win the talent battle.

maintain your competitive advantage with emerging tech skillsets

randstad
technologies.

human forward

about the survey.

A Randstad survey of more than 400 tech industry leaders reveals that a shortage of emerging technology talent poses an immediate threat to the growth and competitiveness of Australian businesses. Without fresh solutions, the problems will continue to get worse. So how can your organisation secure the scarce skills it needs to succeed?
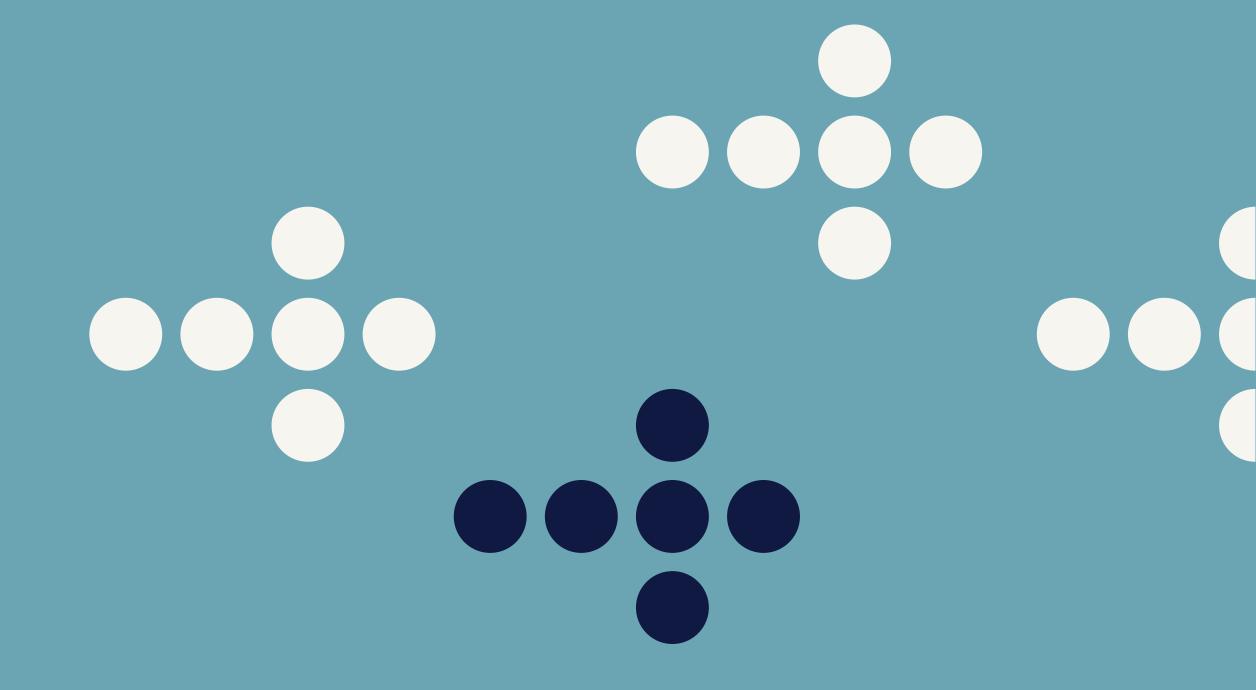
the future is here.

