

# Business Comment

APRIL/MAY 2024



**Technology  
& Data**

 Edinburgh  
Chamber of  
Commerce

# Macklin Motors Kia Edinburgh

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## Kia Business Edinburgh

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# Technology & Data

Welcome to the latest issue of Business Comment, in which we look at the vital role that technology and data plays in our present and future economic growth and prosperity as a city.

And there is much to be optimistic about. Professor Kim Graham, Provost at the University of Edinburgh, takes us through the broad range of exciting work that is taking place through the Capital's Data Driven Innovation programme, being delivered by a partnership involving Edinburgh and Heriot-Watt Universities that aims to make the city Europe's data capital. Valued at £660m, it is a key strand of the city region deal that was funded by the UK and Scottish governments. She tells us also about the exascale supercomputer hosted at the University of Edinburgh, a £900m national investment in a supercomputer that is the only one of its kind in the UK, and one of only a few in the world.

Continuing on the Data Driven Innovation theme, our second special report focuses on The National Robotarium, based at Heriot-Watt's campus to the west of the city. The article tells us of some of the exciting, ground-breaking work that is being done to harness Artificial Intelligence and Robotics to deliver positive benefits - in particular in the health and social care sector as well as across a number of other areas. Edinburgh Napier, too, is looking at how research being carried out can improve health and social care.

We also look at cybersecurity, and investors Archangels - one of Scotland's long established investor syndicates - informs us that Scotland's tech and innovation base continues to provide opportunity for smart investors keen to work with early-stage companies in key sectors such as life-sciences and renewable energy. We also hear from IBM about both the excitement accompanying Generative AI and the widespread lack of clear understanding amongst businesses about how best to use it. Edinburgh College looks at what is being done to tackle the gender gap for women in tech and data skills.

Many other linked issues are touched upon in the magazine, not least the Chamber's own work in helping deliver a Net Zero Edinburgh.

Enjoy the magazine.



**Liz McAreavey**  
Chief Executive,  
Edinburgh Chamber of Commerce

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## Terra Visus: A local business with global coverage

Terra Visus Ltd is a Scottish-based data company offering customers global coverage of high-quality, geo-referenced street-level imagery and LiDAR data for licence via a secure, unified platform.

Their cloud based platform facilitates the secondary sales of pre-existing captured image and LiDAR data to multiple customers across various market sectors.

Capturing street-level data can be time-consuming and costly, requiring meticulous attention to detail and resource allocation. Several factors need careful consideration when planning a street-level data capture to ensure maximum efficiency and compliance. Firstly, obtaining country-specific capture permits is essential to collect data legally in different regions. Thorough planning is crucial, including route planning and scheduling data collection times to minimise disruptions and optimise coverage. Weather conditions play a significant role, as adverse weather can hinder data capture quality and safety. Adequate vehicle planning, including vehicle hire and maintenance and driver training, is imperative for smooth operations. Captures can take weeks or even months to complete, delaying important projects being completed with increased overheads.

Terra Visus offers immediate access to a wealth of professional, high resolution, global street-level imagery and LiDAR data, ready for licensing without delay. Partnering with location technology experts such as TomTom, Terra Visus streamlines the process of accessing top-tier data from premier geospatial data providers on a global scale. This enables organisations to obtain pre-existing street-level data effortlessly, empowering them with the essential data needed for various applications without the hassle and costs associated with extensive street-level data capture projects.

Data provided by Terra Visus is used across several sectors, such as Government agencies and large-scale industries, including real estate, energy and utilities, oil and gas, transportation, logistics, and telecommunications. End uses include asset detection, building better maps, training AI for autonomous vehicles, creating 3D digital twin cities,

and making cities smarter.

With over 20 years of experience and background in the 360-degree imaging and reality capture markets, co-founders, Cameron Ure and Andrew Baddeley, have extensive knowledge and experience in developing and implementing industry-leading image and 3D visualisation technologies used by some of the world's biggest tech companies.

Andrew Baddeley is a recognised influencer in the panoramic imaging community and has played a vital role in international sales and mobile mapping projects for high-profile immersive imaging companies.

Cameron Ure has 20 years of expertise in the development and execution of breakthrough products, along with working with some of the biggest technology media and data organisations in the world.

Terra Visus is a leading provider of street-level imagery and LiDAR data supplying some of the world's largest technology companies and organisations.

The Terra Visus street-level data platform is a conduit for global street level data, facilitating a professional marketplace for data collectors and buyers looking for specific data sets.

Founded in 2021, Terra Visus is headquartered in Edinburgh, Scotland. For more information visit [www.terravisus.com](http://www.terravisus.com)

“Terra Visus is a leading provider of street-level imagery and LiDAR data supplying some of the world’s largest technology companies and organisations.”



## R&D Tax Relief Procedures: HMRC's Latest Notification Requirement

In today's fast-paced business landscape, where staying ahead often means innovating and adapting to change, research and development (R&D) tax credits have emerged as a key tool for businesses, especially for small and medium-sized enterprises (SMEs). As an R&D tax credit specialist, I've witnessed first hand the transformative impact that these incentives can have on businesses.

The key to unlocking the full potential of R&D tax credits lies in maximising the claim. This involves identifying all eligible R&D activities and expenses and leveraging the available incentives to their fullest extent. By doing so, businesses not only benefit financially but also gain a competitive edge in the market.

R&D tax credits are a government incentive designed to reward UK companies for investing in innovation. They are a valuable source of cash for businesses to invest in accelerating their R&D, hiring new staff and ultimately growing. They serve as a means for businesses to recoup a portion of the costs associated with developing new products and services.

Recently, HMRC has implemented new legislation aimed at ensuring the integrity of R&D tax relief claims. This legislation addresses concerns about the validity of last-minute claims and requires companies to notify HMRC of their intention to claim R&D tax relief for eligible expenditures. This notification must be submitted electronically through an Advance Notification Form within a specific timeframe.

The notification period begins at the start of the accounting period in which the

R&D expenditure was incurred and end six months after the end of the relevant accounting period. It's important to note that not all companies are obligated to notify HMRC, but those who fail to do so risk losing out on valuable tax relief.

At AAB we understand the complexities of R&D tax relief and can provide tailored assistance to ensure that your company maximises its claim while complying with HMRC regulations. We offer strategic advice and measures to help you maximise the value of your R&D tax relief claim, ensuring that you receive the full benefits available to your business.

We can also help determine whether your company qualifies for R&D tax relief by assessing various factors such as the nature of your R&D activities and your financial standing. Our team can work closely with you to prepare a robust claim in accordance with the latest legislation, ensuring that all eligible expenses are properly documented and accounted for.

The significance of R&D tax credits cannot be overstated. Beyond mere financial relief, they offer competitiveness, growth, and long-term sustainability. By providing businesses with the necessary financial support, R&D tax credits enable them to embark on ambitious

R&D projects that might otherwise be financially prohibitive. This, in turn, facilitates innovation, economic growth and technological advancement and by working with us at AAB, you can be confident that the claim is accurate, comprehensive and maximises the available incentives.



**Derek Gemmell**  
Head of Innovations,  
Tax AAB

# AND Digital grows Scottish data team as it eyes three times growth in 2024 data revenues

Tech consultancy AND Digital is expanding its data teams in Scotland after winning a string of contracts from Google, Nationwide Building Society, and British Airways-owner IAG.

Initially, between 10 and 15 of the 100 roles being created throughout the UK will be based at the company's offices – or “clubs” – in Edinburgh and Glasgow.

The firm will be training around 75 existing staff – or “ANDis” as they're affectionately known – to increase its existing data capabilities, as well as hiring a further 25 senior members of staff to help lead the new data business unit.

AND Digital aims to treble the turnover from its data work in 2024.

Tim Hatton, the newly appointed Head of Data, at AND Digital, said: “Scotland is a major focus for our new data business unit, and so we'll be creating up to 15 data roles in two of our clubs north of the border.

“The expansion of our data team will be driven by demand from our new and existing clients, and so we may end up with even more staff working on data projects in Scotland.

“Our dedicated data staff will be supported by other ANDis from our team with a wide set of skills, from front- and back-end developers through to software engineers and product analysts.

“Our data projects draw on expertise from across our business, rather than treating data on its own in an exotic silo.”

Mr Hatton, who joined AND Digital in 2016 and moved into his new role in January, added: “Ten years ago, AND Digital disrupted the market for building digital products by introducing our agile way of working – and we're now doing the same with data.

“We use iterative steps, so that our clients can start using the core part of a project



straightaway to help their customers, while we then add on extra features.

“We're also helping to change the culture that surrounds our clients' use of data – training is one part of the process, yet it also goes deeper than that.

“We help our clients to develop openness and transparency around their data, making sure the data is accessible to

the people who need to use it, and giving those people trust in the security of the data, so that they can use it to experiment with new ways of helping their customers.”

AND Digital has created an operational data platform for British Airways-owner International Airlines Group, which helps the company to react more quickly to changes to schedules – such as crew shortages or aircraft maintenance – by making real-time adjustments to help passengers to reach their destinations.

Google Digital Garage – which provides digital skills training to small businesses and organisations throughout the UK – brought in AND Digital to develop a series of training modules on topics including “Decision Making with Data” and “Telling Stories with Data Visualisation”.

“We help our clients to develop openness and transparency around their data, making sure the data is accessible to the people who need to use it.”



## Wasps open the doors of Granton to creatives and entrepreneurs

Granton Station is buzzing again as a hub for creatives and entrepreneurs after its £4.75million restoration led by arts charity Wasps and the City of Edinburgh Council.

### Audrey Carlin

Chief Executive of Wasps



The rebirth will support 40 jobs and help 100 grow their businesses, while community exhibition and event spaces create potential to attract thousands of visitors to the North of Edinburgh.

