Driving Digital Diversity

Understanding the perceived barriers to a career in tech

Digital Intelligence

BAE SYSTEMS

The corporate world has come a long way on diversity in a relatively short space of time. Just seven years ago, only a quarter of leadership roles in FTSE 100 companies were occupied by women. By 2021, that figure had risen to nearly 33%. But compared to other industries, progress in the tech sector has been slow. According to non-profit organisation Tech Talent Charter, just 29% of UK tech workers are women or non-binary and an even smaller share (25%) belong to ethnic minority groups. These figures drop to 21% and 14% respectively for senior roles.

A greater focus on diversity, equity and inclusion (DE&I) could help to plug a skills gap estimated to cost the digital economy £63bn annually. It could also help individual organisations achieve their true potential and outperform the competition through greater diversity of thought. However, there's no quick fix. Achieving greater DE&I requires time, money, careful planning and a firm commitment from corporate leadership. Cultural change can take a long time. Unconscious bias is endemic. And hiring policies in many organisations have been ossified for years.

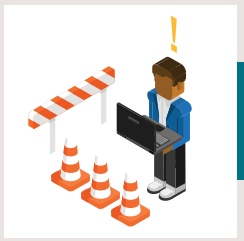
The UK's digital economy, which was **recently ranked as Europe's most advanced,** demands a tech sector with a DE&I posture to match. To better understand the scale of the challenge, the barriers that are stopping a greater volume of diverse talent entering the industry and where change needs to take place, BAE Systems Digital Intelligence commissioned an independent market research company to interview 2,053 individuals working both inside and outside the UK's tech sector.

The resulting series of reports will shine a light on various areas, including the perceived barriers to those inside and outside of the sector, alternative routes into tech, and tech talent retention.

This first report uncovers the various perceived barriers that may be stopping some from considering a career in tech and in turn inhibiting greater DE&I in the tech sector, and what industry can do to address them.

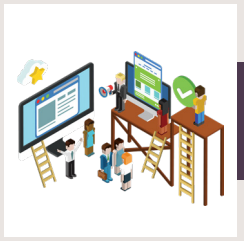
In this report, you will discover:

The case for diversity



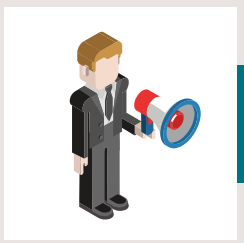
The top five perceived barriers to a career in tech

The importance of education



The challenges facing minorities

A pathway to greater social mobility



Plus find out more about the routes into BAE Systems

The case for diversity

There's already a strong moral and business case for improving DE&I in the workplace. Organisations should, of course, reflect the societies they serve. But it's not just about fairness. Time and again, studies have shown that companies with diverse skill sets – and therefore different ideas and approaches – perform better. McKinsey's latest research into the impact of diversity confirms that such organisations see better financial results:

Companies in the top quartile for racial and ethnic diversity in executive teams are

39% more likely to see financial returns above their national industry medians

Companies in the top quartile for gender diversity in executive teams are also

39% more likely to see financial returns above their national industry medians

– up from 15% in 2015

In the tech sector, there is another key factor at play. Despite a series of lay-offs in 2022, the industry is growing fast. Organisations are generally struggling to find enough talent to meet demand. **According to one estimate, 93% of UK businesses report IT skills gaps,** with many **(42%) citing the rapid pace of technological change as a critical driver.** The most in-demand skills are **AI (40%), IT support and troubleshooting (32%)** and **cyber security (30%).**

In fact, cyber security has long had a large and worrying skills shortage. **The shortfall of skilled professionals in the sector currently stands at nearly four million,** with the current global workforce estimated at 5.4 million. In the UK, 367,300 IT security professionals are currently employed, **but the sector needs a further 73,000 – a gap that has grown 29% year-on-year** as older professionals retire and demand grows.

