



Insights For Professionals

THE STATE OF IT REPORT

INSIGHTS FOR 2019



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INTRODUCTION

The New Year provides all businesses with fresh impetus and the opportunity to plan for products and services that will bring future success. As IT plays an evermore important role in the delivery of data, analysis, planning tools and product delivery, there is much to consider, and business leaders at every level need to be aware of the benefits and risks.

Technology gives businesses the potential to transform their products, services and leverage the skills of their workers in a whole new way. IT is a key part of any company and has never been more important.

In this State of IT Report, we will help your business identify:

- The technology-based challenges you'll face in 2019 and beyond
- The key trends that IT professionals will look to leverage
- The current state of IT readiness to deliver success

CHAPTER 1 - A LOOK AT THE DATA

Insights for Professionals conducted extensive market research among our audience of IT professionals to understand industry trends and the challenges they face as back-end and customer-facing services evolve along with the platforms that host them.

1.1 COMPANY SIZES

This year's survey is split almost evenly between enterprises (42%) and medium sized businesses (44%) with 14% of respondents working in small business, down from 23% last year.



1.2 AUTHORITY

The distribution of authority sees 15% working in the director role, a rise from 9% in 2018. Managerial roles are represented by 29% of respondents, up from 22% last year, with the remaining 56% having some influence in decision making.



1.3 READINESS

When it came to their IT readiness, 2% of the responding businesses believe they require urgent help with IT. Some 7% are in the process of catching up with current technologies, while 27% have a mixed view. Half believe they are making progress when it comes to preparing for 2019, while 13% believe they are fully ready to deal with the IT challenges ahead.

Based on company size, over 50% of medium sized businesses and enterprises rate themselves as 75% ready, compared to just 38% of small businesses.

MARKET READINESS

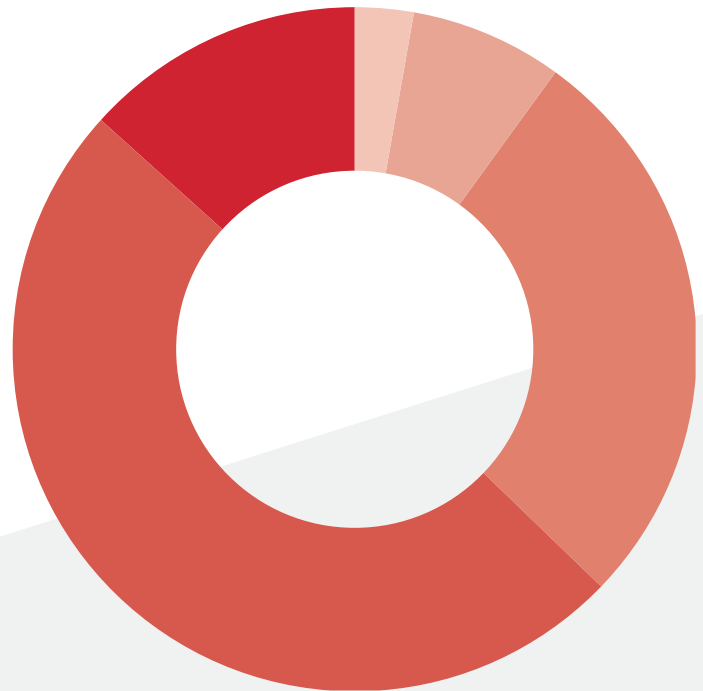
1% HELP

25% CATCHING UP

50% DEPENDS

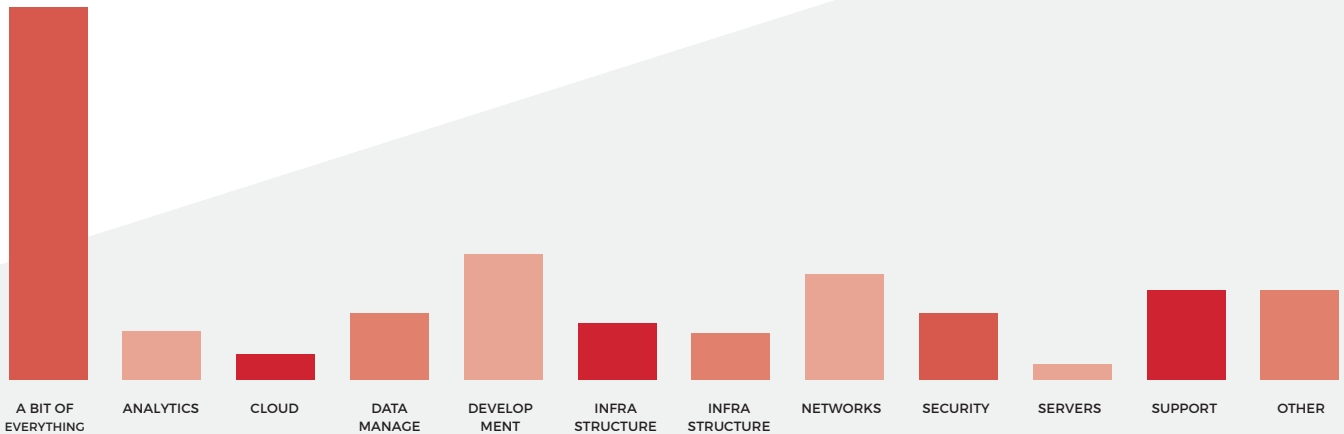
75% GETTING THERE

100% READY



“Based on company size, over 50% of medium sized businesses and enterprises rate themselves as 75% ready.”