Wasps have unveiled flexible and affordable working spaces to accommodate freelancers, creative enterprises and start-ups in Edinburgh. Options range from hot-desk memberships within a shared co-working space to flexible office spaces.

The former gasworks railway station has been transformed into a cutting-edge creative hub providing staffed reception, high-speed fibre broadband kitchen areas, gallery and workshop spaces cycle parking, lockers and shower as well as access to Wasps' professional development network.

Audrey Carlin, Chief Executive of Wasps, said: "At Granton Station, you'll be part of a network of designers, social entrepreneurs and cultural producers, making our spaces the perfect place for inspiration and potential collaborations.

"If you're just working as an individual from home at the moment this provides you with

a more professional base from which to start and grow your practice and to expand and contract as your business needs change."

Among the first wave through the doors are nine emerging artists on the ground-breaking Granton Graduate Accelerator Programme, launched with support from Creative Scotland and Edinburgh College.

Pairing with experienced mentors over the next 12 months, graduates get the tools needed to bridge the chasm between academia and the real-world challenges of carving out a career.

In turn, the 'Wasps Granton Grads' bring their art to the community, in the form of workshops and exhibitions.

One of the first recruits is photographer and sculptor Heather Roberts, who emerged from Glasgow School of Art with a degree in Fine Art Photography.

Heather is paired with Andy Kennedy. A lecturer in fine art at Duncan of Jordanstone College of Art & Design and a working artist, he has experience of both worlds.

Heather said: "That transition from academia to work can be daunting. While you get career advice at university, nothing can really prepare you for life in the real world. Andy and the other mentors offer us the benefit of their knowledge in an environment purpose built to nurture creativity.

"It is psychologically helpful to be in a room with other creatives and mentors, sharing similar experiences and similar challenges."

Wasps are Scotland's leading provider of creative spaces, directly supporting Scotland's creative economy with over 1000 artists and makers, 47 creative businesses and 33 cultural charities in 21 studio buildings from Shetland to the Borders.

More details on opportunities at Granton Station [here](#) or get in touch with the Wasps team at Granton Station on **0131 202 7889** or email [granton@waspsstudios.org.uk.us.com](mailto:granton@waspsstudios.org.uk.us.com)

### Andy Kennedy & Heather Roberts



# Fingerprinting gin could help improve flavours and detect fakes

Chemists at Heriot-Watt have trialled a new technique that takes a chemical fingerprint of gin in just seconds.



Dr Ruaraidh McIntosh, Dr Dave Ellis and PhD student Kacper Krakowiak from Heriot-Watt worked with Professor Dušan Uhrín from the University of Edinburgh on the project.

The team says their technique could help producers futureproof their gins and conduct quality control, while regulators could use it to detect fraudulent products.

Dr Ruaraidh McIntosh said: “Gin production has exploded in Scotland and the UK over the past 20 years, but compared to Scotch whisky, it’s very loosely defined and regulated, and not well-researched.

“Producers need to know more so that they can ensure they have years of sustainable, flavoursome gin ahead of them.

“And consumers and importers need to know that gin is genuine and the quality they’re expecting.”

## Alcohol, water, botanicals

Gin is quite loosely defined, but the EU states that it must contain a minimum of 37% alcohol and the spirit is traditionally associated with flavourings provided by juniper berries.

Dr Dave Ellis said: “We know from whisky research that chemical compounds have a huge impact on the flavour and sensory properties of a dram, even though they are in very low concentrations.

“Understanding which compounds are in a gin, and have an impact on flavour and mouth feel, could help distillers improve their gin, or guarantee uniformity of flavour.”

The Heriot-Watt researchers used nuclear magnetic resonance (NMR) spectroscopy

to examine the gin. It’s a technique more commonly used in the structural determination of molecules.

Ellis said: “At the moment, most gin analysis is carried out using mass spectrometry. It’s effective and highly sensitive but does not provide a complete picture of the composition in a single experiment in the way that NMR can.

“NMR basically fingerprints the gin’s chemical compounds. It does this by detecting the signals given by the hydrogen atoms in each compound. These act as markers and enable identification.”

“In under five minutes, we end up with an overlay of all these fingerprints, providing a snapshot of the compounds present. .”

## Molecules affect gin’s flavour and scent

The team put 16 different gins to the test, some they bought from the supermarket and some samples were provided by colleagues at Heriot-Watt’s International Centre for Brewing and Distilling (ICBD).

Dr Dave Ellis said: “We determined which compounds were present in each gin, and in which quantities.

“NMR can distinguish between different structural forms of individual molecules, and there are many of these cases in gin.

“For example, the flavour compounds pinene and limonene have the same atomic makeup but have different structures and, critically, flavours.

“We tested some fruit gins and gin liqueurs.

The NMR identified the different varieties of sugar present in the gin, which are introduced through flavour additives, and their quantity. This is important information for consumers.

“UK distillers rely on imported juniper berries for their gin, and climate change could affect their quality and availability. If their traditional supply dries up, will sourcing juniper berries from elsewhere, change the flavour? That’s what we could determine with this technique.

“NMR has huge potential for the gin industry.”

“It’s like the wild west”

Dr Ellis points out the contrast between gin and whisky.

“The whisky market is very well-regulated, but there’s no equivalent for gin. The EU imposes some requirements, but essentially, you can make anything, call it a gin and nobody will give you any trouble. It’s a bit like the wild west.

“Colleagues at the Heriot-Watt International Centre for Brewing and Distilling have created a database of botanicals and this could be used as a basis of standardisation in the future, but we shouldn’t discourage innovation in gin production.

“We just need to try and find a way of reassuring consumers that the ‘gin’ that they are drinking really is gin.”

The researchers are expanding their studies to embrace many more types of so-called gin and other alcoholic beverages.

The findings are reported in the **Journal of Brewing and Distilling**.



# Edinburgh Napier commits future to bridging industry skills gaps

Businesses in Scotland are currently facing significant skills & labour shortages. Demand for talent is increasing, but supply is in decline. It is therefore essential for employers to be responsive to rapid change and proactive in recruitment and talent development to ensure future success. By offering fully funded university degrees to new and existing employees Edinburgh Napier University's leading Graduate Apprenticeship programmes directly respond to these shortages and support sustainable skills growth in industry.

## Building for success

Designed and developed in partnership with industry, Graduate Apprenticeships at Edinburgh Napier University offer opportunities for new and existing employees of any working age in Scotland to gain a fully funded university degree while in a paid job. Participants spend around 20% of their work time in university study, offering an integrated experience where academic skills and knowledge are embedded into working practices. All Graduate Apprenticeship courses are 100% funded by Scottish Funding Council, meaning there are no additional training costs for employers and apprentices.

Study areas available include business & project management, engineering, manufacturing, construction, data science, software development, and cyber security.

**Our IBM graduate apprentices spend one day a week at university, like a regular student, but the rest of the time, they are four days a week working in the real job at IBM - doing roles like software testers, DevOps engineers, software developers on real client-facing projects with client contact.**

**Charlotte Fisher Morecroft, Early Careers Lead, IBM**

## Develop the next generation of talent

The labour market in Scotland is highly competitive, with businesses frequently recruiting in a small pool for top industry talent. This up salary demands, staff turnover and shortages in areas of high skills needs. Graduate Apprenticeships enable businesses to develop an emerging talent pipeline, where applicants are in higher supply. Applicants can include school and college leavers, as well as people looking to change career. This can help significantly reduce recruitment and salary costs as well as support succession planning.

## Upskill existing workforce

Many business have existing workforce with high potential who are looking to enhance their skillsets and progress their



career. Napier's Graduate Apprenticeships are proven to help employees upskill and harness career progression opportunities at no additional cost to them or their employer. The work-integrated nature of the course also means they can do this without sacrificing work, family and financial commitments. In addition to enhancing their knowledge, apprentices improve aptitude and become more productive in the workplace.

## The Napier Difference

Edinburgh Napier University is one of the largest providers of Graduate Apprenticeships and a market leader in work-based learning in Scotland. Our success is built on strong industry partnerships. We consult regularly with our apprentices and employers through advisory groups and regular reviews to help us shape our programmes to directly meet business needs. When you partner with us, we will support your organisation throughout, and use our experience and resources to put you at the centre of what we do. We offer employers who partner with us a free recruitment service by skilled

professionals. Additional support during the programme includes a dedicated point of contact, pastoral support, line manager training and drop-in sessions, and progress and performance reporting of your apprentice employees.

**We would absolutely recommend Napier's Graduate Apprenticeship courses to other businesses. Napier have been fantastic, they have made everything so straightforward and simple. From helping us enrol our graduates, advising us on funding, and supporting our apprentices on their learning journey.**

**Alex Walker, Business Operations Director, Forrit**

## Find out more

Visit: [www.napier.ac.uk/gradapprenticeships](http://www.napier.ac.uk/gradapprenticeships)

Edinburgh Napier  
UNIVERSITY





# Why It's Time To Build Cyber Resilience in Edinburgh's Thriving Business Community

Edinburgh's businesses are a vibrant blend of tradition and innovation. From the historic streets of the Old Town to the bustling business parks of the city's outskirts, businesses in Edinburgh are thriving and embracing digital transformation. However, this digital progress brings risk: the ever-present and growing threat of cyberattacks.

## Why Cyber Resilience Matters

Edinburgh's diverse economy, from tech startups to established financial services, is increasingly interconnected and reliant on digital platforms. Adopting the cloud, Internet of Things (IoT) devices, and remote working brings significant benefits in efficiency, innovation, and competitiveness. However, it also leads to a broader attack surface, exposing businesses to new and evolving cyber threats. Add in the growing danger of AI-enhanced threats, and it's easier than ever for hackers to create sophisticated attacks, trick businesses, and turn a profit.

Every day, more than 500,000 new cyber threats are discovered. 81% of UK businesses that fall prey to cyber-attacks are small to medium-sized. Moreover, 97% of these attacks could have been prevented if companies had modern and comprehensive cyber resilience.