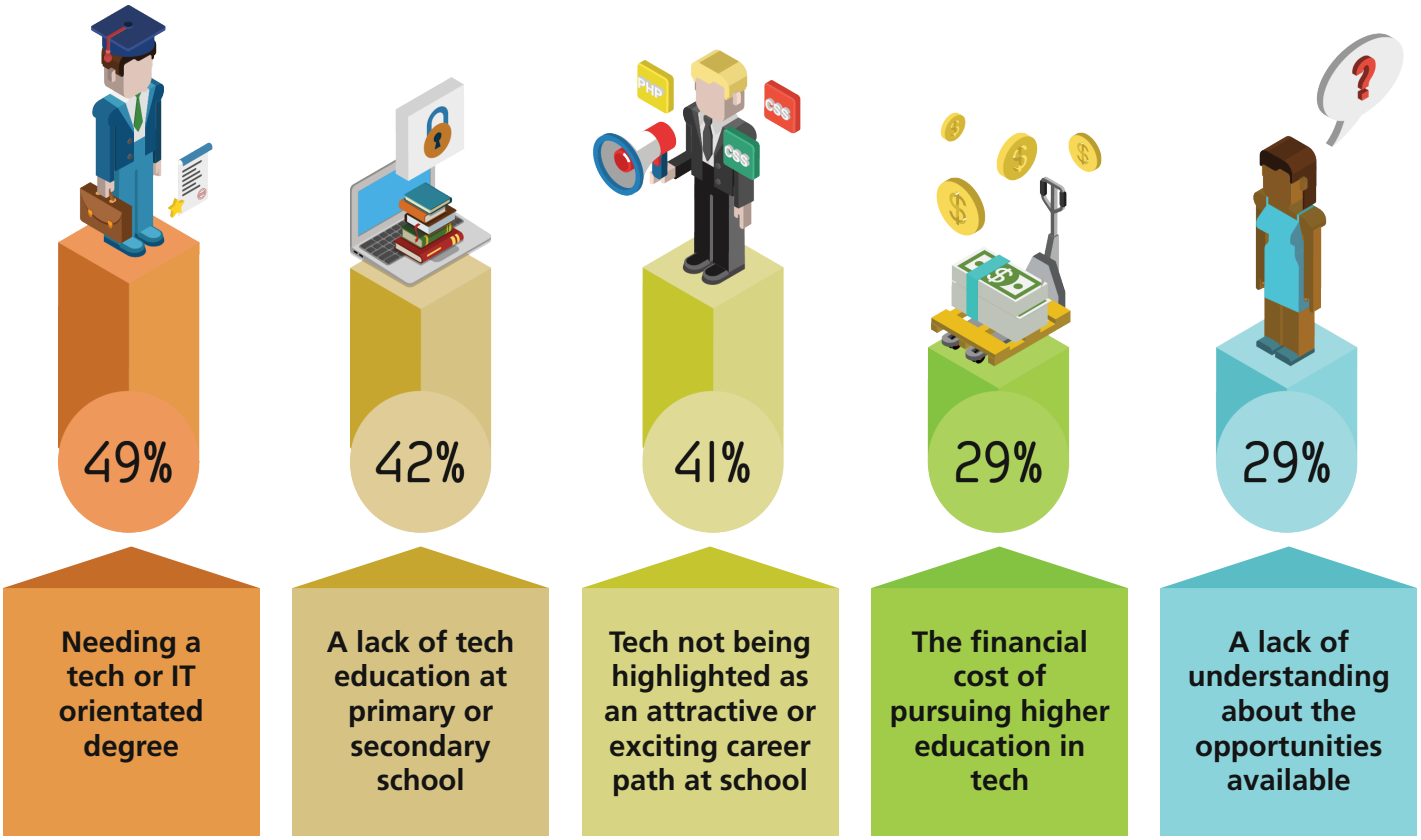
There is a clear case for encouraging a more diverse set of candidates to choose a career in the tech and cyber security industry. If successful, this could help alleviate skills challenges and drive-up DE&I. However, as our research reveals, there are significant obstacles to overcome.

The top five perceived barriers to a career in IT

Our research reveals two critical roadblocks which are preventing more individuals from choosing a career in tech: education and a lack of understanding around routes into tech.

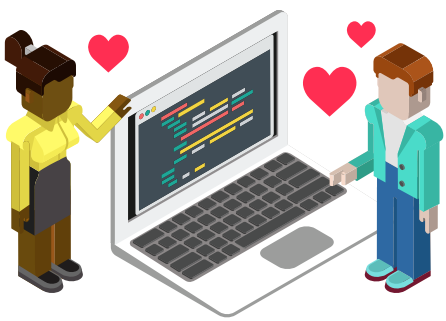
The importance of education

When asked what the biggest perceived barriers to pursuing a career in tech were, the full sample of 2,000+ respondents replied as follows:



It's clear that respondents' formative years played an outsized role in their decision not to pursue a career in tech. This begins at school, with many claiming the subject was not promoted as particularly attractive or exciting – if offered at all.