I'M A SPECIALIST IN...



1.4 THE SPECIALISMS OF OUR RESPONDENTS

In developing a clearer representation of our survey respondents, we asked which areas of IT they specialize in. The most common response “A bit of everything” captures almost a third of respondents at 32%.

The leading individual specialisms include Development (11%), Project Management (9%) and Support (8%), all of which are key to successfully running an IT department, developing new products or software and then deploying them into the business. Whilst, surprisingly, areas considered to be the future of IT success see only a small percentage of respondents, such as Analytics (4%) and Cloud (2%).

At Director level, almost half (47%) of our respondents dabble in “A bit of everything”, followed by a very even spread of specialisms, showing their focus is often more strategic and requires a holistic approach. Managers are primarily involved in Project Management (17%), Support (8%) and Security (7%)

highlighting their particular areas of focus. Among Influencer respondents, almost a quarter (25%) are involved in “A bit of everything”, 15% in Development and 9% in Support, demonstrating that they’re often more involved in the day-to-day activities of IT and less involved in the strategic and managerial elements.



CHAPTER 2 - TRENDS

With technology trends constantly changing, it is crucial for us to determine what our audiences are interested in, which trends they want to know more about in the coming year and how this could potentially influence business over the next 12 months.

BLOCKCHAIN-BASED PRIVACY

Blockchain vendors and proponents promise many things to businesses, but the key value that most end users seek is privacy. Blockchain can help protect privacy with its decentralized nature and the digital ledger, a visible public authority list that tracks, records and verifies as legitimate any transactions related to the data.

By having no central location that stores private data, and since blockchains can be linked to everything from photos to video, from databases to financial transactions, there is no single point of attack, making a blockchain system safer than current efforts. Privacy is assured as all users have their own private digital fingerprint of a cryptographic key to identify their transactions as genuine.

DATA SCIENCE

Businesses continue to drown in data, a problem that will only get worse for those not prepared to deal with it. Data scientists are the people to help make sense of it all, and provide business benefits from endless data streams, legacy databases and spreadsheets to unstructured data sources. By understanding and extracting value from data, these scientists use tools to help a business better understand trends and patterns. As big data flows become



permanent fixtures from websites, Internet of Things devices and supply chains, all businesses need mastery of their data to succeed.

DEEP LEARNING

Following on from data science comes the need to understand data, semantics and other tricky propositions using artificial intelligence. Deep learning is part of the machine learning field, focused on computational graphs, algorithms based on artificial neural networks to help machines understand information and produce actionable results for businesses to act on. The goal of machine learning is to help make business decisions easier in a world of big data and increasing time pressures.

INTELLIGENT NETWORKS

Modern business networks are now rarely limited to within the office, or across a WAN to regional divisions. New intelligent networks are spreading to the edge of the business at every function and datapoint. Edge computing delivers a decentralized connection from applications at the core to information coming from the edge, be it sensors, shipments, vending machines or other examples. These wider networks require additional security and analytic applications that can take advantage of the data for real-time intelligence. That technology can be located at the edge to improve speed and efficiency dynamically changing how businesses view their networks.

IoT SECURITY

As with Intelligent Networks and IoT, new layers of security are required to protect the devices and secure data flows between networks that businesses will be increasingly reliant on. Businesses, smart city operators, supply chains and others need to prepare

for attacks on IoT devices, denial of service outages and spoofing of devices or data. These threats require a joined-up business strategy using encryption, secure layers, validation and fallback positions to cope with loss of signal situations.

PRESCRIPTIVE ANALYTICS

Prescriptive analytics is data analysis that offers a range of decision options based on the data. This provides a business with insights, opportunities or risk mitigation as the data comes in, instead of waiting for analysts to provide a lengthy report for C-level executives to mull over. PA tools can provide quantified values of opportunity or risk, based on data and analysis, updated live as new data emerges, giving a growing picture of the optimal route to success.

The PA tool analyzes potential decisions, taking into consideration interactions between various elements within the data and other decisions within a process. Recommendations won't be fool proof as with any tool, due to external influences and limits from the data, but could help businesses make better decisions faster.

QUANTUM COMPUTING

Quantum computers are real hardware that is evolving rapidly to improve their computational power. Within a quantum computer lies a chip loaded with Qubits, replacing the traditional 1 or 0 of typical binary computers with both states at once, allowing faster computation of complex problems. While IBM has a chip with 50 qubits, Google's new Bristlecone quantum chip packs in 72 quantum bits while Rigetti plans a 128-qubit chip that, when available to scientists and enterprises, will be able to calculate trillions of operations per second.

