of competitor leaks so companies are cautious about who they collaborate with.”

To add to this, innovating with other stakeholders has its problems. There can be huge communication overheads to bear in mind. “Managing multiple different stakeholders can be a drain,” says Smith, “You might get more ideas but it can be harder to bring these ideas to fruition, particularly when working across different time-zones. Tight and expert management is crucial.” Large companies like Tesla and Apple avoid this by keeping R&D in house, but SMEs without deep pockets must navigate these challenges.

What resources do you rely on for your innovation/R&D?



“Innovation is a knowledge economy. It’s often very scientific so improving methodologies is key. It makes no sense for businesses to separately go through the same trial to come to the same conclusion. You wouldn’t waste time reinventing the wheel.”

Fabien Mathieu, Managing Director, Ayming France

However, collaboration can be vital for innovation as it supports the optimisation of processes. Sharing knowledge and ideas can be extremely valuable when innovating, particularly when for a specific shared goal, and the pooling of resources can reduce costs.

Mathieu adds, “Innovation is a knowledge economy. It’s often very scientific so improving methodologies is key. It makes no sense for businesses to separately go through the same trial to come to the same conclusion. You wouldn’t waste time reinventing the wheel.”

Czech Republic and Slovakia look to be the most collaborative markets with 72% of respondents in both countries collaborating to achieve their innovation objectives – a trend which is likely to be influenced by their facilities. “Smaller companies often will not have sufficient infrastructure and therefore will need to cooperate to achieve research goals,” acknowledges Kristina Sumichrastova, Managing Director, of Ayming Czech Republic & Slovakia.

These countries have also introduced nationwide strategies to integrate R&D schemes. “By educating businesses and encouraging support networks, they have created a widespread collaborative mind-set and these clusters now willingly exchange their insights,” adds Burzynska.

Collaboration is the future. Mathieu concludes that, “People from the new economy spanning universities, laboratories, start-ups and big companies are moving towards creating an ecosystem where everyone can win.”

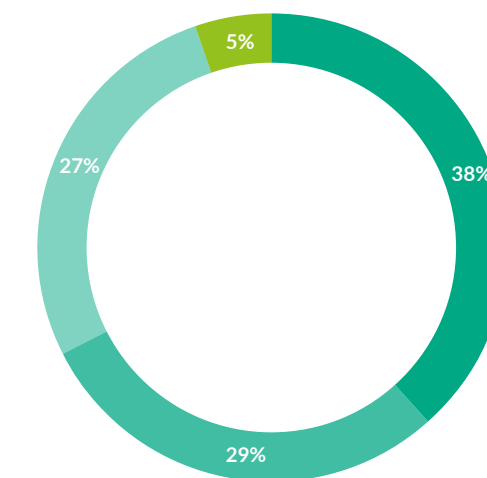
So how can you make the most of the available opportunities? The landscape has changed tremendously – making it tricky to gain a holistic understanding of all R&D legislation. Three quarters of our respondents report

using external support in accessing funding, whether that be grant application guidance or calculating tax credits. It comes down to education. People simply do not realise they are missing opportunities.

“If calculating your credits internally, for the most part, you’re very likely to be substantially under claiming,” argues Folsom.

When accessing funding, the most common support respondents claim to use is accountants, cited by 39 per cent, whilst around 29 per cent report using specialist R&D consultancies.

Do you have external support to access funding for your innovation?



- Yes, we work with our accountants
- Yes, we work with a specialist R&D consultancy
- No, we manage the process internally
- Yes, we work with one of the Big Four, who are our advisors

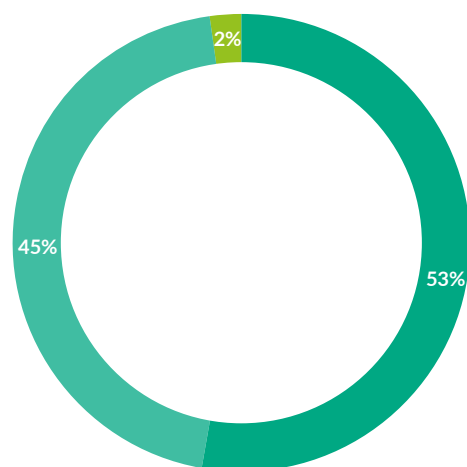
As demand has increased, most accounting firms now have an R&D department. But more focussed, specialist consultants can bring a fresh perspective and the most recent know-how.

“If you have a heart problem, you see a cardiologist. Maybe you go to your general practitioner first but then they’re going to refer you to a cardiologist – a specialist” Folsom explains.

Location, location, location

Companies need to weigh up the benefits of doing their R&D locally or abroad. Where a company does its R&D depends on the company and the project. Just over half innovate internationally compared to locally: a fairly even split.

Do you carry out your innovation locally, internationally, or both?



- Locally and internationally
- Locally only
- Internationally only

“People from the new economy spanning universities, laboratories, start-ups and big companies are moving towards creating an ecosystem where everyone can win.”

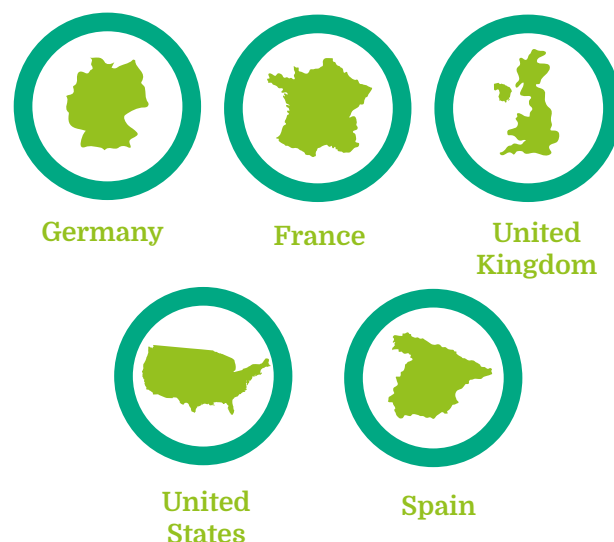
Fabien Mathieu, Managing Director, Ayming France

Assuming the resources are available, it makes sense to innovate locally for most. The proximity of the activity makes it easier to manage and allows for better oversight.