The good news is that this is changing. In 2023, **17%** **more students decided to study A-level computing than the previous year.** However, the vast majority **(85%)** **were boys.** Although the **number of girls choosing the subject jumped 18% YoY,** this still amounted to fewer than 3,000 pupils.



Many other respondents said they feel they need an IT-oriented degree to pursue a career in tech, putting many of them off despite numerous roles not requiring a degree level qualification. This highlights a clear misconception and need for the tech industry to better emphasise alternative routes and place a greater focus on transferable skill sets and people skills in job applications.

In addition, there are now more alternative routes into tech beyond University. More businesses offer apprenticeships for a greater breadth of roles for school leavers and career switchers alike. But many also upskill using free bootcamps with social enterprises such as **School of Code, Code First Girls** and **Coding Black Females.** For those who do want to study further, there are also options such as company-sponsored scholarships which can help to make the experience more affordable.

It's clear from our findings that the pathway to reducing skills shortages and improving DE&I in the tech industry begins at school. In fact, over half **(56%) of cyber security professionals we polled said they felt their school had encouraged them to pursue a career in tech,** versus just over a quarter **(28%)** of the overall sample. Nearly a fifth **(18%) of overall respondents claimed they were inspired by a teacher at school to follow a career in IT.**

At InnovateHer, we are deeply committed to reshaping the narrative around diversity within tech. The recent findings within this report align closely with our mission to highlight the barriers young girls face in pursuing tech careers. By addressing the gaps in tech education at school level, we are empowering youth to break stereotypes and envision a future in tech.

It's so important that we showcase alternative routes into the industry, emphasising that a degree is not the only path. Through our programmes in collaboration with businesses such as BAE Systems, we pave the way for a more inclusive tech landscape.

Together, we're ensuring that every girl feels encouraged and equipped to embark on a fulfilling career journey in tech.

Chelsea Slater
CEO and Co-Founder

innovate<her>

Exploring the challenges facing minorities

Respondents with a diverse range of characteristics were recruited for the research. They included people of varied age ranges, socioeconomic backgrounds, ethnic groups, genders, and from neurodivergent communities. This provided insight into how the barriers to a career in IT differ for members of minority groups.

Our research found Asian women are more likely to highlight **a lack of tech or IT education at primary and secondary school as the number one roadblock to pursuing a tech career (49%),** compared to **42%** for the overall respondents. And they're more likely to cite **a lack of understanding of the opportunities available (33% vs 29%).** But they're **less likely to see money as a barrier (22% versus 29%).**

Elsewhere, female respondents with an annual household income of less than £50K are more likely than the average to cite **a lack of understanding about available opportunities as a barrier to an IT career (38% vs 29%).** But they're **less concerned about needing to live in a major city where tech businesses are located (20% vs 28%).** Men in the same income bracket are more likely to complain that **tech wasn't highlighted as an attractive/exciting career path at school (48% compared to 41% of overall respondents).**

In order to attract a greater volume of diverse talent and tackle the skills gap head on, we need to understand the barriers, both lived and perceived, that may be preventing many from pursuing careers in tech.

These insights are critical to better inform our recruitment processes and create a more collaborative ecosystem between the tech and education sectors. This way we can remove limiting obstacles to better support diverse minorities and those from communities facing socioeconomic related hurdles.

Working closely with our partners, we are placing a strong emphasis on training and hiring a greater diversity of thought, skillsets and experience. Our vision is to make society safer and more prosperous, actively working to break down social barriers and highlight that tech is for all.