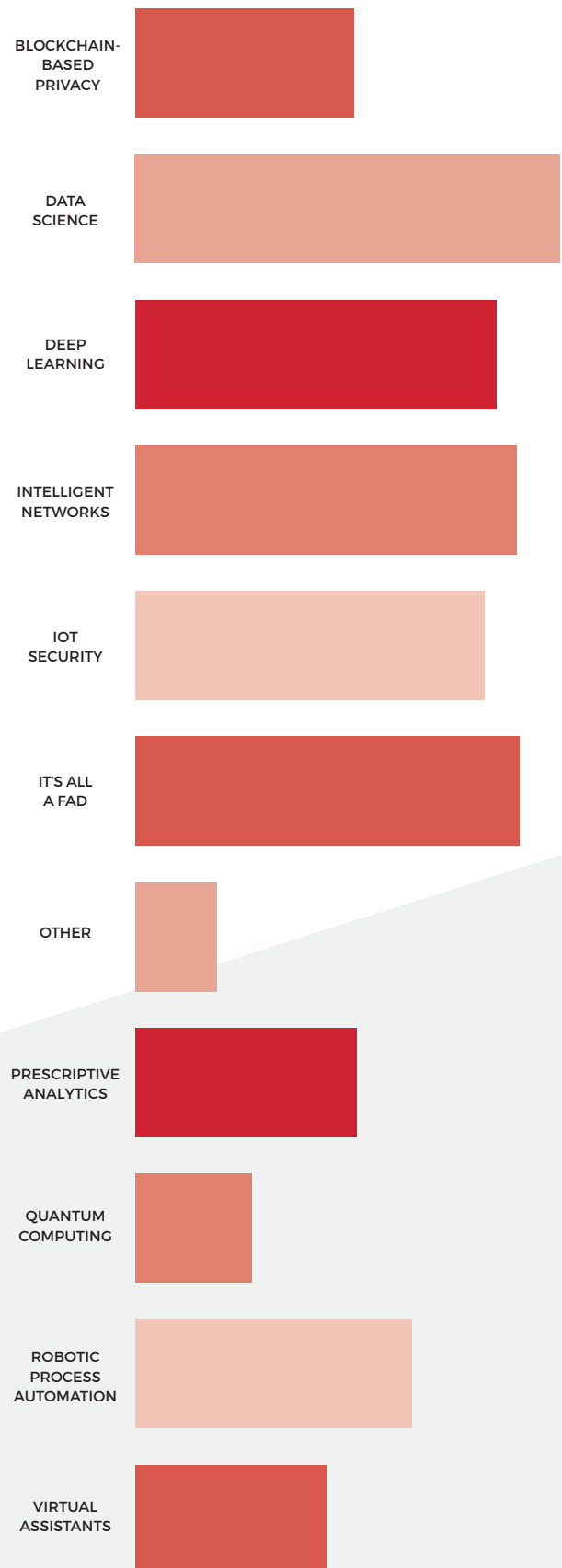
ROBOTIC PROCESS AUTOMATION

RPA continues to be a maturing technology among businesses, as part of digital transformations or digital business improvements. In basic terms, it helps businesses automate repetitive and low-value tasks, allowing workers to concentrate on value-added and more rewarding or creative tasks. RPA systems follow structured tasks, capturing data that a person previously would and feeding it into an application, from scanning in paper forms to responding to emails and making simple decisions based on the data it receives.

VIRTUAL ASSISTANTS

The evolution of virtual assistants from the smart home to the business is in full swing. Early use cases have moved on from virtual assistants acting as transcribers, note takers and dictaphones to providing business information, meeting reminders and messaging services. Virtual assistants will get rapidly smarter as they have access to more business information, helping teams meet, discuss and resolve problems, track productivity, and locate and provide useful information for each worker, wherever they are.

TRENDS WE'RE INTERESTED IN...



2.1 ANALYSIS

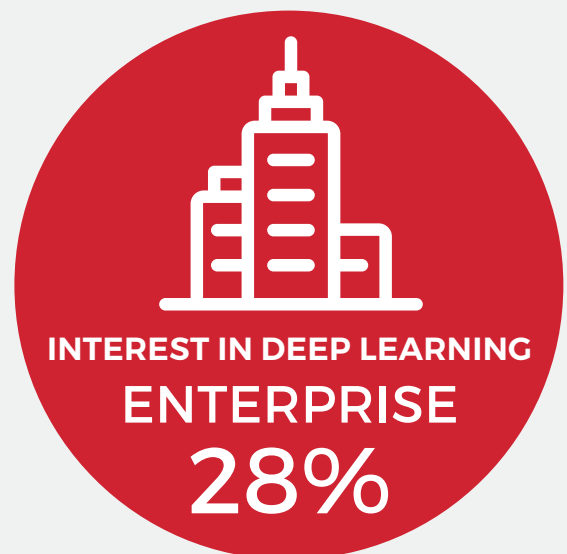
New technology, services and offerings for digital business continue to arrive on the market at a prodigious rate. IT professionals are faced with the challenges of understanding new products, deciding if they are a fit - or add value - for your company, and integrating them with existing products or services.

Increasingly, businesses are being asked to place their trust in products that reside in the cloud, off the safety of a company's own systems. They are expected to trust in the black box of an AI system or in the far-flung services promised of the Internet of Things.

In today's business climate, companies need to see trust and value in new technology, all of this while managing fast-growing data streams, an increasingly mobile workforce and departments that can operate their own chatbots, cloud services and other features outside of traditional IT.

Our survey shows the leading trends and areas of interest among our respondents include Data Science (33%), Intelligent Networks (30%), Deep Learning (28%), and IoT Security (27%), alongside a stark counterpoint with 30% demanding that "It's all a fad, get the fundamentals right!"