Cyber resilience matters because it encompasses the ability to defend against cyberattacks, continue operating during an attack, and recover quickly afterwards. Building a robust framework ensures your business will continue to thrive, innovate, and compete internationally, regardless of the cyber threat.

## A Strategic Approach to Cyber Resilience

Building a cyber-resilient business might seem complicated, but it doesn't have to be. Here are a few factors to consider when refreshing your cyber security strategy:

### Risk Assessment

A strategic approach begins with risk assessment and management. It is crucial to identify and understand the specific cybersecurity risks you face. This involves identifying critical assets, assessing vulnerabilities, and prioritising risks based on their potential impact. By taking this step, you can better prepare for and mitigate potential cyber threats.

### Staff Training and Awareness

People are often the weakest link in cybersecurity. Regular training on recognising phishing attempts, safe internet practices, and the importance of cybersecurity can significantly reduce the risk of insider threats. By making employees aware of the risks and how to avoid them, you can create a culture of cyber resilience within your organisation.

### Implement Strong Cyber Practices

Basic cyber hygiene practices are essential for preventing attacks. These practices include regular software updates, strong passwords, multi-factor authentication, and securing access to your building. By implementing strong cyber practices, you reduce the likelihood of an attack and limit its potential impact.

### Incident Response

No matter how strong your defences are, it is still possible for a cyber-attack to occur. A well-prepared incident response

plan ensures that your company can quickly respond to and recover from cyber incidents. Have a clear strategy, set designated roles and responsibilities, and implement regular testing to ensure everyone is prepared.

### Invest in Advanced Security Technologies

Advanced cybersecurity technologies such as encryption and network monitoring tools are becoming essential for detecting and mitigating threats. These technologies can enhance cyber resilience and protect your business against more sophisticated attacks.

### Collaboration and Information Sharing

Collaborating with industry peers, government agencies, and cybersecurity experts can provide valuable insights into emerging threats and best practices. By sharing information and learning from others, you can stay ahead of the threats and better protect your business.

Remember that building cyber resilience is an investment that secures the promise of digital transformation while protecting your business's innovation and growth potential.



**Gordon Sayers**  
CEO, SoConnect Ltd

# Tapping the investment potential of Scotland's technology sector

Established in 1992, Archangels is one of the longest running angel syndicates in the world, at the forefront of early stage investing in Scotland for more than 30 years.



With a focus on technology and life sciences, Archangels invests in the most promising early-stage companies in Scotland, to deliver outstanding returns for its investors and fuel the success of Scotland's entrepreneurs and innovators. Today, Archangels comprises more than one hundred investor members and typically invests more than £10 million per year in innovative Scottish companies.

Archangels' investment portfolio is diverse, encompassing businesses ranging from software development and photonics to medical devices and bionics. Within the technology sector specifically, Archangels has made significant investments in businesses including Earth Blox, which provides satellite imagery analytics to report on climate and biodiversity, and NCTech, which has built a reputation as being the fastest, most cost-effective, and scalable street-level data provider worldwide. Other companies Archangels support include QueryClick, whose Corvidae software tracks marketing spend attribution in a cookieless world and Integrated Graphene, whose revolutionary pure 3D Graphene Foam (Gii) offers unparalleled performance and improved sustainability to businesses incorporating graphene in products such as biosensors.

As a dedicated investor in Scotland's next generation of entrepreneurs and innovators, Archangels is deeply committed to its role in maximising investor returns, building and nurturing successful businesses and helping Scotland prosper. While Scotland is rightly celebrated for its exports of textiles, food and drink, it is Scotland's technology industry that is driving the next wave of economic growth, especially in fields like artificial intelligence, biotech, and renewable energy.

## Why is the Scotland tech sector an attractive investment prospect?

As an angel investment syndicate, we look for early-stage high-growth businesses with sharp, motivated teams - and Scotland has that in spades. Through our world-class universities, Scotland is producing both cutting-edge research and exceptional tech talent. The young founders coming out of these institutions are brimming with innovative ideas.

Beyond talent, Scotland also provides a nurturing environment for innovation and entrepreneurship. The Scottish Government has prioritised the tech sector's role in economic growth through various funding schemes, support services and incubator programmes. Major hubs like Edinburgh and Glasgow are equipped with co-working spaces, meetups and accelerators that help bring entrepreneurs together, creating a fertile ecosystem which allow innovative small businesses to grow and thrive.



**Niki McKenzie,**  
Joint MD, Archangels

Additionally, Scotland offers access to the broader UK market as well as Europe and further abroad. Most of our portfolio companies, while based in Scotland, are focused on selling their products and services internationally - from the US to Asia - and many have succeeded in finding customers, talent or investment within these markets.

As an angel syndicate, we are naturally focused on delivering high value exits for our investor community. Archangels has already produced some notable success stories, including, just last year, the acquisition of medical AI company Blackford Analysis by Bayer, a global life science company. With a steady year-on-year increase in startup activity, and a more nurturing and long term view of scaling our most innovative businesses, Scotland should expect to see more value creation.

Finally, Scotland presents opportunities in emerging technology fields that align with global trends. Specialist sub-sectors including climate tech, health tech and space tech are witnessing major growth and investment globally. Scotland is already producing both world-leading research and exciting young businesses within these fields that could spawn tomorrow's billion-pound companies.

When you consider all these factors in concert, it is not difficult to see why Scotland's technology sector offers a compelling case for investment. The talent, ecosystem, access to finance, and specialist expertise, make Scotland an attractive place to spot promising early-stage businesses with the potential for rapid growth. Getting in on the ground floor allows Archangels to support an exciting phase of innovation with the potential to produce impressive financial returns for our investors. By investing at an early stage, we can play our part in fuelling the success of Scotland's entrepreneurs and innovators, and help Scotland prosper.



# Three Ways to Unlock Real Business Value with AI Today

By Michael Conway,  
Partner and AI Transformation Lead  
at IBM Consulting UK & Ireland

Generative AI, which uses large AI models to create new content, is now widely considered to be among the most transformative technologies of all time. Yet, its commercial value remains the subject of debate.

According to Gartner, Generative AI sits at the peak of “Inflated Expectations” in its hype cycle, suggesting a disparity between the hype and realistic business outcomes. Recent IBM research underscores this, revealing that while 64% of CEOs feel pressure to adopt Generative AI, a significant 60% of enterprises lack a consistent organisation-wide approach to using it.

Business leaders would therefore be wise to identify strategic areas where Generative AI can deliver tangible commercial value and accelerate adoption. Here are three key avenues:

**Intelligent Customer Service:** One of the most compelling applications of Generative AI lies in making digital customer services more intelligent, human-like and actually helpful. By automating routine tasks, such as basic inquiries or transactional support, Generative AI frees up human agents to focus on more complex customer needs. IBM research highlights that customer service tops the list of Generative AI usage among CEOs, with nearly half experiencing pressure from customers to leverage AI solutions.

To succeed, it’s helpful to view Generative AI as a tool to augment human capabilities rather than replace them entirely. By empowering agents with instant access to relevant information, language translation capabilities, and personalised coaching, Generative AI can elevate customer interactions while ensuring accuracy and reliability.

**Personalising Customer and Employee Experiences:** Generative AI holds the potential to take both customer and employee experiences into exciting new realms through hyper-personalisation and improved workflows. For businesses, this means using AI to analyse vast datasets and deliver customised strategies and offers tailored to individual preferences. Similarly, for employees, Generative AI can streamline workflows, providing seamless interfaces for back-office systems and enhancing collaboration between humans and machines.

**Modernising Applications:** Traditional organisations often struggle with modernising legacy IT systems due to

inherent risks and complexities. However, Generative AI offers a solution by automating the conversion of legacy code into modern languages, making it easier to adopt cloud-native technologies. This helps businesses to stay competitive, leverage cutting-edge software, and harness innovations such as AI-infused cybersecurity and quantum computing.

## Navigating the Path to Success

While the potential rewards of Generative AI are significant, leaders must prioritise governance and address potential risks related to data privacy, accuracy, and bias. Trust is paramount in AI adoption, both among users and regulators, necessitating a robust governance framework and adherence to ethical principles. Enterprise-grade AI platforms like IBM watsonx are now able to meet these governance needs for businesses, allowing them to build and deploy AI that is accurate, transparent, trustworthy and compliant with regulations.

The journey towards realising the full potential of Generative AI may present challenges, but it also offers immense opportunities for businesses willing to embrace innovation. Getting started somewhere is better than waiting too long to begin. So, start with a small use case, then scale it. Take that first step today.

“Intelligent Customer Service: One of the most compelling applications of Generative AI lies in making digital customer services more intelligent, human-like and actually helpful.”



## Securing a safe route to solar energy

With the government net zero carbon targets to hit and ESG goals to achieve, it is no surprise that the use of renewables is becoming a key consideration for developers across real estate. Independent real estate consultants Hollis discusses how to mitigate risks and create solar strategies that are sustainable and safe.

### Solar energy is on the rise

Solar power (PV) holds a multitude of benefits for commercial property owners, from industrial to residential. Unit prices are at an all-time low and pay-back on a PV system is shorter than ever, making the use of spare roof space a sound decision for both owners and occupiers.

With technology in renewables constantly advancing, solar energy is becoming a must to futureproof and add value to a building. As a renewable energy source, PV's help to reduce bills, make buildings compliant and more rentable, hold low maintenance costs and can become a new revenue stream for landlords for 25-years. The valuation benefits can also be substantial, and it is a far more environmentally conscious way of generating energy, helping with ESG credentials.

Besides the financial and environmental benefits to solar energy, it may also provide a backup to securing electricity in a time where the National Grid is under strain. From the sharp uptake of electric vehicles to the reduction of coal power, the gradual societal shift to electrification requires a significant supply of electricity to meet the demand.