Of course, for smaller businesses there is no option but to innovate locally. For larger firms though, there are international opportunities for the taking. But it is not a decision to be taken lightly. There is an array of incentive schemes globally so businesses need to be strategic. “Companies should establish where they stand to benefit most by moving their R&D. Where has the best resources and incentive scheme for the project?” says Laurie Pilo, Managing Director of Ayming Benelux.

However, requirements are not uniform across the sectors. Health and pharma organisations are more likely to carry out innovation locally because they have to be compliant with local legislation. These vary widely from country to country, forcing companies to adapt products for each local market.

The most popular destinations for innovation abroad are:



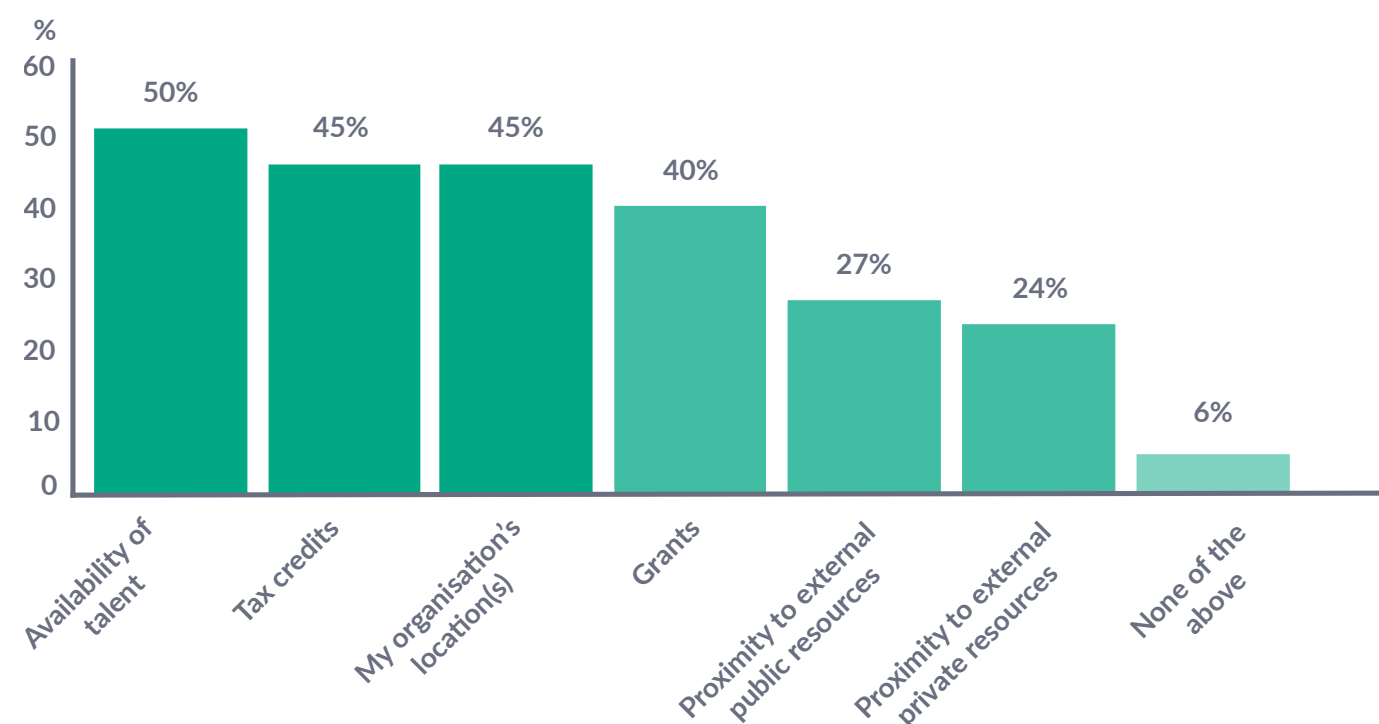
Interestingly, Germany emerged as the most popular destination for innovation, followed closely by France, with the UK and US following in third and fourth places.

Germany has excellent resources at its disposal, making it an attractive option for many European businesses and is due to introduce an R&D tax credit system from 2020, meaning it is likely to become an even more popular market to set up an R&D project. To add to this, Germany has a reputation for having a reliable and straightforward incentive system in place.

“Companies should establish where they stand to benefit most by moving. Where has the best resources and incentive scheme for the project?”

Laurie Pilo, Managing Director, Ayming Benelux

Which of the following influences where you decide to carry out your innovation?



Interestingly, the most frequently cited influence on where a business establishes innovation programmes was availability of talent at 50 per cent, indicating companies see that people are the ones driving the success of R&D through their ideas; it's a knowledge economy.

Closing note

Overall, businesses need to ensure they are realising their full potential when it comes to innovation. The R&D community should scrutinise what it is doing and look to optimise processes from resourcing to location. It is no good turning a blind eye to what benefits are slipping under the radar with international competition being so fierce.



Financing innovation

Successful innovation does not happen by accident. It may be obvious to state, but organisations need a plan in place to ensure that innovation happens.

They must determine both if and how they can obtain funding, and how to deploy that funding with maximum impact. As R&D edges its way up the priority list, it will be crucial for organisations to ensure they are equipped to effectively innovate for the future.

Untapped opportunity

There are several funding avenues to consider depending on the type of R&D activity. The most popular funding source is an organisation's own funds, used by 49 per cent of companies. However, most governments now have innovation incentive schemes in place. What approach can businesses take to bring external funding into the equation and give their innovation a financial boost?

