



THE SAS STEP PROGRAMME

Making Data Work For You - Full Report

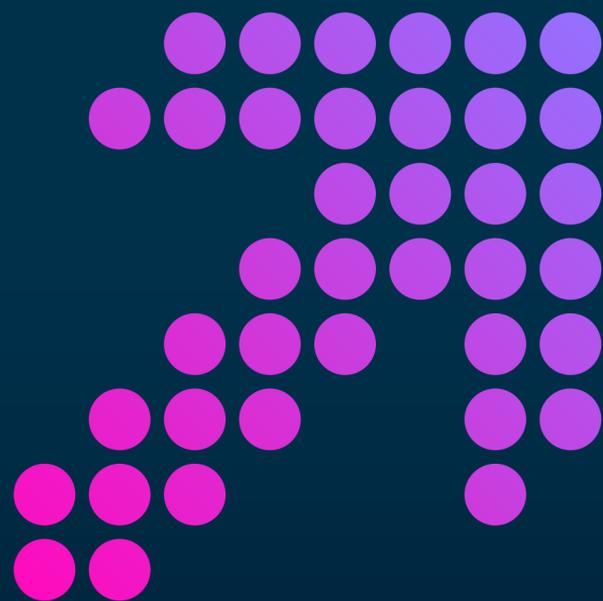
**Free data skills training for all
levels, assembled by industry**

Providing the foundations for a data-driven future





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Foreword by Roderick Crawford

Vice President & Country Manager, SAS UK & Ireland

After a hugely challenging recent time for so many of us, Government and businesses alike should be fully aware of the crucial role data skills will play in our changing economy, with data-centric jobs now far outstripping the number of candidates available to fill them.

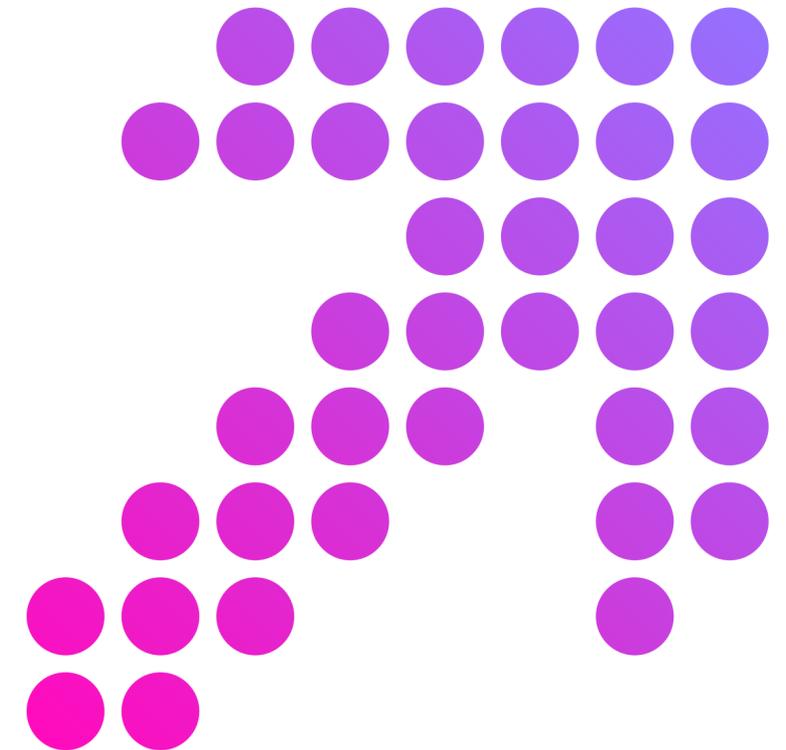
Concerningly, **92%** of respondents to our survey of senior IT decision makers said that remote working and businesses' increased reliance on technology have amplified the need for data fluency. **A separate study** from July 2020 surveyed more than 700 working professionals and found that a staggering **93%** say their workforce is not achieving optimal productivity due to a lack of data skills. What's more, **overall unemployment figures** in the UK in December 2020 were at their highest since September 2015, illustrating a widespread struggle to find suitable roles across sectors.

To address these issues, in March 2021 we decided to launch the **SAS STEP Programme**, a free reskilling and employment initiative to empower the UK and Ireland's workforce with data skills and rebuild from the pandemic. At SAS, we believe that everybody should have the chance to acquire and develop crucial data skills, and the launch of this initiative represents our commitment

to bringing these skills to those who need them to boost their employment prospects.