Despite its benefits, there are a few rare risks associated with solar panels which are increasingly coming to light as its usage increases.

### Resolving risk from solar

The good news is that fire risk can be minimised by good system design, product selection and installation practices. Appointing consultants and contractors who are experts in their field, and who put fire safety first is therefore essential.

In fact, according to a BRE report (Fire and Solar PV systems, Investigations and Evidence), most fires have generally been caused from poor installation or the use of wrongly specified, incorrect or faulty equipment.

Additionally, utilising an optimised solar system to allow for each panel to be controlled independently allows for greater system performance and also a safer solar array that can automatically shut down the system to a safe voltage. This allows the fire brigade to safely access the roof and even link the PV to the existing fire alarm system.

However, it isn't just the initial installation and short-term operation which requires

fire safety precautions. Safety in the long-term can only be guaranteed through maintenance. Owners of PV's should be undertaking an annual service for optimum efficiency and to quickly identify and rectify system faults. Whilst unlikely, and in theory solar panels do not require frequent service, maintenance will ultimately benefit property owners and occupiers.

### Moving forward

The use of solar PV is a viable option for commercial property owners looking to increase the sustainability credentials of their asset and assisting tenant's energy costs. It is however essential to understand the risks associated with PV's, especially those surrounding fire, and take the necessary precautions to mitigate this risk.

Visit [hollisglobal.com](https://hollisglobal.com) for further information

**HOLLIS**

# #Bosstok: Entrepreneurial young Brits take the leap to turn side hustles into start-ups



- Eight in 10 (79%) want to be their own boss, so they don't have to work for anyone else again
- Three in five (60%) Gen Zs have plans to quit their jobs to turn a side hustle into a fully-fledged business
- Gen Zs are more than twice as likely to turn to social media influencers for advice when starting a business
- One in four (27%) say the start of the year is a prime time of the year for budding entrepreneurs to take the leap

From Dragons' Den to TikTok Shop, young people are leading a new wave of entrepreneurship in the UK. New research from Lloyds Bank finds Gen Zs are more likelier than other generations to make side hustles a full-time gig, with three in five (60%) Gen Zs considering quitting their jobs to start up on their own.

A survey of 1,500 adults finds that eight in 10 say they aspire to being their own boss so they don't have to work for anyone else ever again. Around a third (29%) say they feel unfulfilled in their current job role.

Compared to older generations, Gen Zs – those born after 1996 – are 57% more likely to say that the current economic and job market conditions are pushing them to think about creating their own source of income (33% vs 21% on average).

The research, which unpacks the psyche for entrepreneurs in Britain today, reveals nearly seven in 10 (68%) respondents expressing confidence in their ability to start a business, with this figure rising to three-quarters (73%) of Gen Zs. The top reasons for Gen Z entrepreneurs to go it alone include seeking greater financial independence (45%), finding better work

life balance (37%) and to make the most out of their passions and hobbies (35%).

The study finds that the beginning of the year appears to be the prime time for ambitious individuals across all generations to transform their hobbies into businesses. More than a quarter (27%) consider starting a business at the start of the year.

Social media is an important source of inspiration and advice for new ventures established by young Brits. More than a quarter (26%) of Gen Zs say that ideas they see on social media is a reason for becoming their own boss, and they're nearly three times as likely to turn to influencers online for advice when setting up a business (27% vs 10% on average).

Elyn Corfield, CEO at Lloyds Bank – Business & Commercial Banking, said: "The UK is recognised as a hub for entrepreneurship and game-changing businesses.

"Our research shows that a new generation are following their dreams to turn their passion into a livelihood. Innovators are forging their own path which is really inspirational to see. Freeing your inner entrepreneur can be exciting and scary, but we're here to support

businesses start up and scale up, as many take the leap this year."

The study also finds how young entrepreneurs are the first to admit they worry about the challenges that setting up their own business brings. Respondents say that high costs of launching a start-up (33%) is a major hurdle, with this figure rising to over half (52%) for Gen Zs and 40% for Millennials. Gen Zs are also 85% more likely to say that they're unsure of the kind of support they need and where to find it (37% vs 20% on average for other generations).

Professor Sir Cary Cooper, Professor of Organisational Psychology at Alliance Manchester Business School, said: "These are exciting results which bode well for the UK. It is encouraging to see young entrepreneurs wanting to start businesses so early in their careers.

"In the past, we tended to see more mid-career employees, fed up with corporate life, look for an escape and attempt to gain control over their life. Now, we're seeing how Gen Z entrepreneurs not only wanting financial independence, but also striving for better work-life balance and having a sense of purpose by doing something they're passionate about."

The respondents to survey also report a variety of catalysts to encourage them to take the leap. This includes having a vivid dream that their business would be a success, with Gen Zs being 73% more likely to say this than older generations on average (19% vs 11%) and watching Dragons Den or The Apprentice.

Budding business owners who are considering to 'take a leap' this year will be relieved to hear that just one in ten (11%) of people who have started a business say that it didn't work out. On average, respondents say they make £2317.50 per month, which adds up to £27,810 a year.

# New-generation, reliable clearance services for both home and business

NuGen Recycling - Edinburgh's sustainable clearance company - is a business born to provide a range of new-generation, reliable clearance services for both home and business. NuGen has at its core our customers, our employees and the environment.

## Our Story...

After many years working in the waste management industry, our director, Andrew Irvine, had grown increasingly dismayed at the amount of waste ending up in landfill, or being broken down for recycling rather than re-used or donated - so decided to do something about it! Along came NuGen Recycling...

After years of dreaming and months of planning, NuGen Recycling was started in January 2020 and despite a slightly rocky start - our director broke his ankle in the February & Covid-19 arrived in the March! - the business has grown into something that we're incredibly proud of.

As part of our mission to create sustainable, eco-conscious options for waste clearance, we guarantee that no item collected by our teams during clearances will end up in landfill - 100%



of items/ waste collected will be either donated, re-used, rehomed, or recycled.

## What We Do...

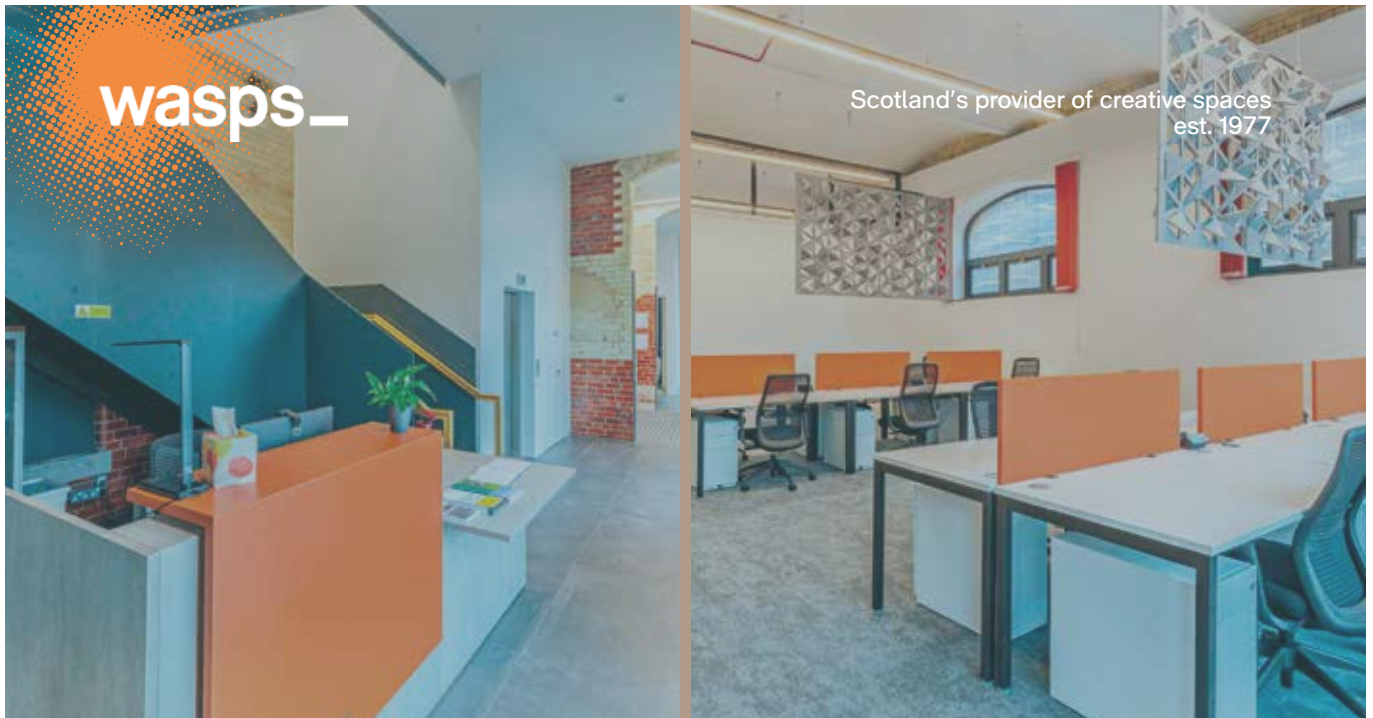
We offer a range of clearance services to both domestic & commercial customers. From single item uplifts, such as that old mattress or fridge, to full house/ office clearances - and everything in between.

We work with solicitors, letting agents, housing associations and a range of trades to offer our 'wait and load' service, where our 2-man teams will arrive, collect your waste & load it into our spacious vans. This is a great alternative to skip hire - more cost-effective & with no need for permits - plus our teams do the lifting, so you don't have to!

We also specialise in probate and hoarding clearance services.

For more information, please visit [www.NuGenWaste.co.uk](http://www.NuGenWaste.co.uk).