These suggest that businesses are worried about how they can manage and analyze data now and in the coming years, as IoT becomes a reality for every workplace. The confluence of these leading technologies dominates the others, and highlights where IT departments must focus their attention and efforts.



2.2 COMPANY SIZE VS TRENDS

This broad trend follows through company sizes with some interesting differences, as their priorities or interests vary. Enterprises see Data Science (35%), Deep Learning (33%), Intelligent Networks (32%) and IoT Security (31%) as key issues, closely followed by Robot Process Automation (27%) as they remain under high pressure to control costs and drive efficiencies.

Medium-sized companies are highly focused on Data Science (35%) just ahead of Getting the Fundamentals Right, as they take a more pragmatic view of their business prospects. Small companies are primarily interested in Intelligent Networks (33%), as they see leveraging automation and IoT as ways to give them a competitive advantage over rivals and larger players encumbered by legacy networks.

The view of Virtual Assistants as a trend in the workplace varies wildly from 19% for enterprises, 12% for medium-sized

businesses and 14% of small businesses. As small businesses lack the staffing for traditional assistants, enterprises are focused on the efficiency gains, leaving the middle ground trailing in interest.

In the US, 37% of enterprises are focused on Data Science, just ahead of Intelligent Networks at 33% and Deep Learning at 31.71%. In the UK, the focus of enterprises is on Robot Process Automation at 45%, followed by IoT Security at 35% and Intelligent Networks at 32%, suggesting a greater reliance on automation and smart networks to deliver benefits.

Meanwhile, German enterprises place an equal focus on Deep Learning and IoT Security (both 46%) while France has a higher interest in RPA (67%).

“Enterprises see Data Science (35%), Deep Learning (33%), Intelligent Networks (32%) and IoT Security (31%) as key issues, closely followed by Robot Process Automation (27%).”

2.3 AUTHORITY VS TRENDS

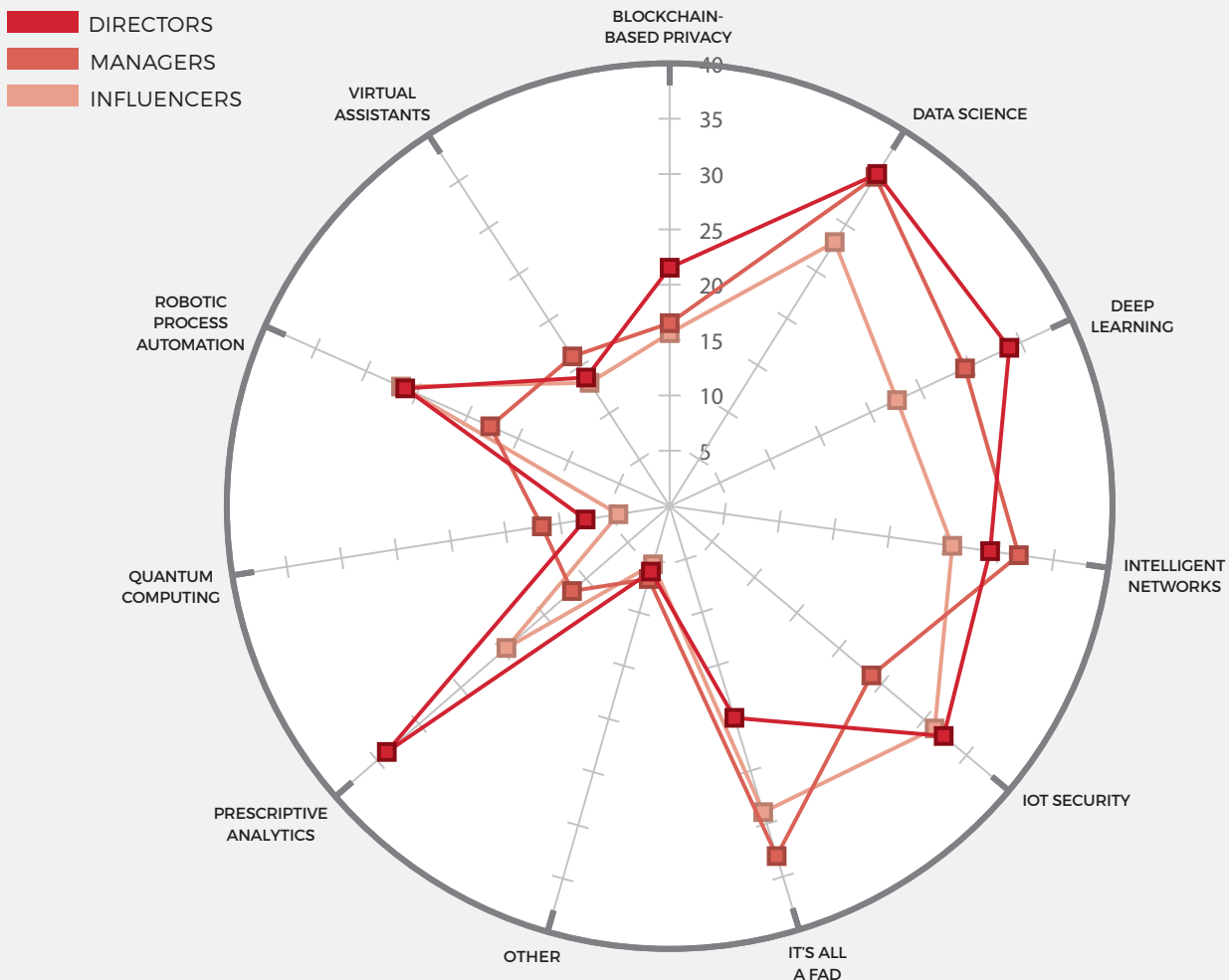
Directors remain keenly focused on Data Science (35%), Deep Learning (34%) and Prescriptive Analytics (34%) as they seek ways to better understand business data and extract meaning, insights and strategic advantage.