Tax credits and grants are two important pieces of the puzzle. However, both are being underused, with fewer than half of respondents using either source. Only 41 per cent make use of tax credits, while just four in ten of respondents report using either national or international and EU grants.

“In 2015, Slovakia took a leap forward in innovation support and refreshed funding processes, making applications both easier and much more transparent. It’s been a transformation.”

**Kristina Sumichrastova, Managing Director,
Ayming Czech Republic & Slovakia**

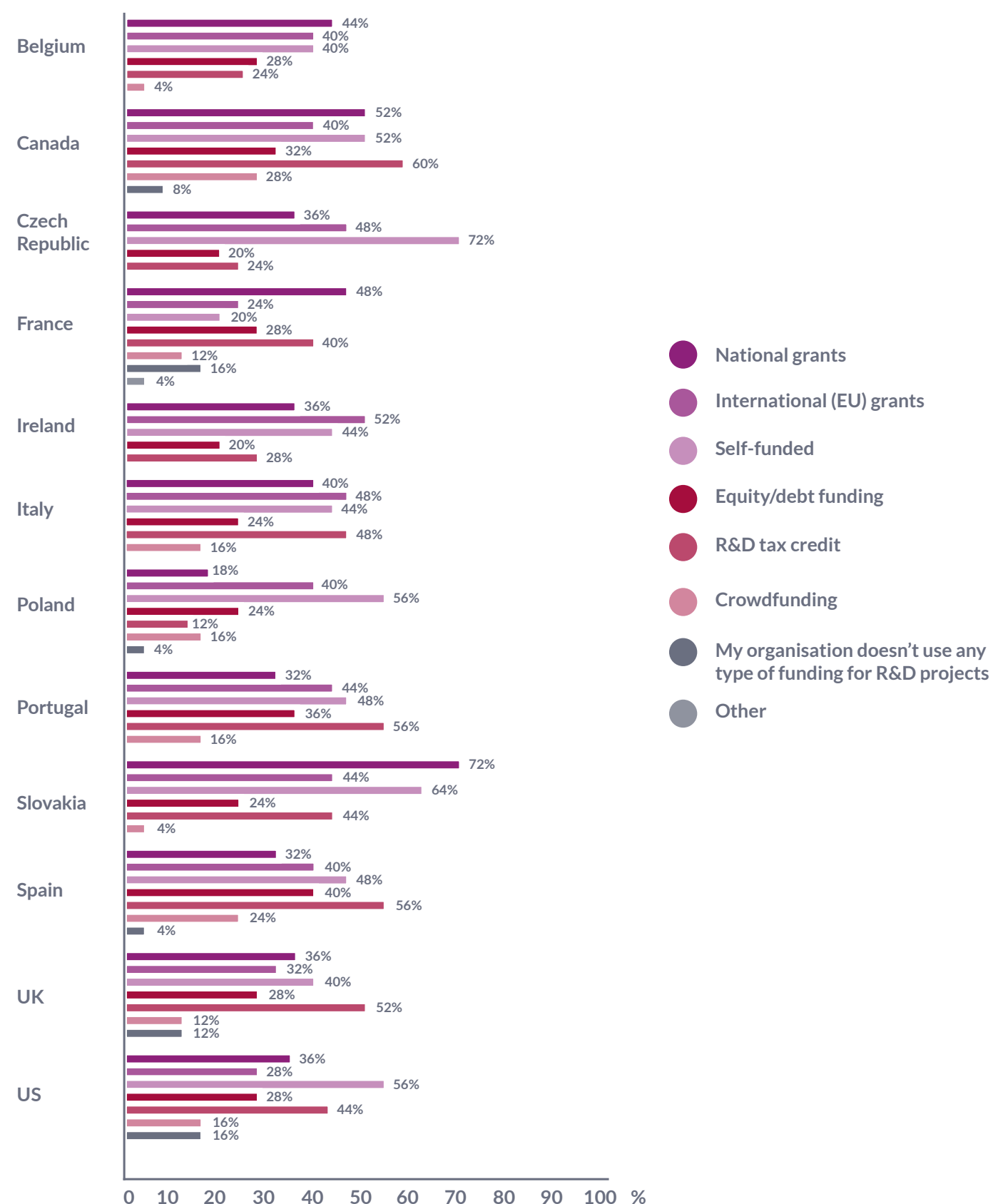
Each has an important purpose. Generally, grants are designed to encourage specific behaviour, usually with an ideological motive from the government or funding body. These target specific projects, regions or sectors. For instance, grants might be used for social projects such as working on an Alzheimer's cure or developing renewable energy technology.

National grants are most popular in Slovakia, where 72 per cent of respondent organisations report using them. Sumichrastova says, “In 2015, Slovakia took a leap forward in innovation support and refreshed funding processes, making applications both easier and much more transparent. It’s been a transformation.”

Tax credits, on the other hand, are an easy-to-use financial instrument which all businesses of any size are entitled. They are less targeted and not as limited. Folsom states, “Any costs relating to a systematic trial and error to develop a new, improved product or process qualify. When businesses innovate, this is usually the most lucrative route to go down.” In essence, tax credits are the foundation for innovation at a national level.

Yet, once again, the difficulty of applying means some do not bother. Smith notes that, “Businesses make a conscious decision not to apply for tax credits because the burden outweighs the benefits.”

What types of funding does your organisation use for R&D projects?



Ireland, in particular, has an intricate application process, he explains. "The application process and potential for onerous enquiries makes people very sceptical about making claims. The ease of application of national R&D tax schemes is crucial for boosting R&D spending."

Fundamentally, there is a different philosophical approach to both. Folsom argues that: "Grants pay someone to provide a solution to a specific problem. Whereas credit rewards people who are innovating off their own back, going beyond day-to-day money-making. You're changing the economy, so have some money back for that."

For modern businesses, it should be a primary goal of the CFO to make sure the business uses as much external funding as possible. Of course, awareness is vital here. Finance teams need to know about their national schemes. Ultimately a well-balanced combination of both funding types is optimal.