The past year has accelerated transformations in how we live, work, and generate value within businesses.
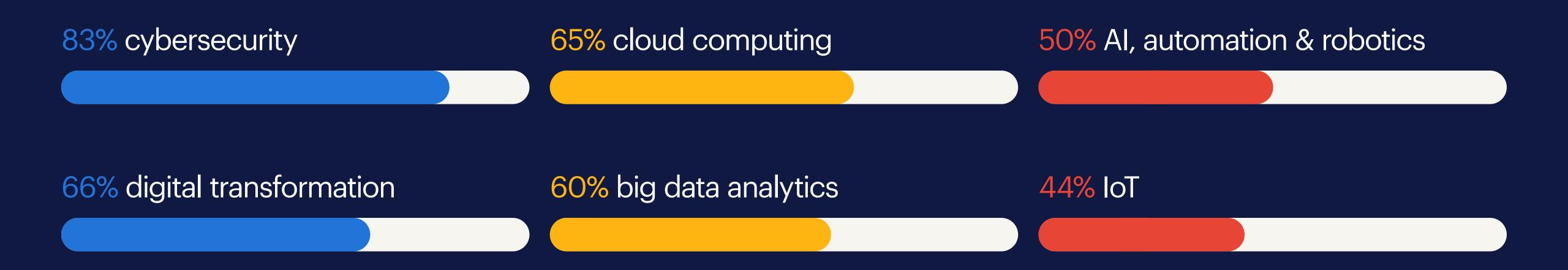
The emerging technologies spearheading these developments give companies the ability to sharpen efficiency, improve decision making, step up the pace of innovation, and enhance the employee and customer experience.

At the same time, they also heighten the operational demands on businesses in areas ranging from complex systems resilience to data protection.

jobs of the future

in-demand today.

skillsets most important to tech leaders' businesses.

83% cybersecurity

66% digital transformation

65% cloud computing

60% big data analytics

50% AI, automation & robotics

44% IoT

Change of this scale demands talent as well as technology. Along with a plethora of specialised new roles, existing jobs are maturing to adapt.

The leaders in our survey identify the most important emerging tech skillsets in driving growth over the next 2-5 years as cybersecurity, followed by digital transformation, cloud computing and big data.

The problem is that these prized capabilities are becoming more sought-after and harder to secure all the time.

Over four in ten leaders in our survey are worried that their businesses will be unable to meet future talent demand and growth, while a third are concerned they will lose their competitive advantage as a result.

On top of this, nearly a quarter believe that talent shortages will impede their ability to retain existing talent, reflecting an increasingly competitive job market.

talent shortages.

Where are the challenges of matching rising demands with available talent supply most acute?
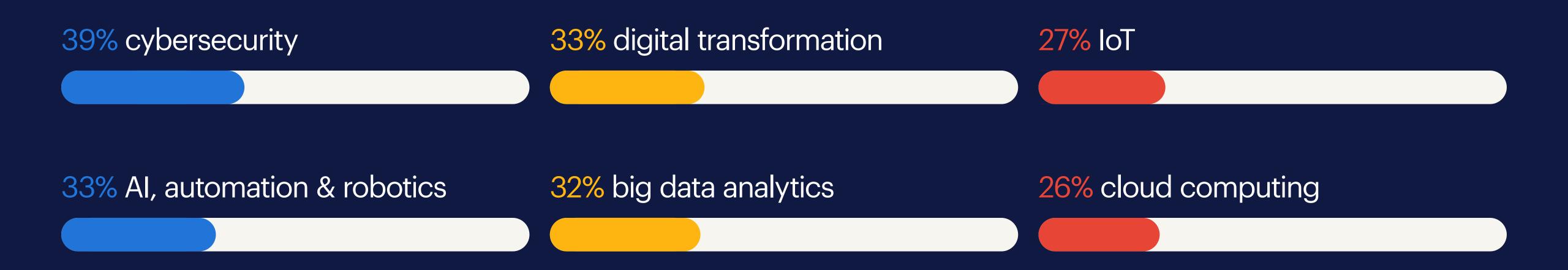
Cybersecurity tops the list of anticipated headcount growth, while ranking just below artificial intelligence (AI), automation and robotics in scarcity. More than one cybercrime is now reported every ten minutes in Australia[1].
In part, the rise in cybercrime and resulting need for security specialists reflects just how much more business is conducted on digital channels and how much more people within companies collaborate virtually.

The shift to remote working has increased this virtual collaboration and heightened the risks by requiring more people to work outside the inner firewalls of the organisation's virtual private network. Just as crucially, criminals are becoming more sophisticated and casting their net wider across different industries. This in turn not only requires more cybersecurity professionals, but also people with more specialised and sector-specific competencies.

When we talk about cybersecurity professionals this covers a host of different roles including threat intelligence, vulnerability management, network security, application security, data-loss prevention, incident response and forensics, each with their own training and development demands. Little wonder then that talent demand so vastly outstrips supply.