The free digital learning programme provides four learning pathways spanning data literacy to more advanced data science and Artificial Intelligence (AI) skills, and has already seen tremendous success less than a year after launching. As well as the very positive feedback we've received from participants and individual success stories, the programme has already been recognised with industry awards.

The UK government has recognised that while not all individuals will need to become fully-fledged data scientists, everyone will need a basic level of data literacy to operate and thrive in increasingly 'data-rich' environments". Indeed, the National Data Strategy recognises that data has implications for the entire UK workforce, whatever their profession or level.

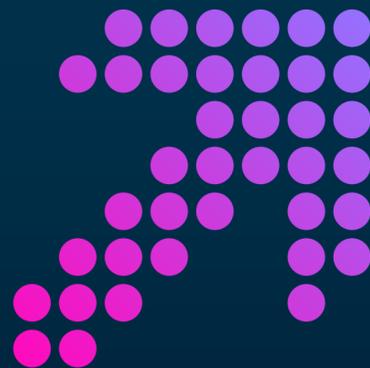


If this wasn't enough incentive to upskill when it comes to data, **figures published** by recruitment firm PageGroup reveal that average annual salaries for data science roles range between **£60,000** and **£150,000**, dwarfing the overall **national average** of £31,461 in 2020.

Add to this the profound impact of the COVID-19 pandemic on countless industries and sectors - with even greater reliance on technology as people work remotely - and it is clear there is an urgent need for data literacy across the enterprise when it comes to hiring, as well as training and reskilling the existing workforce.

Simply put, data is shaping the decisions of the future, which is why we are fully committed to supporting the UK & Ireland's economic recovery through SAS STEP. As part of our programme we have already partnered with educators, communities, businesses and policymakers to bridge the skills gap and get people back to work in future-proof, lucrative careers.

Through the eyes of the SAS STEP Programme, this report examines how reskilling and upskilling through data skills training can bring real change, by speaking to the candidates who have experienced it first-hand. We also hear from influential decision makers in industry, education and government on the role they believe data now plays in our society.



“Data is shaping the decisions of the future”

In an increasingly data-driven world, it has become abundantly clear that data skills will play a fundamental role in shaping the future of the workforce.

In fact, the ability to collect, analyse and draw conclusions from data is often considered essential for every role in an organisation. According to a Vanson Bourne **survey** carried out on our behalf, over **70% of senior enterprise IT decision makers across industries** cited a sufficient level of data literacy as either 'very important' or 'essential' when considering hiring candidates for open positions in their company.

Figures like these begin to show what many businesses and sectors are already well aware of: **the world of work has entered a new era when it comes to data**. The field of big data, for example, continues to grow on a daily basis - the global market is **set to grow** to a whopping **£203 billion** by 2022.

If that wasn't enough incentive to upskill in this sector, **figures published** by recruitment firm PageGroup reveal that average annual salaries for data science roles range between **£60,000** and **£150,000**, dwarfing the overall **national average** of £31,461 in 2020.

Whether in banking, retail, the public sector, manufacturing or IT, the advent of emerging technologies like cloud computing and IoT has meant that virtually any business now has the ability to collect rapidly growing volumes of all types of data, including in real time where needed. This data can be used to draw crucial insights to help drive the organisation forward, better serve customers and make more informed internal decisions about, for example, the talent they need to hire.

Today, global, household name brands use data and analytics as a central pillar of their business success. International streaming provider **Netflix** is one such example - the company has for years capitalised on its users' behavioural patterns to inform various aspects of its user interface, from customising recommended programmes to tweaking trailer thumbnails in order to ultimately boost engagement and improve overall customer experience.



A priority for government and industry

The Government has placed data skills at the centre of industrial policy in recognition of the importance to post-pandemic economic recovery. This is being realised through government initiatives such as Build Back Better: the Plan for Growth and Jobs, UK Innovation Strategy and National AI Strategy, which all place great emphasis on the need for development of data and technical skills.

'Levelling up', another key aspect of the government's long term agenda, looks to ensure these educational opportunities and outcomes are spread evenly throughout the UK. There is a large geographical spread of potential talent but the opportunities to secure data roles are often concentrated in a few areas.