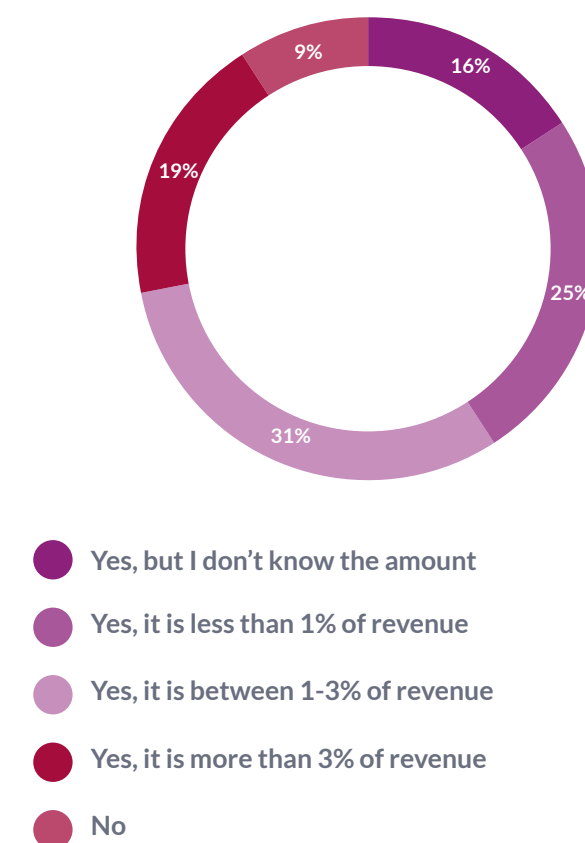
"Grants pay someone to provide a solution to a specific problem. Whereas credit rewards people who are innovating off their own back, going beyond day-to-day money-making. You're changing the economy, so have some money back for that."

Thomas Folsom, Managing Director, Ayming US

Planning to win

Expenditure planning is key. It's crucial that a proper structure is put in place and businesses know how much there is to play with and where it's coming from. This will avoid overspends creeping in or projects being deprioritised.

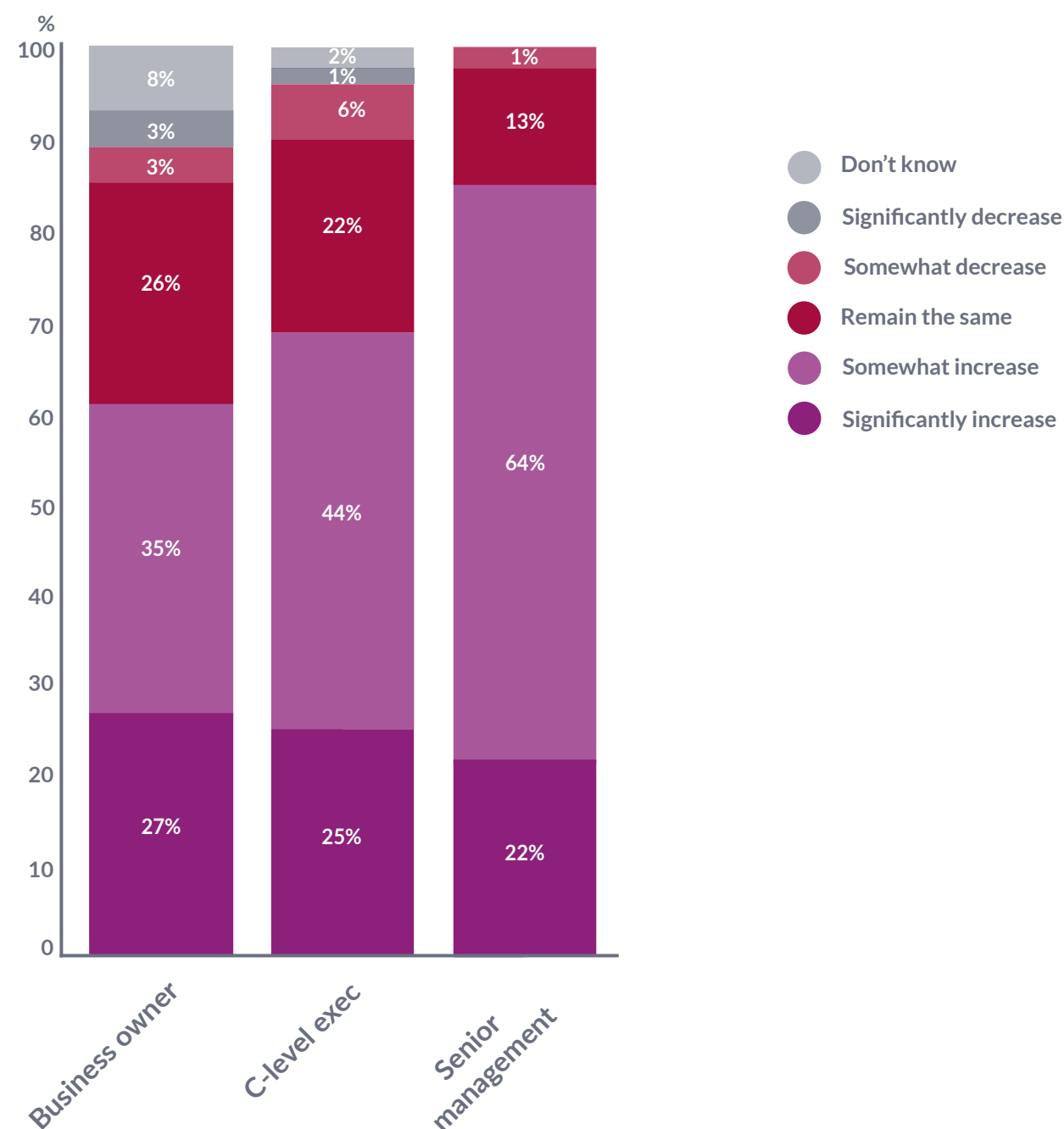
Does your organisation have a defined budget for R&D?