According to cybersecurity professional body (ICS)[2], there are more than three million unfilled positions worldwide and employment in the field needs to grow by 89% in order to fill the talent gap[2].

largest growth areas: biggest expected increase (20%+) in headcount per field.

39% cybersecurity

33% digital transformation

27% IoT

33% AI, automation & robotics

32% big data analytics
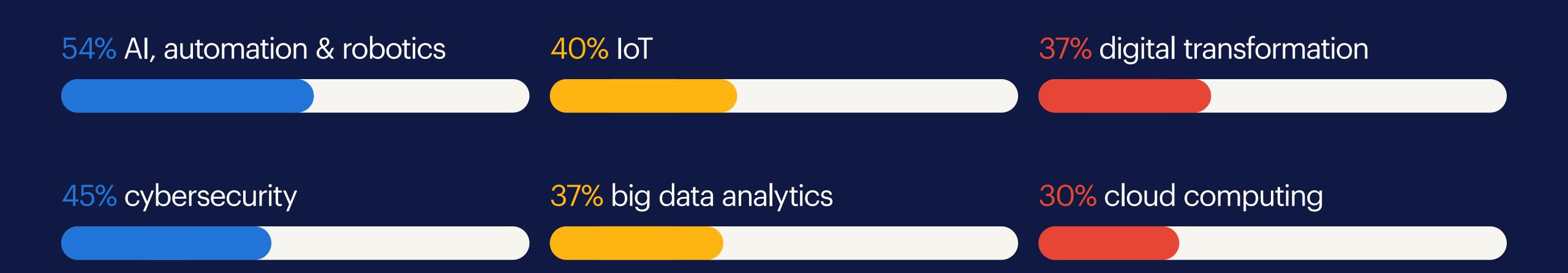
26% cloud computing

AI, automation and robotics is the area where skills are in shortest supply, and second in the growth rankings. This reflects the gathering pace of digitisation and process automation.

It also shows new possibilities and resulting business models opening up in areas ranging from chatbot customer engagement to artificial intelligence-enabled analytics and machine learning diagnostics.

A PwC study looking ahead to 2030 found that healthcare is the sector that is likely to see the greatest impact from AI in the long-term, taking on much of the routine diagnosis and even treatment provided by doctors[3].

Automotive is just behind, reflecting the move to driverless vehicles ahead.

talent scarcity.

54% AI, automation & robotics

40% IoT

37% digital transformation

45% cybersecurity

37% big data analytics

30% cloud computing

In third is financial services, a sector in which Australia has long been at the forefront of innovation worldwide. We already have AI-enabled robo-advisors for investments and financial planning.

Eventually, client engagement, loan approval and even trading and insurance underwriting could be largely handled by AI.

Financial services also highlights the numbers needed to keep pace with digital transformation.

For example NAB setting out to hire some 2,000 data scientists, AI experts and other tech specialists as part of its 'digital first' transformation programme[4].

"Innovation is the outcome of a habit, not a random act."
Sukant Ratnakar

As we reported in our 2020 report, 'securing in-demand skills now'[5], AI specialist is now number one on LinkedIn's fastest-growing jobs list across the labour market in Australia. However, AI specialist is a nebulous term, as AI is a whole new field of work, rather than a specific job. The universe of roles spans a whole series of specialist roles and niche subsets within them.

Broadly, this includes domain experts who work out how AI could be applied within the business, DevOps engineers for application development, various specialists to 'train' the model, data scientists to extract actionable information and business analysts to turn the data into insights and innovations. Talent planning and recruitment strategies in this field therefore need to be geared to highly specific roles.

The already rapid pace of digital transformation and increased harnessing of Big Data analytics within Australian businesses has moved up a gear in the wake of the COVID-19 pandemic. The acceleration of digital transformation and remote working are one of the three key trends highlighted in LinkedIn's 'Jobs on the Rise in Australia 2021' report[6]. Growth areas include digital and social media marketing as brands worked harder to engage and understand consumers online.

barriers.