Theresa Palmer
Global Head of Diversity, Equity and Inclusion

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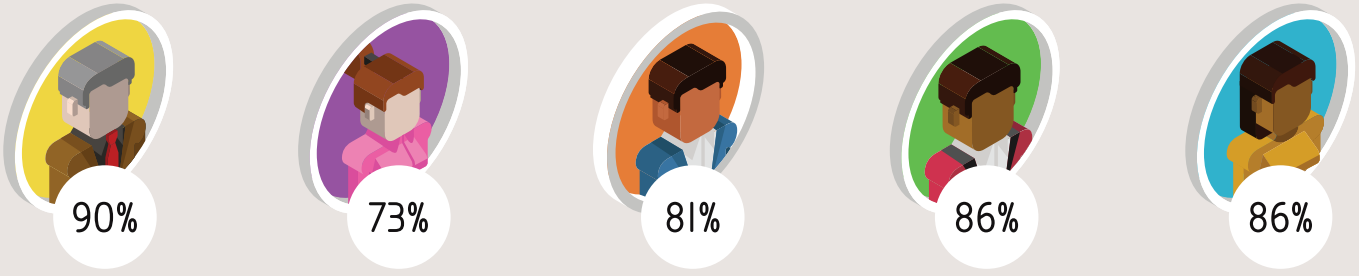
Neurodivergent men cite **a lack of technology or IT education at primary and secondary school as their top barrier (47% vs 42%).** They also stated needing to **live in a major city as a significant roadblock to a career in IT (33% vs 28%)** and they're far more likely to **view a lack of people from a similar background currently working in the IT sector as a barrier (29% vs 19%).**

Yet virtually across the board, a greater share of minority respondents than the average **(65%) say they'd be prepared to switch careers in order to pursue a job in tech.**



of neurodivergent men | **of neurodivergent women** | **of Asian men** | **of black men** | **of black women**

There is clearly a major opportunity for the tech sector to hire from this pool of talent, if they were more sympathetic to the needs of such groups and their perceived barriers to entry.

Conclusion – a pathway to greater social mobility

There's clearly much to do to tackle the root causes of the current skills shortage and DE&I deficit in tech. Three-quarters **(73%) of overall respondents told us that the IT industry could do more to encourage job applicants from different backgrounds** — rising to **83% of respondents who work in tech** and **90% of cyber security professionals** we polled. In reality, though, it is a challenge not just for the tech industry but also for the education sector and government alike.

We need closer collaboration between schools, colleges, universities, non-profits, private businesses and government to develop more effective curricula, offer a greater breadth of apprenticeships and scholarships, and provide opportunities for hands on experience at an early age to motivate and encourage interest in tech. With the right environment we can create a pipeline of diverse talent. This includes people from all walks of life, gender identities, races, ethnicities, religions, visible and non-visible disabilities, sexual orientations, and neurodivergence – as well as those from lower socioeconomic backgrounds that might experience financial insecurity or face barriers due to existing social systems. **The tech industry is a place for all.**

The start of a child's journey in an education setting is so critical to unlocking their potential. If we are to build learning futures, we need to unlock social mobility for each and every child we teach, regardless of their background, challenge, or need. Whether a learning or a business environment, having a strong sense of belongingness is critical for people to feel happy as part of any community.

My research and first-hand experience have shown me that it is the inspired, inclusive teachers, carers, managers or leaders that provide the change factor and have the true power to help accelerate social mobility. It's these people that will guide young people to realise their aspirations, and to develop a sense of belonging that equips them to gain the skills, capacity, and capability to succeed in the workplace.

Sonia Blandford
Professor of Social Mobility, Plymouth Marjon University

If we fail as an industry, we miss out on a fantastic opportunity not only to attract a greater wealth of diversity, skillsets and experiences, but also to better support vulnerable portions of society and drive social mobility. Unlike other high-earning professions such as law or medicine, there are many potential pathways to a career in tech which do not necessarily mandate higher education at a cost to the student. There's a much greater emphasis on practical skills and experience—a fact that should democratise access to a far greater pool of potential candidates.

The bottom line is that many of the perceived barriers to a career in tech simply don't exist. It's up to us as an industry to work closer with government and academia to dispel those stereotypes, create a buzz around the sector, and provide ample opportunity for interested parties to get involved.

Methodology statement

An online survey was conducted by Walr among 2,053 UK respondents. Within this sample, quotas were applied to target 501 technology professionals, 520 specialists in cyber security and 1,032 general consumers to compare their perceptions and experiences relating to the technology field. Respondents with a diverse range of characteristics were recruited for the research. They included people of varied age ranges, socioeconomic backgrounds, ethnic groups, genders, and from neurodivergent communities.

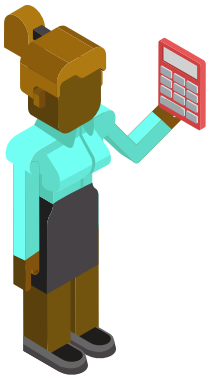
The research fieldwork took place between December 11 - January 2, 2024.