It is encouraging that 91 per cent of organisations have a defined budget for R&D activity, around a fifth of which aim for more than three per cent of total income, whilst 56 per cent allocate less than one per cent of their annual revenue to innovation.

And things look set to get better. Businesses generally plan three-to-five years in advance and our respondents are forecasting increases. Three quarters are anticipating budgets to increase in the next three years, with one in four expecting a 'significant' increase. This is good news because when optimistic, they are keen to invest.

In the next three years will your organisation's R&D budget:



"The sky is blue and things are looking up. People are positive about their economies and the survey indicates people expect greater cash flow into R&D. Across the board, businesses are finding there's more money to explore new ventures," Mathieu states.

Interestingly, this optimism is highest among those holding the purse strings, with 40 per cent of finance heads anticipating a significant R&D increase. "It's great to see the c-suite executives are bought into the value of R&D investment," says Mathieu. "Hopefully these intentions are put into practice but, with decision makers on board, it's more likely."

However, there is still a danger of complacency. Smith asserts, "Of course, this optimism bodes well, but it's important we aren't presumptuous. There's an EU-wide target of three per cent, and there are probably only about three countries which are above that. Hopefully the respondents' optimism about spending increases is correct."

Folsom argues, "Innovation is necessary, but often really expensive. This optimism shows businesses have faith in both the future of their companies in their ability to finance the innovation through growth along with predictable and accessible government incentives." Confidence is strongly dependent on economic outlook. When the economy takes a downturn, R&D investment is almost inevitably cut. Underlying economic sentiment will affect what expenditure plans are realised.

It follows that organisations must make the most of growth periods. Sumichrastova argues, "Companies that don't invest in innovation now will live to regret it. The economy will slow at some point in the future, at which point it will be too late."

Respondents in the Anglosphere are more cautious however. Only 48 per cent of those in the UK, 52 per cent in the US and 56 per cent in Canada expect an increase in the next three years. Again, this comes down to economic uncertainty, with Brexit in the UK, and Trump in the US dividing opinion. Although these do not have a direct impact on R&D policy, the political uncertainty is detrimental to economic sentiment.

For many businesses, it's the first time they are experiencing a period of economic growth while R&D credits have been so lucrative. New schemes are available and that will doubtless be contributing to the optimism. Yet, in essence, the only way to guarantee the activity takes place is to create a budget and implement a plan.

Outside influence

Business is changing at unprecedented rates. Generally, the innovation community is meeting these changes positively. Governments and businesses alike hope to increase R&D activities, but how can companies manage this incline and will it be possible? A number of factors are proving pivotal in how much R&D a business can do.

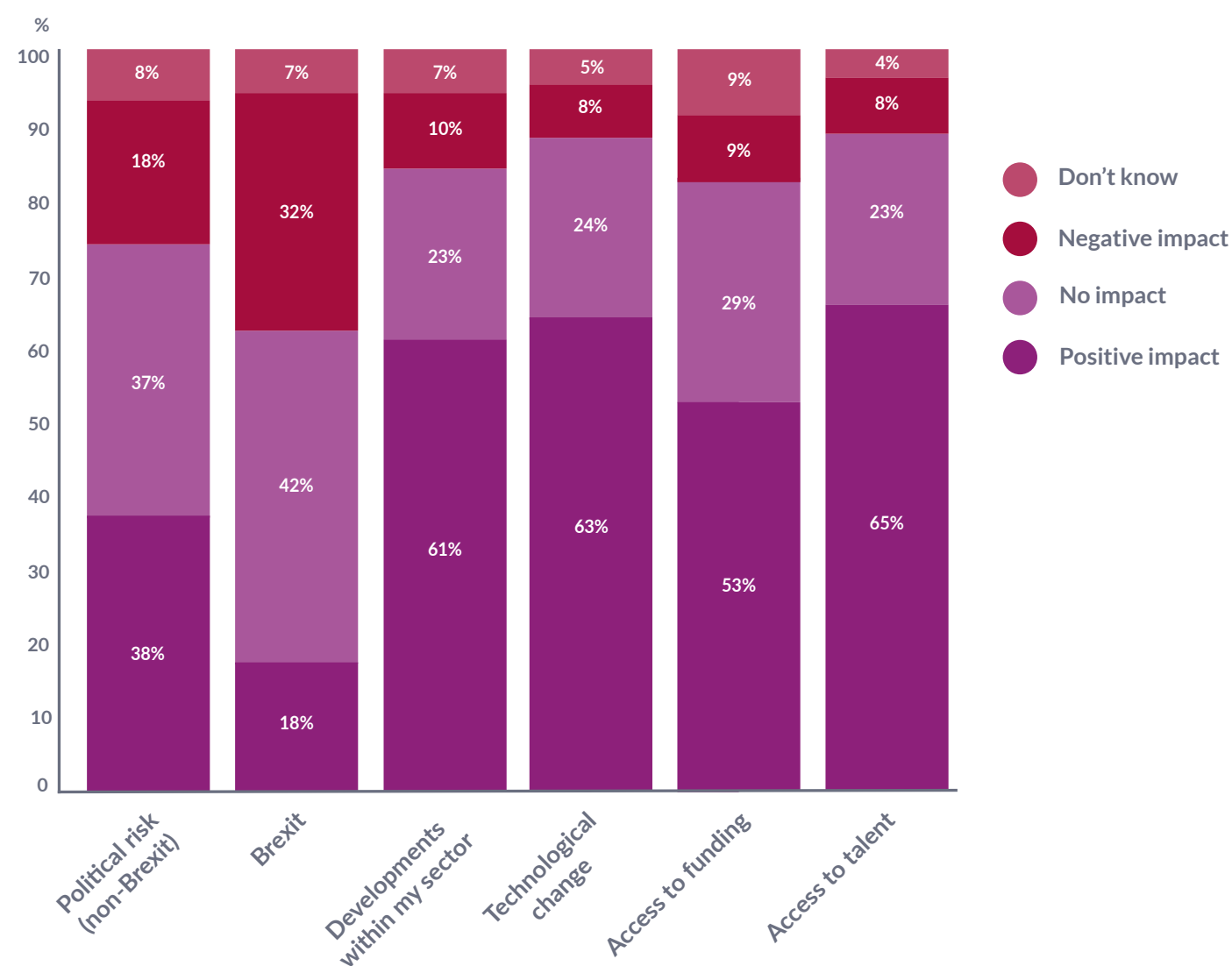
"Access to talent has the single biggest impact on R&D. The more talent you have, the more money you can put into it. You can't budget for R&D activity if you can't find and hire the right people."