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# Data and digital: catching the next s-curve

In just a few short years, data has evolved from being seen as the 'new oil' of the digital revolution to an essential driver of innovation.



**Ven Sen**  
Head of Innovation - UK&I,  
Tata Consultancy Services



**Gopalan Rajagopalan**  
Head of Scotland, TCS

However, the true game changer on the digital agenda is the rise of Generative AI and how organisations can effectively harness its power. At TCS, we firmly believe that AI, with all its generative, predictive, categorisation, and optimisation capabilities, will have a transformative impact on businesses. In fact, renowned entrepreneur Sam Altman recently predicted the possibility of a billion-dollar valuation for a company with just one employee in the future.

Much like the internet era, we anticipate a wave of new firms emerging from the AI revolution that will revolutionise industries, starting with Generative AI. Existing organisations like yours have the opportunity to unlock unprecedented value by embracing Gen AI and leveraging its potential. However, to achieve this, there are three distinct perspectives on AI to consider.

The first perspective is the 'bottom up' view, focusing on specific use cases and jobs to be done. We have anecdotally observed that 80% of organisations are already prioritising this approach. AI can be applied in areas like HR and recruitment, line of business applications, or software development, enhancing processes and generating tangible improvements.

The second perspective is the 'sideways view,' examining the architectural implications of implementing AI within your enterprise. This entails assessing your enterprise architecture, including data stack and preparation, orchestrating multiple evolving LLMs (Large Language Models), and implementing enterprise standards for security, explainability, and inclusivity. Approximately 15% of organisations are proactively evaluating this perspective.

Lastly, the 'top-down' view considers the broader business transformation required to fully leverage AI. This perspective involves structural changes, skill and culture adaptations, rewriting processes, implementing governance for security and privacy, and updating strategic approaches. While only a small percentage of organisations are currently delving into this viewpoint, it is crucial for long-term success.

While the specifics may vary, these three perspectives are fundamental to all AI adoption, not just Gen AI. At TCS, we are fully immersed in all three perspectives and actively collaborating with our clients. We are developing AI tools for the software development life cycle, creating architectural models for future implementation, fostering inclusivity, and engaging with the AI ecosystem. We firmly believe that AI will be a game-changer and represent the next significant technology s-curve transition. Organisations that fail to adapt will be left behind, while new leaders emerge.

Our mission is to guide our clients in successfully transitioning from data governance to adopting and implementing AI operating models in this new digital landscape.



# Scotland's new short-term let legislation

Understanding the intricacies of Scotland's new short-term let legislation can be a daunting task for operators and stakeholders alike. To shed light on this evolving regulatory landscape, Amen Chaudry, senior solicitor at Wright, Johnston & Mackenzie LLP (WJM), offers insights into the implications and requirements of the legislation.

As a senior solicitor at WJM, I've been closely following the developments around short-term lets in Scotland, particularly the recent legislation that has stirred quite a buzz. With deadlines passing and more looming on the horizon, it's never been more important for all involved to understand the implications and ensure compliance with the new regulatory framework.

The new legislation, applicable to all local authorities in Scotland, mandates that anyone engaging in short-term lets, be it through platforms like Airbnb or traditional holiday rentals, must obtain a license. The aims of the new legislation are to ensure all short-term lets are safe, to help licensing authorities know what is happening in their area and to help with the handling of complaints and issues faced by neighbours.

There has been a number of talks regarding concerns raised by industry representatives

regarding the complexity of the licensing process and the potential impact on small businesses and tourism in rural areas.

One key issue which has been highlighted is the variation in licensing fees and requirements across different local authorities, creating a patchwork of regulations that operators must navigate. This variability adds an additional layer of complexity for those seeking to comply with the law, particularly for operators with properties spanning multiple jurisdictions.

With the clock ticking as the deadline for compliance looms, it's essential for all stakeholders to stay informed, seek timely advice, and take proactive steps to meet the requirements of the new short-term let legislation.

For more information on WJM go to [www.wjm.co.uk](http://www.wjm.co.uk).



**Amen Chaudry**  
Senior Solicitor

**WJM** Wright, Johnston  
& Mackenzie  
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## Net Zero Edinburgh supports over 100 SMEs on their sustainability journey

Last year was a busy year for our projects team with the launch of the Net Zero Edinburgh project at the start of 2023.

The project is funded by the UK Shared Prosperity Fund via the UK Government and City of Edinburgh Council, and it aims to support Edinburgh's SMEs on their journey to net zero as well as help decarbonisation and circular economy projects in the city.

Through the project, the team has supported over 100 SMEs on their journey; supporting businesses who are at the very start of their journey to businesses looking for support in specific areas. The free support has included helping businesses to understand how to calculate their carbon footprint, including scopes 1 and 2, supporting businesses to understand what first steps they could look to take as well as providing information on what funding is available to support businesses.

As well as supporting businesses one to one in the autumn we launched our first Net Zero Edinburgh cohort which saw 11 businesses participate in 3 half day workshops, delivered by our delivery partners, the Edinburgh Climate Change Institute. The businesses received intensive tailored support to help them calculate their carbon footprint, including scope 3, as well as support to plan and write a carbon reduction plan for their business.

Alongside the support for businesses we also ran a number of events. In June last year we held our Net Zero Innovation event which focused on the importance of innovation in supporting us to achieve net zero. With over 40 attendees in the room, we heard from David Townsend, Founder and CEO of TownRock Energy

which is a geothermal energy specialist consultancy and technology R&D business. One of the projects that stood out during the presentation was the BODYHEAT project, which saw TownRock Energy partner with an arts and events venue in Glasgow to install a system that collects body heat from venue visitors and store it underground to be used to heat or cool the venue.

We also hosted our first Lunch and Learn Roundtable for the Tourism and Events sector, which saw 12 businesses come together to learn what steps they could take to help kick-start their net zero journey. Attendees also had the opportunity to hear from the EICC to hear what actions they are taking as well as get an opportunity to network with other businesses in the sector, share learnings and best practice.

Looking to 2024, it's been a busy start to the year; our second net zero cohort started in March, with workshops running in March, April and May, we have our next free net zero event on Thursday 30th May, and we are continuing to support SMEs in the city to help them on their net zero journey.

If you are interested in any support please get in touch at [netzeroedinburgh@edinburghchamber.co.uk](mailto:netzeroedinburgh@edinburghchamber.co.uk). We also have a lot of resources and toolkits to support businesses on the [Net Zero Edinburgh website](#).



# Bad Dino rebrands to launch another decade of mobile app development and digital innovation

After celebrating ten years in business, Founder and MD of Bad Dino, Kyle Whittington, decided to refresh the brand so we caught up with him to find out why.

## First up, what does Bad Dino do exactly?

"We build web and mobile apps for businesses of all shapes and sizes. We take you from the initial idea all the way through to your first paying customers."

## What was the inspiration behind the need to rebrand?

"We started out in 2013 and the branding had mostly just been handled in house. The first logo was just me messing about on Photoshop to be honest. Our last branding effort happened around 2018 when we were beginning to get good traction in the startup community so we branded ourselves accordingly. Since then we've matured as an agency and are now working with more scale-up businesses - we were keen to reflect that in our branding."

## What was the hardest part of the rebranding process?

"It was the first time using a professional agency to do it for us so we needed to be able to articulate exactly what Bad Dino was all about - things like our values, who our dream clients are and what services we can offer to them. Distilling your entire business into a few sentences, knowing that someone is going to take what you say and create a whole brand and voice around it is a lot of pressure!"

## What do you love most about the new brand and what's next for Bad Dino?

"We love the strong pinks and blues that we can now play around with in our marketing material. The website was recently redesigned with the new branding and we really love how it looks - with lots of new and existing clients giving us great



feedback! As for what's next, we're looking to promote the brand as much as possible to those existing businesses out there who are looking to do something interesting and innovative in their industry."



# 60 Seconds

**Name:** Hannah Pate

**Company Name:** Clean Digital

**Website:** [cleandigital.co.uk](http://cleandigital.co.uk)

**Q: In five words or less, what do you do?**

A: PPC advertising, data-driven results.

**Q: How long have you been in your current role?**

A: With Clean Digital for 5+ years. Started as Marketing Executive, then Marketing Manager, and recently promoted to Senior Marketing Manager.

**Q: What does a week in your job look like?**

A: Developing/implementing marketing strategies, social media management, attending networking events, cultivating/maintaining partnerships, and pursuing new business opportunities.

**Q: Your proudest moment with your organisation, or biggest 'win'?**

A: Becoming an employee-owned company, securing 'UK PPC Agency of the Year' in 2023, and our recent ECC Business Award 2024 win!

**Q: Your favourite top tip or quote in business?**

A: "Train people well enough so they can leave, treat them well enough so they don't want to." – Richard Branson



**Q: How long have you been a member of the Chamber for and why did you join?**

A: We joined last August for networking opportunities and to engage with Edinburgh's vibrant business scene.

**Q: Where do you read your copy of Business Comment?**

A: In a café on Portobello promenade near my flat, oat milk cappuccino in hand!

## GET WITH IT By Bill Magee Scottish Business Technology Writer of the Year



Edinburgh-based Cyber and Fraud Centre Scotland highlights a digital staple that despite its longevity remains problematic when it comes to securing sensitive data.

It's called business email compromise (BEC). Ever close-at-hand, this most basic of online and mobile channel tool has survived a deluge of highly-sophisticated technological advancements.

Led by generative artificial intelligence (AI), augmented reality (AR) and virtual reality (VR), each continues to be marketed as offering the prospect of rich commercial applications and with its revenues.

In all this cyber heat as a new business attempts to process all the smart tech on offer, the everyday mailbox is taken for granted. Yet it's used constantly by virtually everyone in an organisation.

Companies identified by the Beauhurst/RBS New Start-Up Index should take note. Of course, so should more established organisations.