For Managers, IoT Security (31%) and Getting the Fundamentals Right (29%) remain the leading priorities as they try to cope with an influx of new technologies among existing services and the risk of growing data silos and security risks in their business.

Meanwhile, Influencers have their eyes set on the sexier topics, perhaps inclined by other influencers and industry hype. They predictably see Data Science (35%) as the key priority but view the likes of Quantum Computing as a game changer (12%), rating it more than twice as highly as Managers (5%) and Directors (8%).

In the US, Directors are focused on Prescriptive Analytics (42%), far ahead of Data Science and Intelligent Networks (32%) but in the UK, Directors find RPA, Deep Learning and Intelligent Networks to be the key three trends, all of which stand at 46%.

TRENDS INTERESTED IN...



CHAPTER 3 - CHALLENGES

As technology evolves, company IT faces a never ending stream of challenges from both the demands of business leaders for efficiency, operations staff for new tools and services, plus vendors pushing new products and updates. These along with the need to keep the lights on while adapting to all this change, requires a flexible approach.

Managing Change is the dominant challenging business factor among those surveyed, concerning 48% of all respondents. As part of change, Upgrading Legacy Systems (45%) comes second, in the constant cycle of hardware and software or service refreshes. To help in those tasks, Hiring the Right Talent (36%) is the third highest-rated challenge, with businesses needing experts in both the technology and their market to apply the benefits to meet their specific needs in a short time frame.

Staying Ahead of New Trends rates fourth at 36%, indicating that IT is largely aware

of the problems and opportunities of new technology, but still needs to find the time, staffing, hardware and budget to implement the essential features that can provide business benefits.

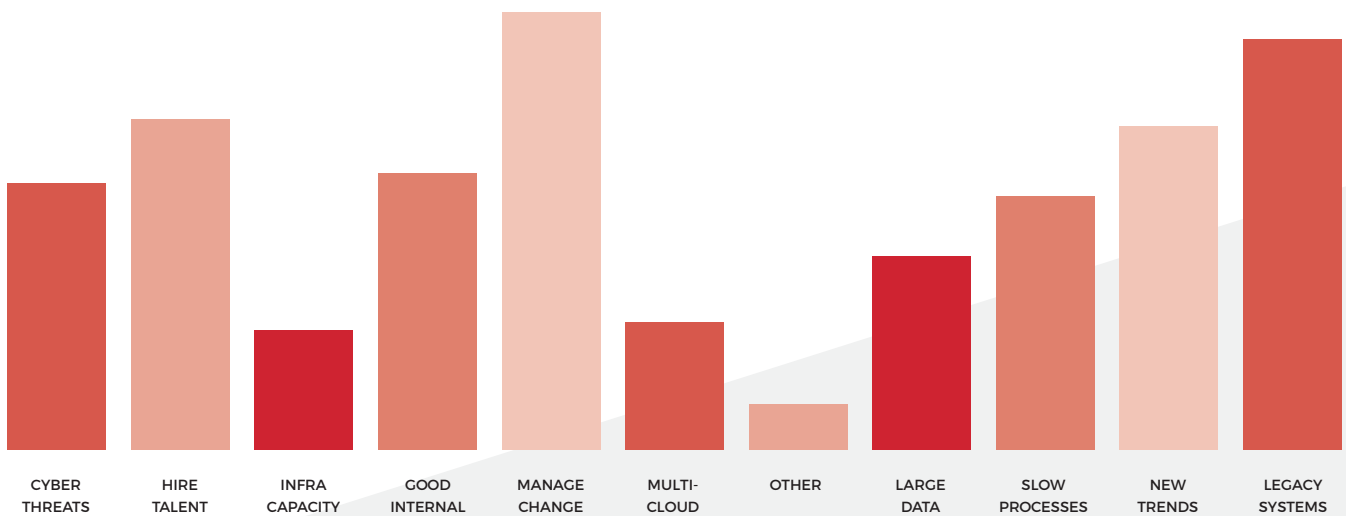
Rounding out the top five, Combating Cyberthreats is a challenge for 29% of all respondents, clearly alarmed by the constant stream of attacks, the risk of data theft or loss, and the reputational and financial risk they place on any business.

3.1 AUTHORITY VS CHALLENGES

Directors and Managers largely match the overall trend, with a focus on Managing Change, keeping the ship heading in the



THESE ARE THE CHALLENGES WE'RE FACING NEXT YEAR...



right direction through the adoption of the right technology and finding new hires to manage it. However, some 52% of Directors see hiring the right talent as key, compared to only 30% of managers, showing their long-term strategy lies in the people running the business, not technology leading the way.