As industry leaders in analysing data for the benefit of clients in government and business, SAS fully supports this government policy, recognising first-hand the importance of a workforce having at least some basic data knowledge. SAS also understands the needs of the country, as explained above, to get more people interested and eventually working in full-time data roles. **SAS STEP** is a tailor-made solution to address both these needs and put the UK at the forefront of the data revolution.

The UK government - since launching the **National Data Strategy** to support wider adoption of data services and skills - says that "data is now the driving force of the world's modern economies. *It fuels innovation in organisations large and small, across the private, public and third sectors.*"

In its approach to developing data skills, the government has already expanded the National Skills Fund to include courses on data analysis, such as the SAS Data Analyst Skills Bootcamp. A Data Skills Taskforce has been set up to promote collaboration, best practice and action in the ever-evolving data skills landscape. A £7 million fund launching in 2022 to support more flexible apprenticeship opportunities will also be made available, with data roles set to benefit. These examples illustrate the wider emphasis the government has placed on data being front and centre of the skills agenda.



I am delighted to see how the **SAS STEP programme** is supporting people to access crucial data skills for free, so they can progress into good jobs.

"It is vital that everyone has the opportunity to learn the skills they need to succeed in rewarding careers, and that employers have access to the high-quality talent pipeline they need for the future, and to fill skills gaps in key sectors."