Scotland is in the top three areas of a UK business start-up boom with over 40,000 new businesses last year, an increase of 12% compared with 2022.

With no indication of a let-up so far this year, it's, of course, great news. But it's also a heck of a lot of new targets for cybercriminal gangs. BEC involves gaining unauthorized access to an account or server.

Employees must be trained up on safe emailing practice. Constantly reminded, all the attacker requires to grab your finances or sensitive data is two key pieces of information: username and password.

Last year business start-up growth in Scotland was driven in the property letting space, with 2,440 businesses; 2,148 in online retail businesses; in third place 1,839 new takeaway shops and street food stands.

New companies in the UK totalled 900,000, a 12% increase on 2022. Growth in female founded businesses also continues to increase, with a record 164,000 companies incorporated, up 4% on 2022, 26% overall in the five years between 2019 and 2023.

James Holian, Head of Business Banking at the Royal Bank of Scotland, reports the new ventures are predominantly small businesses owned and run by local people.

The bank's free Accelerator Programme has in the past 12 months helped start-up, scale and succeed 1,300 scale-up leaders. More than half were female-led businesses and 21% ethnic minority-led ventures.

Just remember to get that vital email guardrail put in place, along with other crucial digital data security basics, to avoid the threat of your business floundering.

Before it even gets off the ground.

# SECR: What Your Organisation Needs to Know

SECR is a mandatory reporting requirement for all large organisations in the UK that meet 2 of the 3 following criteria:

- 250 or more employees,
- annual turnover of £36M or more,
- annual balance sheet of £18M or more.

SECR compliance has many benefits – it's one of the most efficient ways to kickstart a sustainability journey, through focused analysis of your organisation's direct GHG emissions (referred to as scope 1 & 2 GHG emissions). In our experience this becomes a cornerstone of an organisation's emissions footprint, highlighting emissions hotspots and inform initial decarbonisation actions.

## What should your organisation know about SECR reporting?

- **It provides a carbon footprint with a Scope 1 and Scope 2 boundary:** many organisations begin their sustainability journey with environmental compliance,

and for good reason – the information gained in a compliance exercise is often more than enough to undertake additional activity. Many organisations that achieve SECR compliance use the information to complete additional carbon footprinting exercises, modelling trajectories for carbon emissions reduction, educating their employees about the benefits of decarbonisation, and implementing their own sustainability policies with the help of a trusted environmental consultant advisor.

- **Regulations are changing:** as environmental science becomes more advanced, organisations explore the impact of upstream and downstream (otherwise known as Scope 3) emissions. While SECR only currently requires organisations to report on Scope 1 and Scope 2 emissions, changes are anticipated that will require organisations to incorporate Scope 3 emissions into their submission.



It is important to keep up to date with regulatory changes to ensure ongoing compliance. Curious about the ways that SECR could positively impact your organisation? Our team of experts is here to help. Get in touch today.

+44 (0) 131 346 7771  
[website@gepenv.co.uk](mailto:website@gepenv.co.uk)



## Natural and holistic health solutions

At Solstice Wellness, we are dedicated to providing natural and holistic health solutions that empower individuals to reach their health goals. Nestled in the heart of Edinburgh, our centre offers a range of therapeutic modalities designed to promote overall well-being and vitality.

Our offerings include Naturopathic medicine consultations, hyperbaric oxygen therapy (HBOT), infrared sauna sessions, and pulsed electromagnetic field (PEMF) therapy. HBOT involves breathing pure oxygen in a pressurised chamber, allowing oxygen to dissolve into the bloodstream and promote healing at the cellular level. This therapy has been shown to benefit a variety of conditions, from chronic pain and inflammation to neurological disorders and wound healing.

Our infrared sauna provides a gentle and relaxing way to detoxify the body, improve circulation, and relieve stress. The deep-penetrating heat of the sauna helps to soothe sore muscles, alleviate joint pain, and promote overall relaxation and rejuvenation.

In addition to these services, April Blake, N.D. – owner of Solstice Wellness – offers face-to-face personalised care for people suffering from chronic issues, anxiety,

depression, hormonal imbalances and/or for those wanting to prevent illness. Also, the experienced practitioners who also practise from Solstice Wellness offer personalised treatment plans tailored to their unique needs and goals.

At Solstice Wellness, we believe that true health and vitality are achieved through a holistic approach that addresses the root causes of illness and imbalance so that you can feel better naturally. By combining conventional therapies with traditional healing practices, we empower our clients to take control of their health, feel better and live their best lives.

Whether you're seeking relief from chronic pain, looking to improve your overall well-being, or simply in need of relaxation and rejuvenation, we invite you to experience the transformative power of Solstice Wellness. Visit us today and embark on your journey to optimal health and vitality.

[www.solsticecentre.co.uk](http://www.solsticecentre.co.uk)



**April Blake**  
Owner

SOLSTICE WELLNESS



# Data-Driven Innovation

The signing of the Edinburgh and South East Scotland City Region Deal in 2018 marked the start of a journey to make the city region the ‘data capital of Europe’.

**Professor Kim Graham**  
Provost, The University of Edinburgh



The main driver of that ambition, the Deal’s Data-Driven Innovation (DDI) initiative, recently passed the halfway point of its ten-year delivery phase, presenting a good opportunity to review progress and highlight the benefits already being delivered in the region.

Valued at £660m, DDI represents the largest part of the City Deal. It is being delivered by the University of Edinburgh and Heriot-Watt University in collaboration with local public, private, and third sector partners. We also work closely with other universities and

colleges in the region through the multi award-winning Data Skills Gateway, which upskills local people in data literacy.

The DDI initiative is made up of a cluster of innovation hubs bringing academic disciplines together to solve some of the world’s most pressing challenges in ten sectors, including Financial Services, Health and Social Care, AgriTech and Public Services.

One such hub is the UK’s only National Robotarium, which drives entrepreneurship and job creation by working with industry to test and develop robotic, artificial intelligence and automated technologies designed to positively impact the economy and society. The facility recently announced a strategic alliance with Tata Consultancy Services on applied engineering and will undertake joint

research in areas of urgent societal need, including social and geriatric care.

Edinburgh will also host the UK’s first exascale supercomputer, a £900m investment able to perform one billion, billion calculations per second. This unique resource will accelerate delivery of DDI projects across all sectors, boosting economic growth.

We are also rolling out Europe’s largest Internet of Things network, working with over 500 schools in South East Scotland to provide pupils with unique data skills learning opportunities, including workshops where pupils analyse live data on light, heat, and Co2 levels around their schools.

We are keen that these achievements translate into tangible benefits which add value to the city region, including new jobs, skills, and companies.



To that end, our data upskilling short courses at the Bayes Centre, another of our six DDI hubs, are aimed at jobseekers and those already in employment. It has already supported 3,000 participants since its launch. The City Region Deal's Data Skills Gateway has also already reached 34,500 participants since 2018 and helped over 1,600 people to progress into jobs. Many new companies have also benefitted from working with the Bayes Centre, such as Optima Partners, which combines management consultancy with data science expertise to help clients across multiple sectors.

Recent external evaluations also demonstrate the impact DDI is having in the City Region. The Harvard Business Review ranked Edinburgh fifth in Europe for our work on artificial intelligence; similarly, The Data Capital report by Accenture highlighted

Edinburgh's position as a top region for work in this discipline. Closer to home, a 2023 FinTech Scotland report confirmed that Scottish fintech companies received over £305m funding in 2022, an increase of over 200% on 2021. Supporting Financial Services is a key DDI priority, evidenced by our hosting of FinTech Scotland and the achievements of Smart Data Foundry.

We look forward to building on these successes with partners across the region, embedding DDI as a vital part of our regional economy. We also wish to use our experience with the City Deal to accelerate progress in other areas where regional collaboration is vital, such as climate change and net zero, where there are opportunities to enhance skills, create jobs and boost entrepreneurship.

For more information, visit [www.ddi.ac.uk](http://www.ddi.ac.uk)

## DDI Case Studies

### Talent

#### Centre for Investing Innovation with abrdn

A five-year strategic partnership between the University of Edinburgh and abrdn, the global investment company with headquarters in Edinburgh. The centre is facilitating creation of new financial products, services, and business improvements for abrdn, while delivering research impact in sustainability, investing innovation, thematic investment and artificial intelligence.

#### Bayes Centre Data Upskilling Courses

Courses aimed at jobseekers and those already in employment to equip individuals with skills to thrive in data-centric roles. The benefit to businesses is they can upskill whole teams or individuals, as well as leaders looking to work strategically with data to aid decision making. Bayes continues to develop new industry collaborations and courses to extend the reach of the portfolio, further empowering people to work confidently with data and implement effective data science solutions.

### Research

#### Collaborative Edinburgh Festivals Data

Edinburgh Fringe data is used to explore preferences and behaviour of festival attendees, empowering artists to make informed decisions on show promotion strategies and optimising ticket sales. This project is an integral component of the broader Edinburgh Culture and Communities Mapping Project. Looking specifically at the Edinburgh Festival Fringe, the research used existing infrastructure and data, supplemented by data from recent ticket buyers, to map purchases around the city.

### Entrepreneurship

#### Snugg

One of many Bayes Centre industry residents, Snugg helps homeowners make their homes more energy efficient. Using data drawn from multiple sources, homeowners can refine their home improvement plan based on latest insights. Snugg supports them on their energy efficiency journey, helping consumers understand which grants they qualify for, how to finance energy improvements, and where to find installers. Snugg partners with banks and utility firms, including TSB and EDF, who support customers in reducing home carbon emissions.

Read our annual review at [www.ddiannualreport23.com](http://www.ddiannualreport23.com)



# Robots and AI - Making the world “pretty fantastic”

We’ve all privately wondered about a future with robots, haven’t we?  
Will it be loveable R2-D2 or The Terminator?