Why is emerging tech talent so hard to secure here in Australia?

Cost is the biggest barrier to securing talent according to the leaders in our survey. It's clear that the specialists they are looking to attract and retain know what they are worth. The challenge can only increase with demand.

Half of the leaders expect emerging tech specialist salaries to rise by 10% within two years, and a third predict 20% growth. According to Randstad's 2020 Employer Brand Research, talent with niche skills can get a 10-15% rise by moving jobs[7].

Yet, there is more to securing the talent you need than just money. These kind of niche specialists have an insatiable appetite for new challenges and operating at the cutting edge of technology.

One in five participants in the Randstad Employer Brand Research cite interesting work as the most important factor when taking up a new job, and one in ten working with the latest technologies[8]. Smart businesses consciously building these career development opportunities into a compelling employee value proposition.

Employees know that not only is the work exciting, but they will also emerge more employable in fields that are advancing all the time. Moreover, across the Australian working population as a whole, the Randstad Employer Brand Research reveals that good work-life balance actually tops pay as the most important factor when choosing a new employer[9].

UBank
case study.

1

Emerging technology is creating a new breed of disruptors. UBank is a prominent example. Its record of AI-enabled innovation includes the 2019 launch of Mia (short for 'My interactive agent'), the world's first 'digital human' home loan application assistant. Mia is able to answer common home loan enquiries. Her persona is designed to be "smart, approachable and a little bit cheeky".

Talent is clearly critical in developing and applying this kind of innovation. UBank's talent strategy is consciously different from a conventional bank. This is a lean operation, with some 600,000 customers served by only around 300 staff. A core team of developers and testers is supported by people who bring the technology to life in areas such as experience design or analysing social media.

To help attract talent that might not have considered working in banking, the company is keen to create an informal, empowered, and non-hierarchical working environment. "We have the freedom to explore new things and develop new skills," says Aaron Stephenson, Senior iOS Developer and Accessibility Champion. "I can wear board shorts to work and still have a chat with our leadership team," says Adi Rony, an expert in digital customer experience.

The in-house team is supported by an extensive talent ecosystem. For example, Mia was developed through a partnership with FaceMe, a New Zealand-based fintech specialising in AI-enabled customer experience. Other partners include tech giant IBM and the University of Sydney.

Building a talent ecosystem inside and out.

bridging the
talent gap.

While the leaders in our survey recognise the significant talent challenges they face, this isn't holding back demand. Nearly a third plan to increase headcount in emerging technologies by over 20% in the near future.

Businesses desperate to bolster headcount are pinning their hopes on a mixture of reskilling existing staff, hiring experienced talent, and outsourcing, along with engaging contractors and consultants.

Many are also keen to support educational programmes and capitalise on the work from home revolution by hiring remote workers in both Australia and abroad.

"Let's go invent tomorrow instead of worrying about what happened yesterday."
Steve Jobs

Sourcing headcount: most popular strategies for sourcing future talent.

60% provide a career path that transitions well to others.

32% hire remote workers – domestic

18% hire remote workers – international

34% support training / educational programs

28% use partners or outsource

Is this enough to bridge the gap? For general tech roles, these are important steps forward. Successful examples of upskilling and reskilling include retraining bank tellers to work in digital marketing and engagement.

Building on existing customer facing skills, conversion programmes focus on such capabilities as scenario analysis, cybersecurity and customer journey design[10].

But for niche emerging tech roles, many businesses may need to go further.

"The technology you use impresses no one. The experience you create with it is everything."
Sean Gerety

In our experience, organisations can often find it difficult to shift the focus of their talent strategies from generalist tech roles to the specialist areas covered in this report. What works for generalist capabilities may fall short here. If we look at what can be achieved through reskilling, for example, a four-month learning programme could help people to move into general roles in cloud and engineering[11].

Yet for cybersecurity, even basic proficiency can require at least two years of training and experience – the gold standard Certified Information Systems Security Professional certification calls for at least five[12]. Moreover, the application of emerging technologies in a particular business often demands quite specific capabilities, which can require specialist support to identify and source. In short, it's time for a rethink of emerging technology strategies.