One standout difference is that Influencers seem a lot less concerned about Cybersecurity (only 25% view it as a challenge, compared to 30% of managers and 43% of directors), suggesting the importance and responsibility to educate all employees within the business as to how security needs to be better managed.

3.2 COMPANY SIZE VS CHALLENGES

Dissecting the numbers by business type, small businesses rate their highest priority challenges as Managing Change (50%) and Upgrading Legacy Systems (47%). With the least resources between the three, small businesses need the efficiencies of the latest services, but with the minimum disruption to day-to-day operations.

In the UK, 55% of responding enterprises are more concerned about the challenge of Upgrading Legacy Systems, an issue that is far lower in the US at 39%, suggesting more opportunities for hardware and service vendors in the UK, with Germany (46%) indicating the potential of wider opportunities across Europe.



CHAPTER 4 - 2018 READINESS

With half (50%) of IT professionals feeling 75% ready for 2019, how does this sense of readiness vary depending on company size, individual specialisms and authority level?

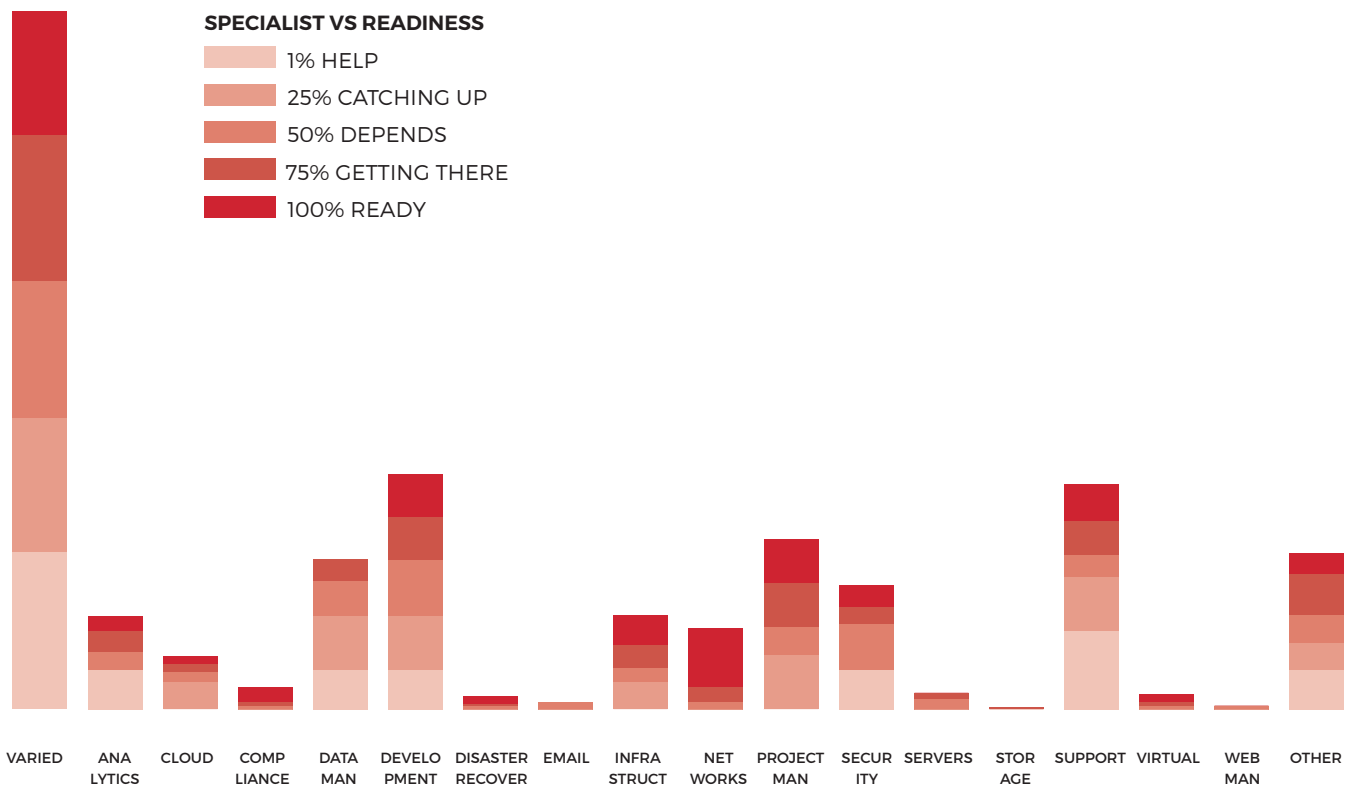
4.1 SPECIALISM VS READINESS

Comparing the specialisms of respondents and their state of readiness highlights some useful insights into the IT industry. Typically a third of respondents (32%) for each readiness score declare they lack a single area of specialism and instead dabble in “A bit of everything”, suggesting that many companies still have poorly defined IT roles that could inhibit their growth and IT awareness going forward, not counting what happens if someone with broad knowledge of a company’s IT assets decides to leave.

Specific-role respondents in the Support area rated highest at 18% when it came to those in need of help, which suggests the day-to-day demands of these professionals are too high and that it’s quite possible extra support is necessary.