The American mathematician and electrical engineer Claude Shannon, known as the Father of the Information Age, amusingly exposed a secret human fear when he said: “I visualise a time when we will be to robots what dogs are to humans, and I’m rooting for the machines.”

Shannon died in 2001, contemplating a future vision where humans become a subordinate but affectionately tolerated species. But at the National Robotarium in Edinburgh – where they know a little bit more about what the future will look like because they’re developing it every day – they’d probably prefer Bill Gates’ take on things: “Robotics and other combinations will make the world pretty fantastic compared with today.”

The Microsoft founder’s view is one espoused by Lisa Farrell, of the National Robotarium, which opened in 2022, and is a government-funded partnership between Heriot-Watt University and Edinburgh University. It is based at Heriot-Watt’s campus in the west of the city, in a stunning £22.4 million facility with unrivalled laboratory space and testing facilities for the development of Artificial Intelligence and Robotics solutions.

Lisa said: “The key word here is ‘solutions.’ The Robotarium is all about harnessing the technologies to provide people-centred solutions to improve lives, create greater productivity and add competitive advantage.

“We’re working across all kinds of areas, but there are some of real focus such as health and social care, offshore energy, agriculture, and construction. We work with industry partners on providing good solutions to real problems. It’s a team effort that harnesses creativity, experience and technical innovation.” And it’s something we really need to embrace in this country because we are behind the curve compared to places like Japan, Germany, China and France in harnessing advances.

In industry, lack of investment in new technologies risks handing competitive advantage to other nations who are developing new ways of doing things at a faster pace than in this country. But the Robotarium aims to play a key role in rapidly closing that gap.

Few areas offer the potential for advancement as much as Health and Social Care. It is an area where AI and robotics can play a really enormous role in facilitating

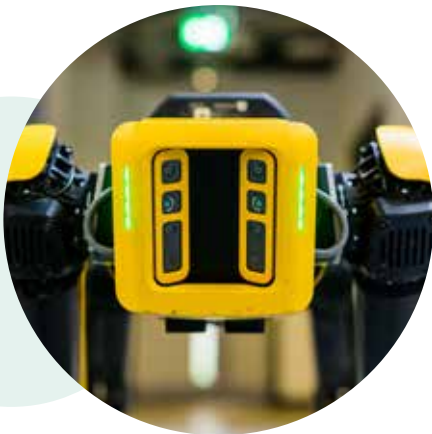
and changing the way we deliver care in future, freeing up the vital time of medics and carers to perform more meaningful tasks. But it can also help in a directly impactful way in preventing more serious situations developing.

One workstream which clearly illustrates this is the FEATHER project, which is developing systems to allow the earlier identification of urinary tract infections (UTIs) in the elderly and dementia sufferers. UTIs, if undetected, can quickly escalate into more serious conditions including higher levels of confusion including delirium.

The project is led by the University of Edinburgh’s School of Informatics in collaboration with the Robotarium. Smart sensors and data can alert individual family carers or professions to potential infection.

Lisa explained: “The system uses conversational AI – like Alexa – to converse with individuals needing care and uses things like pressure pads which can let us know when they have visited the bathroom. Using all of the data the system gathers, we can alert that person’s family carer, or the professional care team, if there is concern that they may be developing a UTI, for example through not drinking





enough.” The work is attracting interest from as far away as Japan, where the issues of a growing ageing population is even more acute than in the UK.

Earlier diagnosis of UTIs, which affects 150 million people worldwide each year, can reduce costly emergency care, ensure the appropriate prescription of medication and improve the outcomes for patients.

Another healthcare project, being led by Touchlab Ltd, a start-up company based within the facility, sees the development of a human-like skin, to help robots develop a sense of touch. “Robots can see, hear and smell, but a sense of touch opens up new possibilities for help with care tasks.

For example, something like brushing hair – a small thing, but something that might free up time for more meaningful human interaction for carers.”

A different illustration shows the impact the technologies can have on industries. Working with the fishing industry, the National Robotarium is working with leading experts in marine technology at Heriot-Watt to support the development of a smart technology trawl net system that will help fishermen avoid bycatch (catching the wrong species of sealife in their net).

Species quotas are a major issue for fishermen and the environment. The work is being funded by the UK Seafood

Innovation Fund and delivered in partnership with Fisheries Innovation & Sustainability, “Smartrawl”, the brainchild of Professor Paul Fernandes, uses AI and robotics technology to monitor the species caught in a net, identify them, and using a remote-controlled robotic gate then retains or releases each marine animal depending on the trawler’s intended catch list.

It has already undergone extensive testing. The net result? Millions of tonnes of bycatch previously discarded, and often dead, can be avoided – a positive result for the sustainability of our oceans and for the fishing industry.

“We’re working across all kinds of areas, but there are some of real focus such as health and social care, offshore energy, agriculture, and construction. We work with industry partners on providing good solutions to real problems. It’s a team effort that harnesses creativity, experience and technical innovation.”



# The 13th Edinburgh Chamber of Commerce Annual Business Awards

As we swing into spring there is no better time to reflect on the success of our 13th Edinburgh Chamber of Commerce Annual Business Awards.

On the 29th February, over 570 people joined us to celebrate the success of Edinburgh and its thriving business community. From SME's, young entrepreneurs to some of the city's key stakeholders, the evening shone a light on some of businesses best and brightest with 16 awards being handed out on the evening.

Held at the EICC, our members kicked off the evening by hitting our red carpet to enjoy our drinks reception sponsored by local favorite Edinburgh Gin. As the evening's formalities continued we heard from a range of captivating speakers, Chamber President Jane Clark-Hutchison, Chief Executive of The City of Edinburgh Council Andrew Kerr along with our keynote Ian Stirling, Founder and Co-CEO of Muckle Brig. Ian, known for distilling and not for reality show hosting, shared his impressive story from working in business PR to making the jump into distilling with lifelong friend and business partner Paddy Fletcher.

Our highest accolade of the evening, the prestigious Lifetime Achievement Award was awarded to Charles Hammond OBE, Chief Executive of Forth Ports. Charles has an impressive career, spanning over 30 years in the ports sector, 23 of which were spent as the Chief Executive at Forth Ports overseeing significant and strategic growth of Forth Ports operations across the UK in his tenure.

“From SME's, young entrepreneurs to some of the cities key stakeholders, the evening shone a light on some of businesses best and brightest with 16 awards being handed out on the evening.”

There was plenty more to celebrate with another 15 awards up for grabs, so another massive well done to all of our winners!

- Small Business of the Year - Caritas Neuro Solutions**
- Mid-sized Business of the Year - Muckle Media**
- Large Business of the Year - Forth Ports**
- Responsible Business of the Year - Royal Zoological Society of Scotland**
- Service Excellence Award - Clockwise Leith**
- Inspiring Partnership Award - EICC x RSBP**
- Developing the Young Workforce - NHS Lothian**
- Director of the Year - Louise Birnie, Change Waste Recycling**
- Rising Star of the Year - Alexander Galpin, Galpin Group**
- Employer of the Year - Muckle Media**
- Excellence in Digital Marketing - Clean Digital**
- Innovation in Business - Anturas with Edinburgh College**
- High Growth Business of the Year - The Scotch Whisky Experience**
- International Business of the Year - Heehaw**
- Net Zero Champion of the Year - EICC**
- Lifetime Achievement Award - Charles Hammond OBE, CEO, Forth Ports**

Lastly our awards would not be possible without the support of our sponsors and event partners who help to make the events that extra bit special. A huge thank you to our headline sponsor, LNER, as well as our many category sponsors. Thank you to The Chocolatarium, Harvey Nichols, Edinburgh Gin and Gusto for providing our guests with some goodies on the evening. Another thank you Fazenda for hosting another wonderful winners & sponsors lunch so we can continue the celebrations on!

With the Awards now been and gone there is still plenty more events to look forward to. The return of our annual Chamber Scavenger Hunt is sure to bring out some healthy competition, and our staple Chamber Summer Party is one not to miss! Our monthly lunches will see us visiting Gusto Italian, Hawksmoor and Maki & Ramen in the coming months, and our early starts will see us boarding the luxurious Fingal and gorgeous Riddle's Court. We hope to see you soon!



# WELCOME TO OUR NEW MEMBERS



**Welcome**  
Hawthorn Business Group



**Welcome**  
Doree Bonnar



**Welcome**  
Balmoral Executive

## NEW MEMBER LIST

- |                                     |                           |                               |
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| Advanced Air                        | Just Sensations           | Regional Power                |
| AtkinsRéalis                        | KNG Partnership           | SGP Advisory                  |
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## JOIN THE CHAMBER TODAY

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**Richard Ellis** Head of Membership, [Richard.ellis@edinburghchamber.co.uk](mailto:Richard.ellis@edinburghchamber.co.uk)

# A Hole in One Experience

Looking for a venue for your company's annual golf day, or planning a golf outing with your friends? Look no further than The Duke's, St Andrews.



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We take pride in coordinating seamless events, and our dedicated staff ensures that everything runs smoothly from the

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Our group golf package caters to groups of 12 or more players and includes the services of a dedicated event coordinator, arrival gifts, morning rolls with tea and coffee, and a post-golf meal at The Duke's Bar and Restaurant. Our

corporate golf package caters to groups of 72 or more players and includes all the amenities of the group package, along with a wide range of additional features, such as personalised branding and a golf clinic.

At The Duke's, St Andrews, we go above and beyond to make sure your event is unforgettable. So whether it's a team-building or client entertainment event, we can create the ideal environment to make your day a success.

To book your golf event, please visit: [www.thedukescourse.co.uk/group-golf](http://www.thedukescourse.co.uk/group-golf)

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## Why you need a cyber and data security plan, and how to start it

It's difficult to miss that there have been several high-profile data breaches recently. Many were caused by cyber-attacks. Some of these organisations have even set up 24-hour helplines to explain how to pay the ransom!