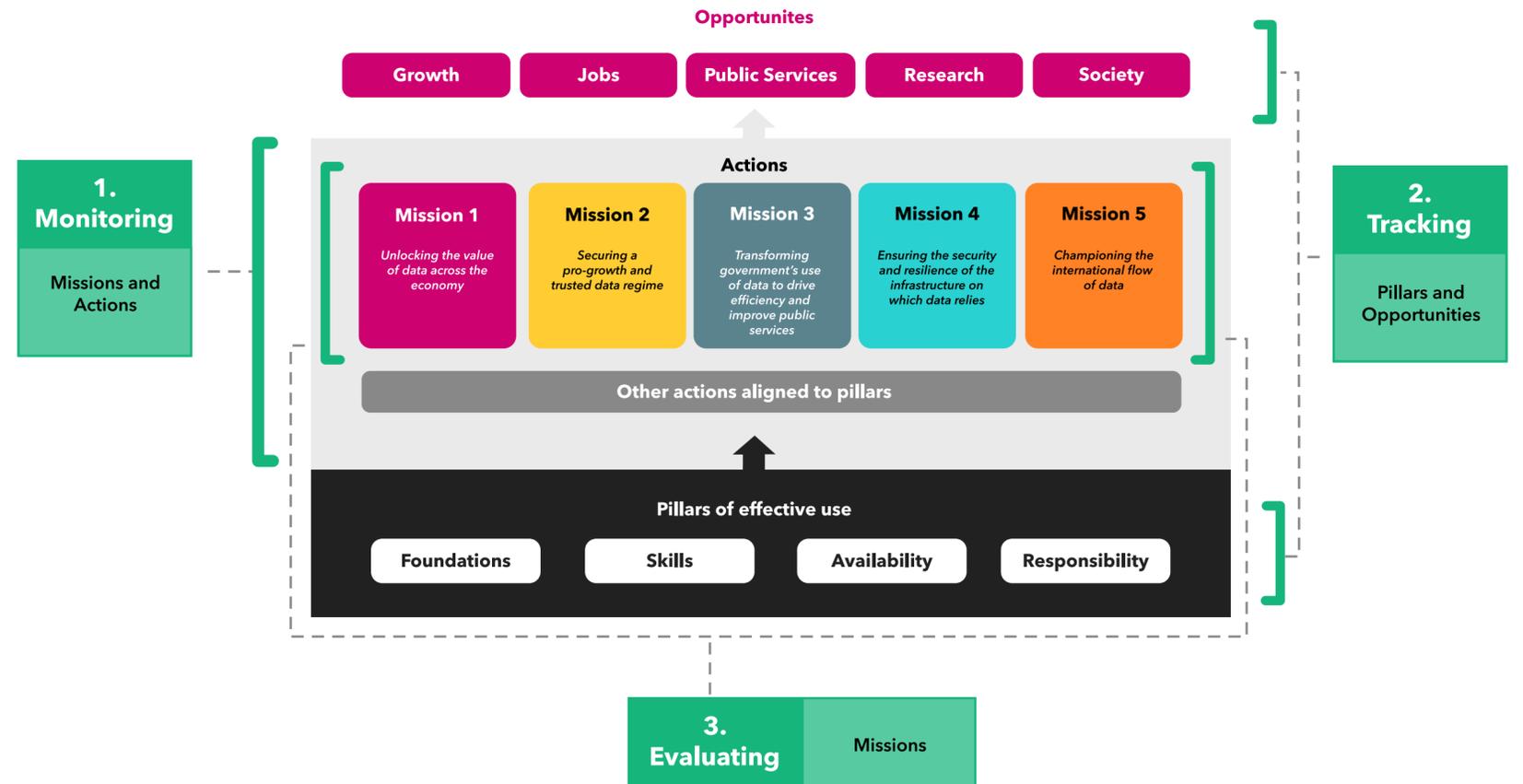
- Minister for Skills, Alex Burghart

There is a cross-departmental effort to meet the demand for data skills, with the aforementioned National Data Strategy (NDS) establishing a **monitoring and evaluation framework** to track delivery of government’s interventions. Data skills are recognised as one of the four pillars of the NDS alongside Foundations, Availability and Responsibility. **According to NDS**, these pillars are “core to unlocking the power of data for the UK, and the missions that we must prioritise now”.

As data skills form one of four interconnected issues, or “pillars”*, that are core to achieving five ‘missions’ to unlock the power of data in the UK, targeted action is required:

Addressing the digital skills gap is a leading priority for several government departments, with action already being taken. The Cabinet Office met its target to train 500 public sector analysts in data science through the Office for National Statistics’ Data Science Campus. The Department for Education is looking at how data science can be further integrated into relevant technical qualifications, and the Department for Digital, Culture, Media and Sport is launching an online portal that will support businesses’ access to data skills training.

More is yet to come, with adult skills funding set to receive a 29% real terms uplift, with total investment on retraining and upskilling opportunities rising to £554 million by 2024-25, as announced in the **Budget and Spending Review**.



Monitoring & Education Framework

*Diagram taken from the National Data Strategy’s monitoring and evaluation framework, available [here](#)

29% real terms uplift

554 million **by 2024-25**

How candidates can seize their chance now

The sooner candidates take the opportunity to improve their data literacy, the sooner they are able to significantly broaden their future employment prospects and attractiveness to organisations across industries. According to a September 2021 report from The Royal Society, Britain is facing an “explosive” increase in demand for data science skills - the report estimates that the need for talent in this area has **tripled over the past 5 years**, rising **231%**.

This trend is further reflected in findings from UK recruitment company [Xcede's 2021 Salary Guide](#), which reported increases in the average salary commanded by digital, data and tech roles in the UK over the past 12 months, regardless of seniority. The findings, which collated data from CVs, surveys, job listings and hires, showed:

- An overall average salary increase of **5%**
- Senior data salaries rising by **10%**
- Entry-level data salaries increasing by **13%**

As part of the [SAS STEP Programme](#), enrolled candidates are automatically assigned to one of four learning pathways below depending on their level of existing knowledge, which is determined based on a short introductory questionnaire.

Once enrolled onto their learning pathway, candidates are able to choose from a wide range of resources including coding challenges, guided case studies, dedicated mentors, and live web classes, allowing them to quickly increase their attractiveness to prospective employers. They also receive hands-on training through a tailored software portal, allowing users to practice, apply and embed data and analytical skills whenever they please.

The number of hours required for each pathway differs as the content becomes more advanced, but candidates have full flexibility over how, when and where they complete their learning. Those who complete the course can then be easily matched with potential employers through a badging system run by Credly, an organisation which provides an end-to-end solution for creating, issuing and managing digital credentials. Credly connects these in-demand skills to open roles, providing candidates with a crucial head-start in any potential job search.



*Data Engineer to follow

> To enrol in the programme today or to learn more please visit the [SAS STEP homepage](#) to register your interest.



James Lancashire

- A real-life data success story

Before the COVID-19 pandemic struck the UK in March 2021, 47-year old James Lancashire from Cumbria already had more than 20 years of work under his belt in a career promoting the outdoors working for The Outward Bound Trust, a charity which aims to unlock the potential of young people through discovery and adventure in the wild.

As a senior instructor, he was qualified in the majority of popular outdoor activities and specialised in delivering high adventure, high impact learning journeys for young people and apprentices. His work involved successfully climbing numerous mountains including the Seven Summits - Elbrus, Everest, Carstenz Pyramid, Aconcagua, Kilimanjaro, Vinson and Denali.