**Kristina Sumichrastova, Managing Director,
Ayming Czech Republic & Slovakia**

The factor most influencing an organisation's ability to invest in R&D is access to talent, with 73 per cent expecting this to have an impact. R&D is an ideas-driven area so it relies on brain power. Sumichrastova argues: "Access to talent has the single biggest impact on R&D. The more talent you have, the more money you can put into it. You can't budget for R&D activity if you can't find and hire the right people."

Encouragingly, two-thirds of respondents are expecting access to talent to have a positive impact, indicating people are seeing talent coming through the ranks who will give the industry a boost. However, there are definitely issues with talent sourcing. Sumichrastova continues, "It is very difficult to find, attract and retain talent. They are crucial to the success of a project. It can be expensive to keep these people but they are resourceful and the ROI potential is big."

How will the following factors affect your organisation's R&D budget over the next three years?



“It is very difficult to find, attract and retain talent. They are so crucial to the success of a project. It can be expensive to keep these people but they are resourceful and the ROI potential is big.”

Kristina Sumichrastova, Managing Director, Ayming Czech Republic & Slovakia

Aside from talent, technological change is expected to play a heavy hand here. Seventy-one per cent of respondents are expecting this to make an impact, with 63 per cent expecting that impact to be positive. New technology will empower R&D teams. The ability to improve ROI is likely to entice CFOs to invest more in their initiatives. Folsom gives an example: “Computing power is much faster now. Calculations which, five years ago would have taken a computer a whole night to work through, can now be done in moments.” Efficiency such as this makes R&D far more productive and will generate more returns in less time.

Unsurprisingly, Brexit is expected to have a net negative impact, with 32 per cent expecting a negative impact and just 18 per cent expecting positive effects. However, it isn't the UK, but Ireland that fears a negative Brexit impact the most (64 per cent). Smith argues this is because it is more vulnerable to external economic shocks.

Brexit is bound to affect many economies but, specifically for R&D, Brexit will impair many existing international collaborative efforts currently underway across Europe. On mitigating Brexit's impact, Smith argues, “The UK Government needs to intensify investment. The worst thing in the world in times like this is to rein in investment. It's detrimental to longer-term success.”

“Computing power is much faster now. Calculations which, five years ago, would have taken a computer a whole night to work through, can now be done in moments.”

Thomas Folsom, Managing Director, Ayming US

Closing note

Across the globe, R&D is evolving. The financial directors and the R&D community alike are excited about the future. Grants and tax credit schemes are plentiful and there is lots of opportunity for those looking to innovate. But too few are making full use of the full range of funding options available. Organisations looking to get ahead in the coming years should take care to more consistently incorporate grants and tax credits into their plans before it is too late.



Gender diversity

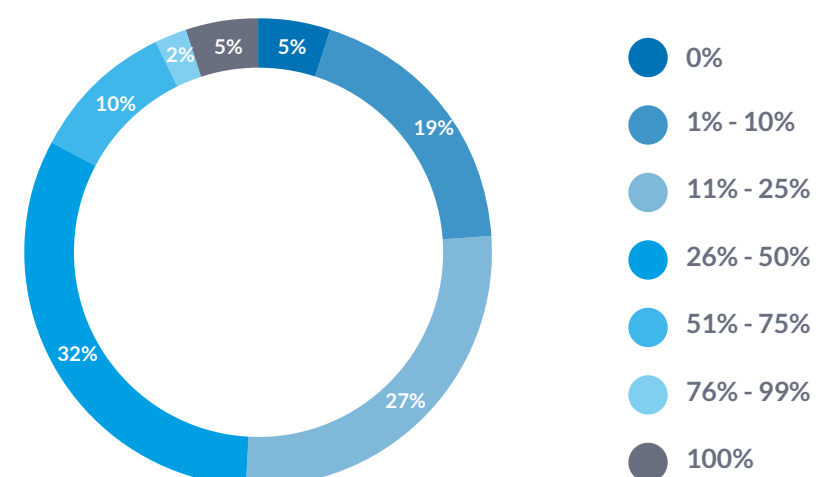
A recent Harvard Business Review study of 1,700 firms in the US, France, Germany, China, Brazil, India, Switzerland and Austria found that diverse companies were, on average, 12 per cent more profitable with 19 per cent higher revenue from innovation.

Yet, when it comes to women in the workplace, the R&D community still has some room for improvement. Although progress is being made and many are making efforts to encourage more women to join the field, it seems that the correlation between gender diversity and innovation is still underestimated.

Contemporary environment

The R&D teams that we surveyed are overwhelmingly male dominated. 83 per cent of those surveyed stating that fewer than half of those on their innovation teams are women, while a quarter saying that fewer than one in ten of their R&D employees are female.

What percentage of your innovation/R&D teams is made up of women?