In response, we at Randstad have increased our investment in emerging technology roles to help our clients find, hire, and upskill talent in emerging technologies. Recognising that generalist IT recruitment can only go so far, our emerging technology capability is built around the foundation of experienced, specialist recruiters, each of whom has a deep understanding of the marketplace, the technology and the nuances that exist within every new skillset.

kablamo
case study.

2

"No question that the best tech talent is scarce... But we keep hiring and retaining great people," says Angus Dorney, co-CEO of Australian data management and digital design company, Kablamo, in an interview with Intelligent CIO. The team includes what Angus Dorney describes as "globally recognised techies". How has Kablamo been so successful?

Number one on his list of tips is giving talent choices, challenges, and change. "The best technical talent needs to live in an environment of rapid customisation and variability – that's the way they like it... That means your tech team needs to constantly be able to find unique solutions to unique problems. Give them puzzles, hard puzzles and they will thrive," he says.

Angus Dorney also emphasises the importance of being fast and different when you want to attract rare talent. "They're not afraid of hard work, but they thrive when each day is different and things are fast-moving," he says.

Other recommendations include adopting a more flexible approach to where people work. "Top tech talent is mobile and free, they work from home, the train, at odd hours. When you attract the best, you trust and adapt," he says.

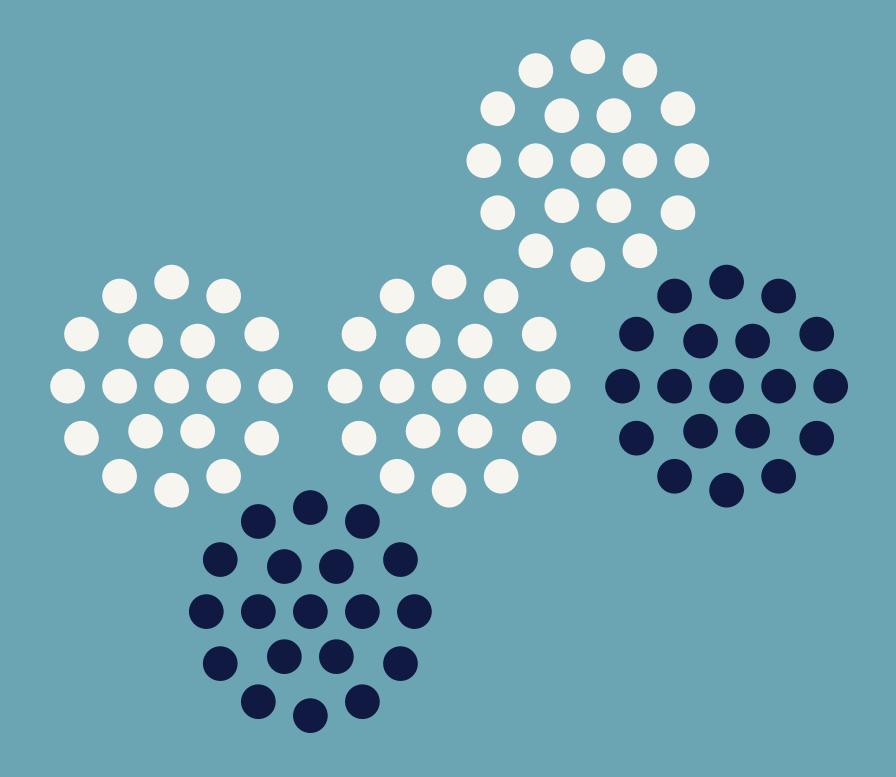When you attract the best, you trust and adapt.

next steps.

Securing the scarce skills required to excel in Cybersecurity, Cloud Computing, AI Automation and Robotics, Digital Transformation, Big Data and Analytics, and IoT is crucial to the future success of your business.

If you would like to discuss any of the topics within this report, learn how our emerging technology specialists can support you, or attend networking events, please feel free to get in touch with Richard or visit our website.

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