His job sadly came to an end during the COVID-19 pandemic when he was made redundant. However, he soon saw this as an opportunity for a career change.

He then discovered the SAS STEP Programme, and with it the opportunity to learn basic data literacy skills for free. He already had some experience of using data from his university degree course in Cartography & Geography. After completing the Data Literacy course he decided to embark on the more advanced Data Analyst course, also available for free to job seekers as part of the programme. During this time, James was actively seeking employment opportunities and successfully landed a role as a data management consultant at [Butterfly Data](#), a SAS gold partner.

“

“I’m really grateful to the SAS STEP Programme for helping me carve out a new career and would recommend it to others. The Data Literacy course is something many people should consider to boost their employment prospects. You don’t need qualifications or experience in using data to enrol, but most jobs now and in the future require at least some level of competency in working with data.”

I realised that work involving data represents one of the biggest emerging opportunities, as organisations across all industries are having to embrace the digital age,” explained James. “I knew I was more likely to secure employment in this field than most others.””

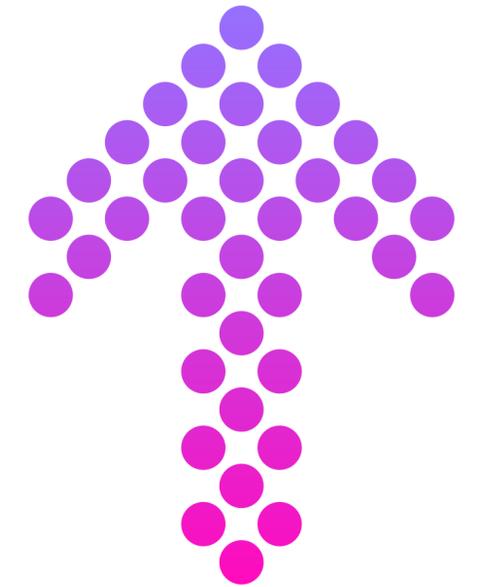
- James Lancashire



At Butterfly we have achieved success by embracing diversity and have a remarkable team with varied backgrounds and transferable skills. James has many of the great qualities that we look for in an employee; but most importantly, through SAS STEP, he has demonstrated the ability to adapt and learn new skills. ”

- Wayne Chicken, Director, Butterfly Data.

Immediate impact



James' story is just one example of the SAS STEP Programme's direct impact on candidates: hundreds of users have registered so far and are now on their way to transforming their skill sets and job prospects through the programme, and several partnerships are also being forged with recruitment organisations.

Learners have responded well to the programme, praising its user-friendliness and content:



Going through the process of being made redundant from my role at a major utility company after 13 years in the role, left me feeling a lot of uncertainty over my future job prospects. Thankfully, the SAS STEP Programme was a real lifeline for me in this regard - these skills will be invaluable to my career progression and have already given me more confidence about the types of jobs I can now apply for. ”

- Ranjit Khara, Commercial Analyst

“ I really enjoyed the course. The mixture of video, quizzes and text made it easy to stay focused. The content was interesting, upbeat and had a feel good quality. ”

- Nicholas Udomboso, SAS STEP user

“ What a beautiful training programme. Very good content with evidence based resources. Enjoyed being trained. ”

- Anonymous SAS STEP user



The programme's impact has also been recognised with awards - SAS STEP landed this year's '**Impact Award**' from the Customer Education Management Association (CedMA)



learning
technologies

Awards 2021

The programme won the **Bronze Award** for 'Best Learning Technologies Project - Commercial Sector' at the 2021 Learning Technologies Awards.



The crucial role of educators

As well as seeing strong uptake on an individual level, the SAS STEP Programme has also garnered interest at an institutional level. Consisting of three learning pathways spanning basic data literacy to advanced data science, the programme has been deployed by two universities with a number of further partnerships in the pipeline.

University of Bradford

Before its official public launch, the programme was rolled out as a pilot in partnership with the [University of Bradford](#), recently [named](#) the 2021 Business School of the Year by The Times, highlighting the university's commitment to addressing the need for data skills and data literacy across all regions of the UK and Ireland.