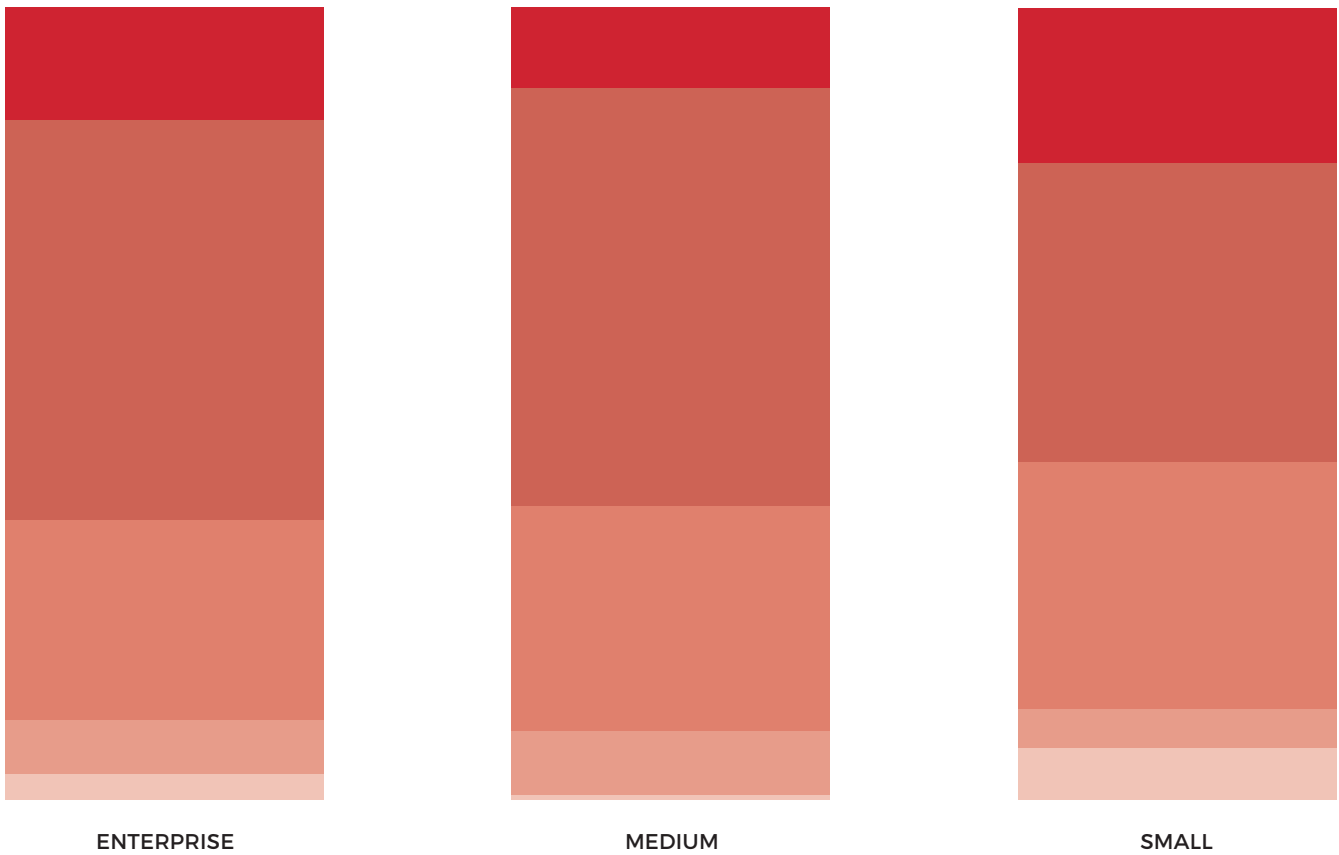
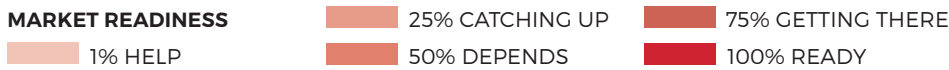
Data Management, Development, Project Management and Support are primarily the roles who claim to be only 25% ready. While those who feel 100% ready are led by workers in the Networks (14%), Development and Project Management (both at 10%) roles.

SPECIALIST VS READINESS



COMPANY SIZE BY MARKET READINESS

MARKET READINESS



4.2 COMPANY SIZE VS READINESS

Globally, over half of enterprises (51%) believe they are Getting There (75% ready) when it comes to readiness for the challenges ahead. However there are some broad differences internationally, with 64% of UK companies, 50% of US companies and only 23% of German companies feeling that confident.

Only 14% of enterprises globally believe they are in the luxurious position of being 100% ready for 2019. In the US, this figure rises to 20%, but is just 3% in the UK. American small businesses are less confident at 13%, whilst 30% in the UK think they can meet upcoming challenges without issue.

“Only 14% of enterprises globally believe they are in the luxurious position of being 100% ready for 2019.”

4.3 AUTHORITY VS READINESS

Overall, a combination of 63% of respondents described themselves as a minimum of 75% ready for the year ahead. By role, Directors are the most confident (70% combined) compared to Managers (60%) whereas Influencers (62%) demonstrate a firm sense of self-assurance.