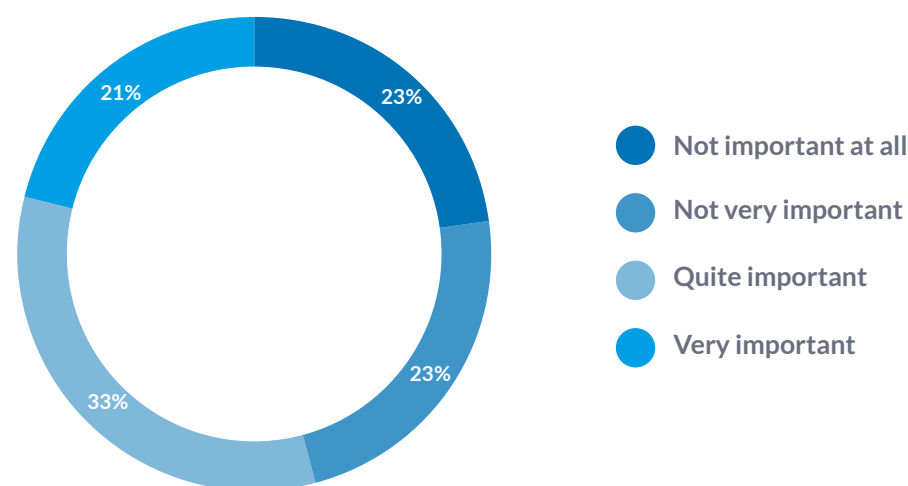
“The last 10 to 15 years has seen more women embracing technical engineering studies and becoming passionate about these career paths. It’s been a fantastic move towards gender parity.”

Fabien Mathieu, Managing Director, Ayming France

Canada ranks among the most progressive markets here. None of our respondents reported working in an organisation where fewer than 10 per cent of their employees are women, and a majority of R&D teams are comprised of between 26 and 50 per cent women.

France is another market leading the way, with 16 per cent of respondents saying that their teams are made up entirely of women. Mathieu says, “The last 10 to 15 years has seen more women embracing technical engineering studies and becoming passionate about these career paths. It’s been a fantastic move towards gender parity.” Of course, having all-female R&D teams is not diverse, but the French example demonstrates a concerted effort to improve accessibility.

How important is gender diversity to the success of your organisation’s innovation/R&D efforts?



- Not important at all
- Not very important
- Quite important
- Very important

Sector-wise, there are more obvious problems. The automotive industry for example, has the lowest percentage of women in their R&D teams, with two-thirds of teams in the sector featuring fewer than one woman in every four employees. “It’s an unhealthy situation for the sector. For the most part, women are less attracted to these industries because of how our societies have operated historically,” Pilo argues.

Perhaps the issue lies in attitudes to diversity. Almost half of respondents consider the issue a relatively unimportant matter, with 23 per cent saying that it is “not important at all”.

That does not necessarily mean R&D teams are rife with prejudice. Pilo suggests: “Either people aren’t aware of how socially diverse groups can affect their bottom line, or employers are simply more concerned with filling the positions with whoever they can find who is capable, irrespective of gender.”

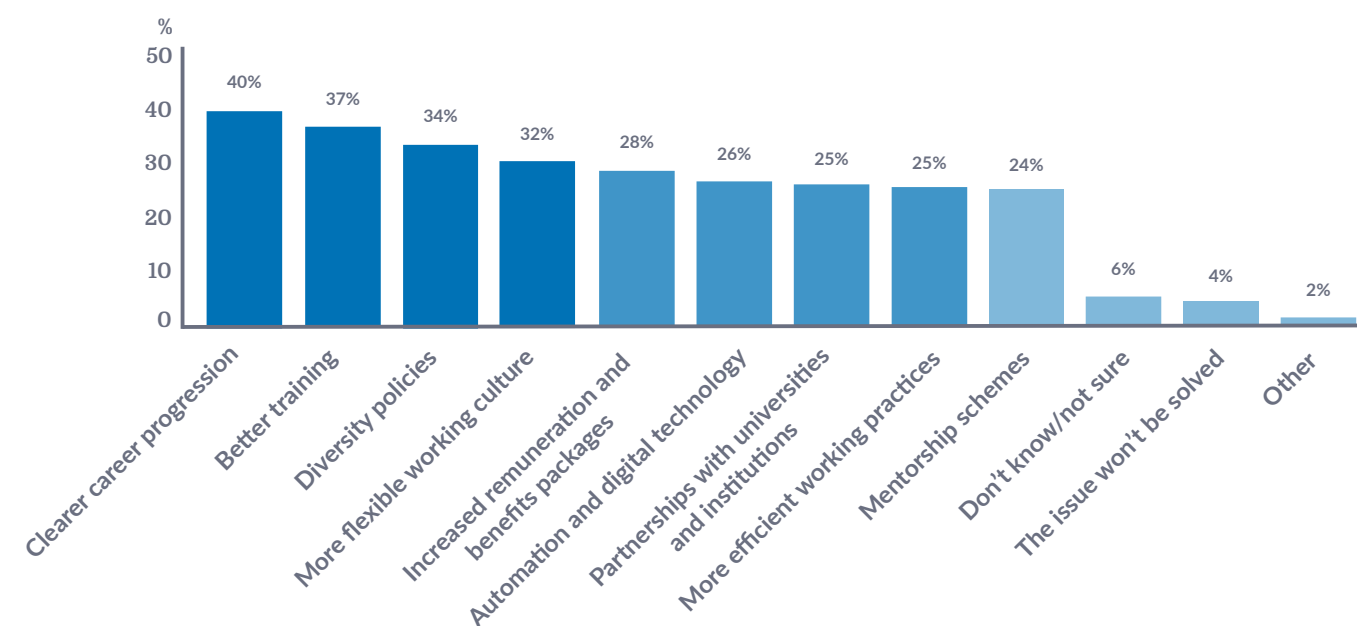
Yet, if the latter is the case and filling positions is the primary concern, the field would benefit from attracting more women because the overall pool of talent available to employers will increase. If only men were applying for these roles, employers are limited to around 50 per cent of the population.

Widening the pool

When it comes to attracting more women into the field, there are a number of structural and cultural obstacles to overcome. There is no single entity responsible for improving diversity but government, businesses, media and society as a whole can work together to put motivators in place to help the companies to get where they should be and keep them there.