Digital skills are increasingly in demand from employers and as such they are a driver for growth. This is a free course and as such represents an amazing opportunity for anyone who wants to change careers; or perhaps they already have some of these skills and want to deepen their knowledge. ”

- Sankar Sivarajah, Professor of Technology Management at the School of Management in the Faculty of Management, Law & Social Sciences and Dean of School of Management, University of Bradford



Retraining people for the 'new normal' is easily said and often difficult to get to grips with. SAS STEP is a practical and actionable programme that the UCD Professional Academy is proud to help bring to Ireland. It will also be essential in the years ahead to plug the skills gap in data analytics, so we feel we are helping to deliver a double dose of good news for both individuals and the wider economy. ”

- Aaron McKenna, Director,
UCD Professional Academy



University College Dublin

Shortly after its official launch in the UK, the programme was also **rolled out** in **University College Dublin (UCD)'s Professional Academy**, which, at the time of launch, had trained more than 5,500 students in under a year and provides industry-focused online learning to its students alongside their degree. UCD itself is Ireland's largest and one of its most prestigious universities.





Part 3 - The long-term value of a data-skilled workforce

The intrinsic link between data literacy and economic success

As a [May 2021 report](#) from the Department for Digital, Culture, Media and Sport makes clear, “there is significant demand for data skills ... with potentially **178,000** to **234,000** data roles to be filled”.

To fulfil the UK’s aim to become a global science and technology superpower, as [argued](#) by the Council for Science and Technology, “the government must facilitate a constant supply of highly diverse, skilled individuals to match the current and future demands needed to achieve national ambitions.”

The age of data is already here and the UK government recognises the role it plays in facilitating skills development. Now is the time to seize the opportunity for a career in data, helping to ensure a sustainable, lucrative career in the mid- to long-term.

Become part of a data-driven future

In light of the COVID-19 pandemic and the gradual winding down of the furlough scheme in the UK, young people and those seeking a career change will scarcely make a more important decision in their lives than choosing the right job opportunity.

According to **Jen Stirrup**, **Global AI influencer, keynote speaker and CEO & Founder of [Data Relish](#)**:

“ COVID-19 has added a whole new dimension to businesses' outlook on data-centric roles. I'm increasingly hearing from CEOs and business leaders whose performance is now being measured by what decisions they made as a result of the pandemic. Historically, decision makers have been happy to 'swim along' without doing very much in terms of their approach to data, but this is no longer an option when they are being directly questioned and asked to find ways to measure their success. ”





Dr. Iain Brown, Head of Data Science for SAS UK&I and Adjunct Professor of Marketing Analytics at University of Southampton, sees a wider, longer-term trend:

“ Over the last decade there has been an explosion of information that individuals and organisations are not only accessing but also storing. With this sea of information being captured, businesses are gaining critical competitive insights and asking more and more of their staff to interpret and communicate it to all shareholders. ”



This demand for increased data skills and data literacy will touch almost every sector in the coming years, making the issue a top priority for the UK economy as a whole.

Brown adds:

“ No matter the industry you look at, I’d estimate that **90% of university graduates** will be in or around data in their role after higher education - they’ll fall behind in terms of the business’ expectations if they haven’t engaged in improving and refining their data skills. Now is very much the time to start learning. ”

Looking further afield, the importance of analysing and interpreting data is now important in fields that previously had very little involvement with data. In the customer experience space, data science has allowed organisations to directly communicate with and understand customers in a way that was previously impossible.

Peter Lavers, **Director at Customer Attuned** and an expert influencer in B2B and B2C customer engagement, sees no limit to the role data analysis could play in the coming years:

“ In the world of Customer Experience, data science is helping us come closer and closer to what we call ‘complete personalisation’. For example, a bank could in future recommend the safest ATM for an elderly civilian to visit late at night based on recorded crimes - the implications for the work being done are incredibly exciting. ”