Globally, 55% of Directors believe their companies are Getting There (75% ready) in the readiness stakes. This figure reaches 61% for US Directors, but only 54% for their UK equivalents.



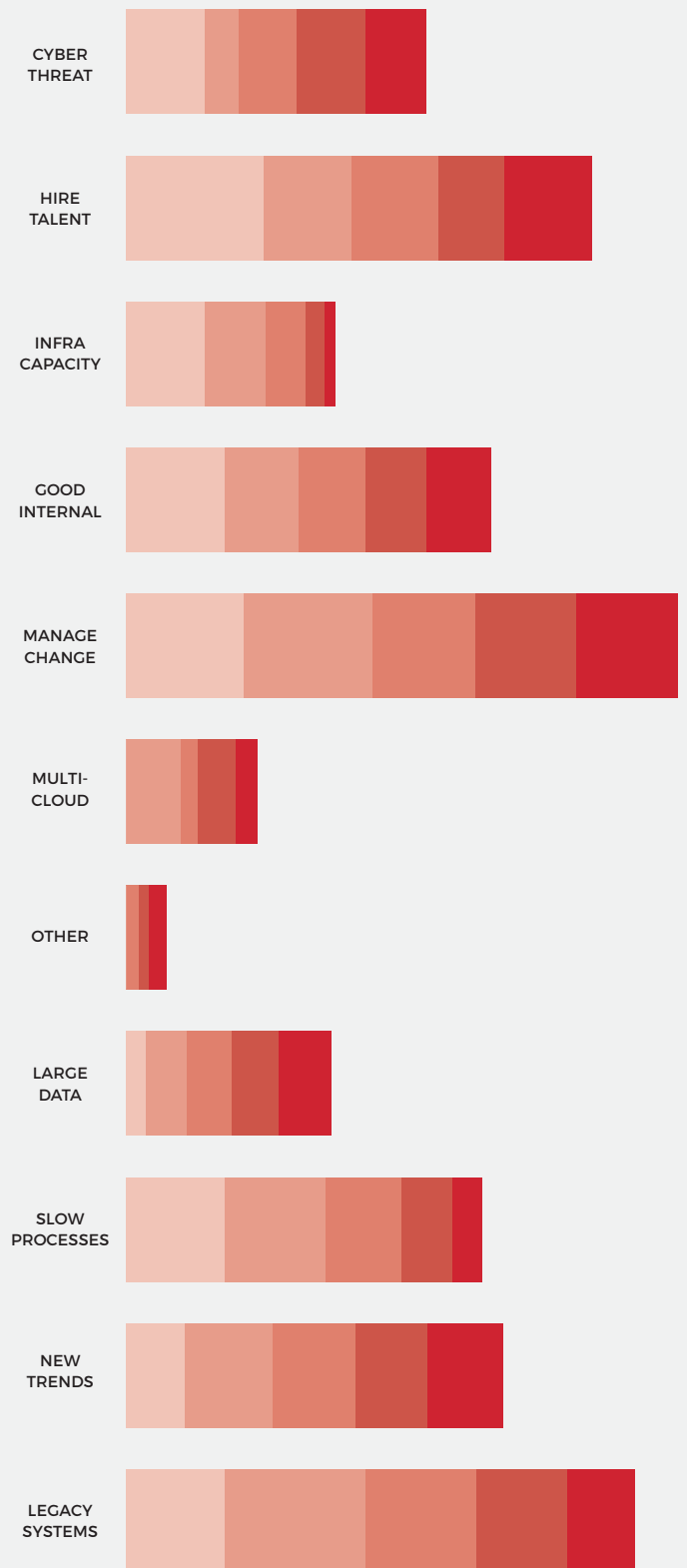
4.4 CHALLENGES VS READINESS

Globally, those in the 1% Help category are looking at Hiring the Right Talent (64%) as the key challenge to help move them up the readiness chart. Of the respondents who feel 100% Ready, only 40% are looking to hire their way to better business, with a greater number focused on Managing Change at 47%. Staying Ahead of New Trends is an issue for 35% and is the next highest trend for those who are 100% Ready.

“Of the respondents who feel 100% Ready, only 40% are looking to hire their way to better business.”

CHALLENGES & READINESS

- 1% HELP
- 25% CATCHING UP
- 50% DEPENDS
- 75% GETTING THERE
- 100% READY



ABOUT **INSIGHTS FOR PROFESSIONALS**

IFP is a global thought leadership brand dedicated to providing the latest insights in IT. Throughout Q1 2019,

we will post additional blog posts focused on defining and understanding each of the technologies and trends discussed in this research.

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GLOSSARY OF TERMS

AUTHORITY -

Referring to the level of authority an individual has within a company in terms of purchasing. This is broken down into three categories: Director, Manager and Influencer.

ENTERPRISE BUSINESSES -

In the US, more than 5,000 employees. Everywhere else, more than 1,000 employees.

MEDIUM SIZED BUSINESSES -

In the US, between 250-5,000 employees. Everywhere else, between 100-1,000 employees.

SMALL BUSINESS -

In the US, less than 250 employees. Everywhere else, less than 100 employees.

READINESS -

Referring to how prepared IT professionals feel for 2019.

SPECIALISM -

The area of expertise as stated by the respondents.



THE STATE OF IT REPORT

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