Find out more about the routes into BAE Systems

Click the links below to find out more about becoming a part of BAE Systems Digital Intelligence.

DE&I Strategy, Employee Resource Group and our DE&I partners

BAE Systems Digital Intelligence career opportunities



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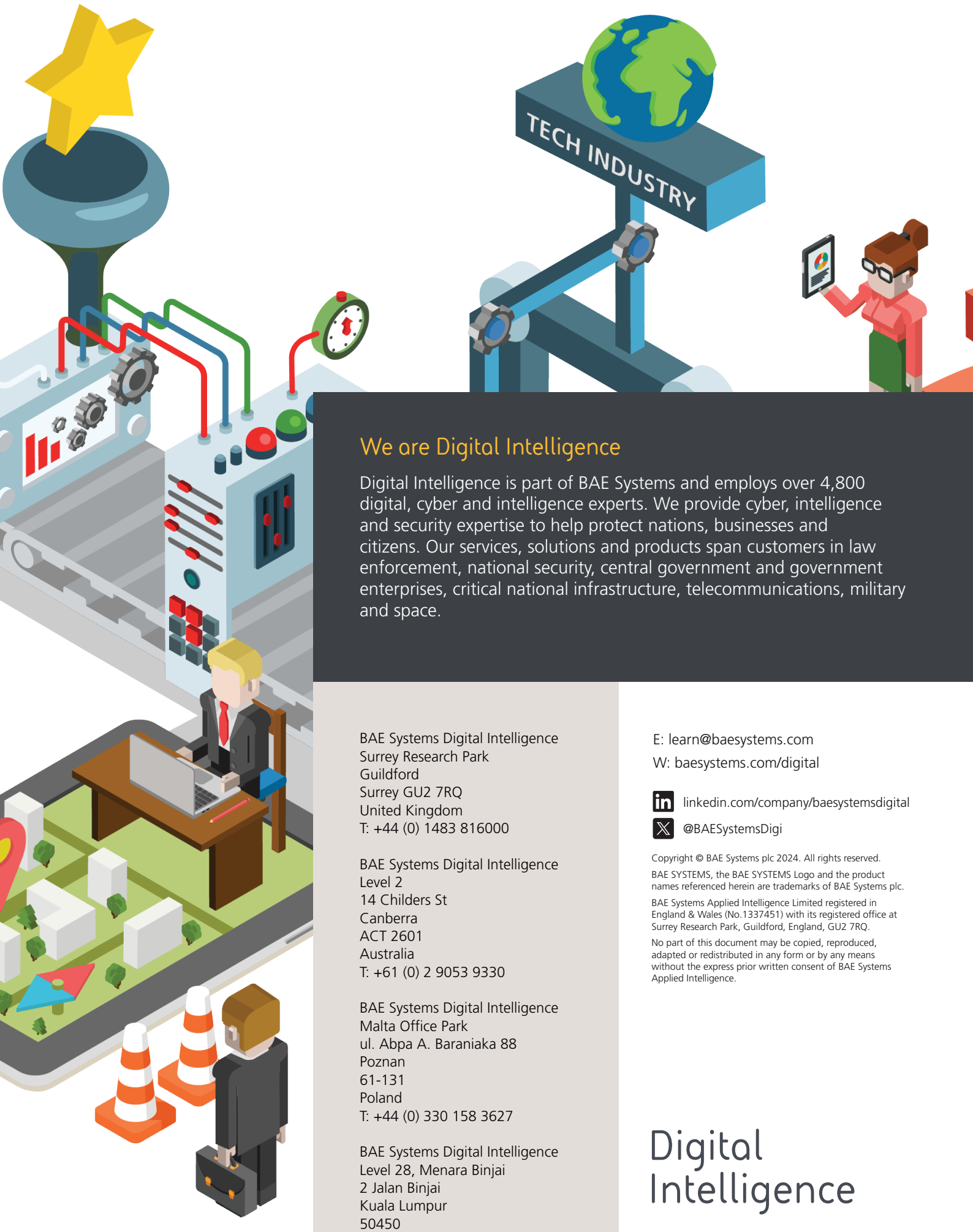

We are Digital Intelligence

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