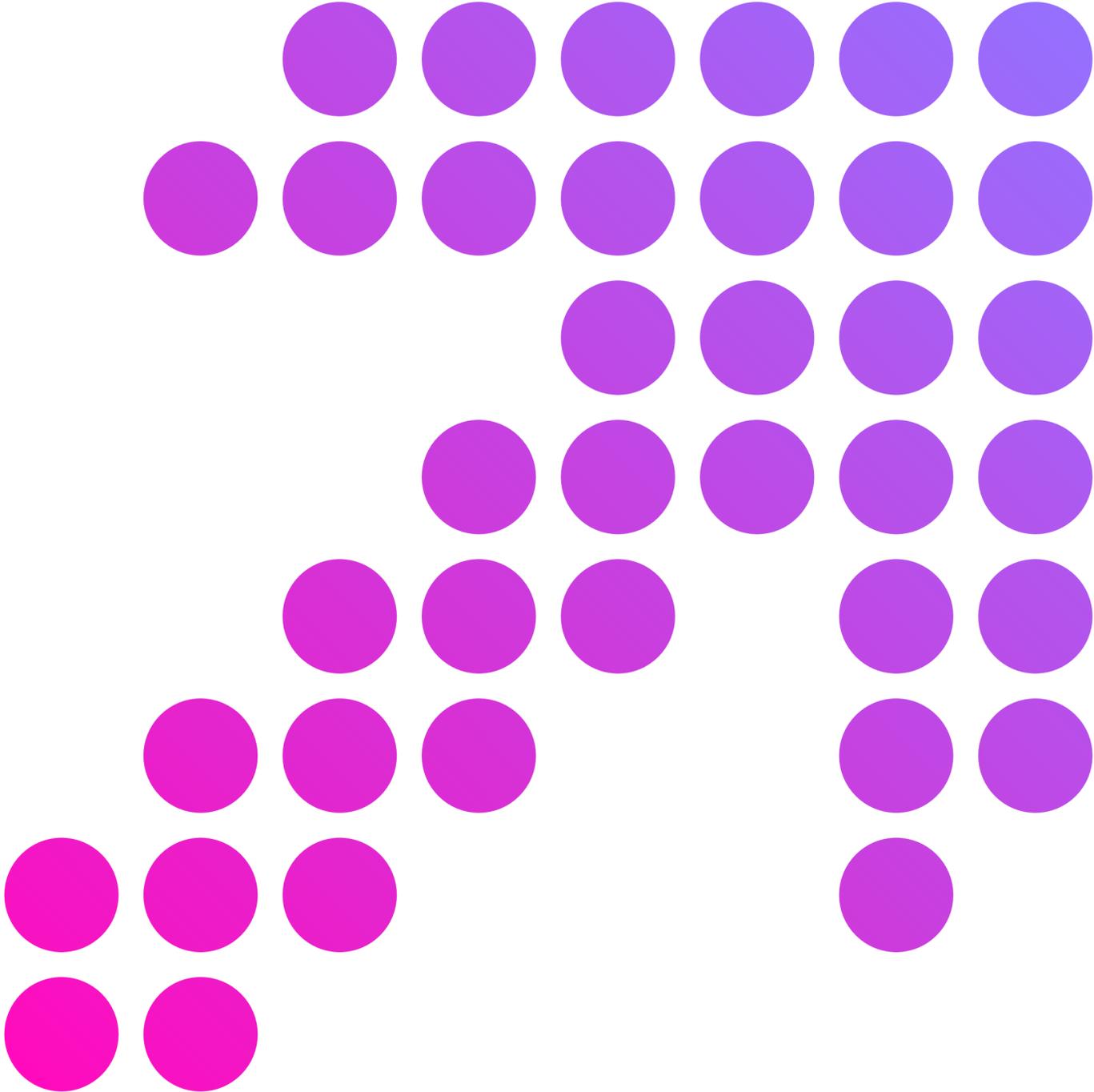


In the banking sector, recently **commissioned** research by SAS indicates that an astonishing 25% of people don't plan to visit a bank branch again, as well as revealing that, on the whole, customers are becoming more willing to share their personal data in exchange for more personalised services. This is a trend further backed up by a report from the **Financial Services Skills Commission**, which also found that digital transformation in the banking sector had been rapidly accelerated by the pandemic.

SAS strongly believes data literacy should be treated as an essential skill in itself, and as a metric for educational progress on a par with literacy itself.

As individuals, businesses, government and educational institutions forge ahead into a world where data is shaping the future, investing in the skills that will be central to understanding and communicating that data must be priority number one.

Whether at a local or national level, SAS will continue to promote and scale the SAS STEP Programme, working with partners and educational institutions to improve and develop the workforce's data skills in line with and in support of the government's ambitions.





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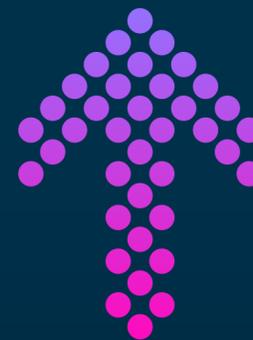
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