So, what tactics can we employ to motivate more women to begin a career in R&D? When asked how to attract female talent, our respondents’ top response was clear career progression, with 40 per cent saying it is important.

How could your business better attract female talent into innovation/R&D roles?



Part of this means getting women into innovation careers in the first place. And more needs to be done to make careers in subjects such as science, technology, engineering and maths more appealing. Pilo states, “Engineers are needed across the board. Universities and organisations should be coherently communicating what a job in these fields looks like to 17- and 18-year olds. This is of course happening to some extent but not nearly enough, especially when it comes to engaging with young women.”

Smith adds, “One in five R&D teams in the UK are entirely comprised of men. Perhaps this is because of the disproportionate emphasis we place on studying arts over technical degrees at university, meaning the talent pool is smaller. Unfortunately, it’s seen as a better career path.”

Of course, education doesn’t stop at school. Once women are in the field, providing better training will go a long way to retaining them, as argued by 37 per cent of our respondents.

Then, in terms of retention, for women, balancing work with childcare remains a central issue. Businesses can go further than just evening out maternity and paternity leave. Thirty-two per cent of respondents highlight flexible working opportunities as important to attracting female talent.

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Laurie Pilo, Managing Director, Ayming Benelux

Smith highlights that, “Rightly or wrongly, in most societies, women are still taking on the lion’s share of the childcare. Until that changes, employers need to focus on allowing parents to work as flexibly as possible.

“Remote working may not always be possible as R&D professionals are expected to travel quite a bit for site visits – often for days or weeks at a time. But there are certainly opportunities yet to be seized to use technology to mitigate some of these challenges.”

“Rightly or wrongly, in most societies, women are still taking on the lion’s share of the childcare. Until that changes, employers need to focus on allowing parents to work as flexibly as possible.”

Mark Smith, Managing Director, Ayming UK & Ireland

“We need to change how diversity is perceived and the answer is ensuring people are informed. Gender diversity needs to be driven from the top-down.”

Magdalena Burzynska, Managing Director, Ayming Poland

These cultural prejudices appear to have made their way into the boardroom, with those in senior positions perhaps not as aware of the benefits of diversity as one might expect.

Thirty-five per cent of R&D managers say gender diversity is not that important and 24 per cent of CEOs say it is not important at all. Burzynska comments, “We need to change how diversity is perceived and the answer is being informative. Gender diversity needs to be driven from the top-down.”

The cultural and structural challenges are significant. Businesses firstly need to see the value of diversity and then act on it to make the field a more attractive career path. Overall, having more women in R&D will benefit teams, both in terms of plugging skills and reaping the rewards of enhanced productivity.

Closing note

Innovation remains very male-dominated and diversity is still being overlooked as a means to boost innovation – arguably by the very people who stand to benefit most. This parallel must first be recognised by organisations which should then put motivators in place to both attract women into R&D and then support them throughout their careers. Being innovative in this way would be a wise move.



Summary

Examining the state of international innovation, one key lesson rings true; R&D teams should carefully review their current activity. The next few years will see an unprecedented drive in innovation spending and R&D teams will be faced with an abundance of opportunities. It is critical they make sure they are getting things right. And sooner rather than later.

Competition is fierce and organisations simply cannot afford to be slow on the uptake. The current global economic model is one whereby many start-ups and challenger firms are taking the place of long-established market leaders. Just look at the historically somewhat staid banking sector for instance: agile fintech disruptors are becoming a force to be reckoned with.

Incentives

To keep pace, most governments are incentivising R&D spending with the aim of boosting economic outlook. There are plenty of incentives for the taking. Yet our research highlights an issue in that businesses feel their current R&D levels are sufficient.

If those actually doing the R&D are pleased with how much their business is doing, how will governments actually make businesses do more and increase overall spending? There's a missing link.

There are plenty of tax credits and grants on offer, but there is work still to be done on making the benefits accessible to all. And it's positive that business is optimistic about budget increases because it demonstrates faith in their companies, governments and economies. However, the economy will not always be strong and the more companies can innovate now, the more likely they will weather any future storms.

In light of this, senior financial managers need to be certain they are making full use of all external financial resources available to them. There is plenty out there for the taking, but tax credit calculations are often incorrect. If done meticulously, there is likely to be extra funding which can be used to support subsequent innovation projects. Making full use of both grants and tax credits and allocating all budgeted funding to specific projects is the most efficient way of achieving desired goals.

If those actually doing the R&D are pleased with how much their business is doing, how will governments actually make businesses do more and increase overall spending? There's a missing link.

Processes

This brings us to the matter of where and how to undertake R&D activity. For larger organisations, there is often a big decision to make. Investigating where will be best for their specific projects by examining the schemes, resources and facilities available in a location is a worthwhile exercise.

Similarly, although R&D is of course often secretive, collaborating can be a way to add to your team's knowledge and abilities. There are communication overheads to factor in, but sharing insights and resources can be lucrative, and it is an option which should be carefully considered.

Talent

Respondents have outlined that talent is the most likely factor to affect their R&D success in the future, alongside technology, industry-specific developments and Brexit. Fundamentally, talent is what makes projects a success; innovation is a knowledge economy.

So, it is surprising that increasing diversity among their teams is not more of a priority. It is a male-dominated field and more women would bring a huge amount of value to R&D teams. By combining more skills and experience, a team will make more informed decisions. Diversity allows businesses to solve more complex problems, giving them a competitive advantage.

Organisations should be employing a range of tactics to encourage women to take up careers in R&D and should provide incentives for them to stay there. They should strive to attract young women into STEM fields from the outset and then nurture them throughout their careers by allowing for a more flexible work-life balance once childcare comes into the equation.

If there is anything that R&D professionals are proficient at, it is adapting. We are certain the inevitable changes will be met with the fierce determination that we know exists in the field.

Innovation will dictate the future of the global economy. We hope the insights uncovered in this report will help to make it a bright one.

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