The 2021 attack on the UK Electoral Commission demonstrated that this is affecting us all. The intruders remained undetected in the Electoral Commission's computer systems for some time. It was likely caused by hostile Nation State actors, affected millions of UK registered voters and the intention may have been to interfere in the UK democratic process.

And then there are - usually accidental - personal data breaches.

The MoD was fined £350,000 by the Information Commissioner for a personal data breach where an official sent an email disclosing 253 email addresses of Afghans being evacuated after the Fall of Kabul. The email used "To" rather than "BCC".

This simple mistake risked lives. Although few personal data breaches carry such grave consequences, everyone can sympathise with the over-pressured official making this simple (and usually innocuous) slip up.

Will we see more and more of these massive cyber and data breaches?

Perhaps... but that doesn't mean it should be your organisation's data.

Senior leadership must prioritise data security. Some organisations must, by law, have a Data Protection Officer (DPO) appointed at Board level to oversee data security and compliance. For others, it's just good practice.

Think what could have been avoided if the MoD's system asked the sender to double check the send list, or didn't allow so many to be sent together.

You should prepare for when (not if) you suffer a breach.

Data breaches don't always involve technology. 75% of incidents reported in the UK in Q4 2022 were non-cyber. 19% related to emails being sent to the wrong person, while others were as simple as a briefcase being left on a train.

Employees must be trained to identify a data breach and shouldn't fear reporting them.

You need a rapid response team, with the DPO leading in assessing and responding to data breaches, following a pre-prepared "playbook" and knowing which specialists to call in.

The number of reported cyber incidents is rising. AI will supercharge phishing attacks, where fraudsters try to gain private information or clicks on unsafe links by sending ever more convincing emails.

Fortunately, there's a burgeoning cyber security ecosystem in Scotland.

Tech firms like Quorum Cyber and ID Cyber Solutions provide expert technical, training or forensic resources to help identify and protect against threats or upskill staff and systems. Glasgow based Acumen Cyber has a Security Operations Centre to monitor and protect clients' systems. Insurance brokers Lockton advise on Cyber Insurance and PR gurus like Clark Communications help clients deal with reputational fallout.

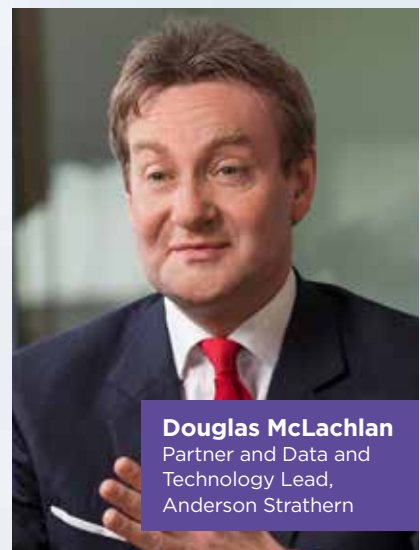
And (of course) there's the Data & Technology Team at Anderson Strathern.

We recently joined Cyber & Fraud Scotland's small panel of approved law firms with the expertise to help organisations respond to a cyber or data breach as quickly and painlessly as possible.

However, we would far prefer to help you prevent one happening in the first place.

Douglas leads Anderson Strathern's Data & Technology team and has been certified by The Law Society of Scotland as a specialist in cyber security.

"The number of reported cyber incidents is rising. AI will supercharge phishing attacks, where fraudsters try to gain private information or clicks on unsafe links."



**Douglas McLachlan**  
Partner and Data and  
Technology Lead,  
Anderson Strathern



## Addressing the gender imbalance in tech: Edinburgh College's new course helps women in digital and data innovation upskill

Supported by Equate Scotland and the Data Lab Community, Edinburgh College has delivered a new upskilling and reskilling course for Women in Digital and Data innovation, which facilitates access to higher education and training and supports women into employment in tech and related roles.

Delivered as part of the Data Skills Gateway programme - which focuses on developing progression routes into data-related careers, and enhancing the data skills of individuals in Edinburgh, irrespective of gender, background or location - the Women in Digital and Data innovation course aims to foster digital, meta and transferable skills, whilst also ensuring intersectional equality is promoted and supported across the technology sector.

Accordingly, the course caters to two distinct groups of learners; women seeking to improve their effectiveness in their current work roles (SCQF 7) and women aspiring to specialise in the field of data science or analysis (SCQF 8).

Since January 2023, a total of 64 women have completed the programme and as a result have achieved the SQA-recognised Professional Development Award (PDA) in Data Science.

Esnah Onwonga, a learner in the Women in Digital and Data Innovation programme,

said: "Initially, I enrolled on the NPA Data Science SCQF level 4, I have steadily progressed to PDA SCQF level 7. The course offers remarkable flexibility, allowing me to balance it with responsibilities like childcare. Moreover, it has boosted my confidence, enabling me to contribute as a volunteer for a charity organisation in their Data projects."

To achieve this success, the course provided personalised support, group work, tutored classes, and work experience opportunities, as well as the use of contextualised learning and teaching approaches to ensure the programme was relevant and meaningful to each individual.

Programme learner, Elaine Miller, said: "On the course it wasn't just digital and data skills I picked up. Time management, logical thinking, creativity, communicating and collaboration all were sharpened or picked up across the course."

Rik Weightman, Course Lead and Lecturer, said: "Out of all the courses I have developed and delivered in the past seven years, the

one that fills me with the greatest sense of pride is "The Women in Data and Digital Innovation."

"This course not only focuses on imparting essential skills like Data Analysis and Visualisation, but also emphasises the development of transferable skills such as numeracy, digital literacy, and meta skills like collaboration, critical thinking, and communication. Through a co-creative project assessment approach, this course allows learners to naturally enhance their abilities in various areas while fostering a range of valuable competencies."

Given the crucial role of data in organisational success and the resulting fact that the demand for data literacy and associated meta-skills is growing across all job roles, these qualifications are acting as a vital bridge to university and employment for all women who are involved in, or seeking to be involved in, the tech industry and associated data roles.



# How Edinburgh's harnessing hi-tech to become smarter and more sustainable

Edinburgh may be an ancient city, but it has always been at the forefront of innovation. And now, the 'Athens of the North' is beginning to be recognised as one of the 'smartest' cities in the world.

After introducing innovative new technologies as part of our Digital and Smart City strategy to tackle the twin challenges of population growth and climate change, the Scottish Capital has been celebrated for completing the first phase of a major plan to become a truly Smart City.

I've long been a champion of Edinburgh's ambitions of becoming world-leading for technology and big data - something our universities, research institutes and tech sector are well on their way to establishing. At the Council, we too are prioritising work to become a digitally inclusive, data-rich, and sustainable Capital with services that are easily accessible by all our residents.

From our trailblazing Operations Centre launched at the end of 2022 which allows us to analyse events and traffic in real time, to the 11,000 smart sensors we've installed in

waste bins to make sure our collections are efficient, this work is seeing us adopt cutting edge low-carbon technology, and it's already helping to keep the city moving and our communities clean and safe. Importantly, it is also supporting all schools and young people with digital devices.

Replacing our outdated control centre which was no longer fit-for-purpose, the new smart Operations Centre is manned and receives real-time data from the CCTV network 24/7. Since the upgrade, the CCTV images are clearer and there has been an increase in solvency rates across the city for crime and disorder. The centre will integrate other technologies to improve traffic flow, transport infrastructure and city planning - subsequently improving the city's collective carbon footprint.

Like a lot of cities, we are setting ourselves some tough targets to reach net zero by

2030 and technology will be key in reaching this. Top of the agenda is increasing the energy efficiency of many of our homes and buildings, which for a city like Edinburgh can date back hundreds of years. Many of our Council homes were also built in the post-war era and are starting to age, and we all know that low energy efficiency can result in high heating costs. The work we're rolling out to retrofit homes with modern technology will lower bills, keep homes warmer and bring them up to date.

We've also completed the roll out of 500 damp sensors to help us monitor and address issues in our council homes. Tackling problems like damp before they take hold is a game changer, and we've already responded to call outs from the sensors to manage issues in council homes early. They are also helping us to monitor problems where we already know they exist, to track it and help housing officers to work on the root cause.

Phase two of our Smart City project is expected to expand this across a further 2,000 homes and will also look at sourcing air and water quality sensors, which should help us to monitor our environment. We'll also be looking into technology to help us address environmental issues like fly tipping.

I'm delighted that our Smart City achievements are being recognised, and you'll now find a plaque celebrating this at the City Chambers. The whole operation is helping us to improve services and make them more sustainable and fit for the future, drastically stepping up our capabilities as a Council.

- Councillor Cammy Day, Leader, City of Edinburgh Council







## Artificial Intelligence and Robotics

Artificial Intelligence (AI) and Robotics are increasingly becoming an important part of our day-to-day lives.

Many of the products and services we take for granted rely on AI while it also acts as a catalyst for emerging technologies such as self-driving cars and human-like robots. These technologies are increasingly playing a pivotal role in improving healthcare, improving our public services and driving the economy. Scotland's AI Strategy sets out a vision for Scotland to become a leader in the development and use of trustworthy, ethical and inclusive AI, identifying universities as one of the key players in Scotland's AI ecosystem. The Centre for AI and Robotics (CAIR) at Edinburgh Napier University is playing an important role in helping to deliver this strategy.

For example, in the healthcare sector, we are developing a new generation of hearing aid technology that extracts speech from noise by using a camera to see what the talker is saying, filter out competing sound. This has the potential to improve the quality of life of the millions suffering from hearing loss. Another project Carousel addresses the increasing isolation people feel using technological devices, using Augmented Reality (AR) and Artificial Intelligence (AI) technologies to empower meaningful social interaction in virtual and hybrid settings, exploring the cultural and economic benefits that more visceral digital connectivity can bring to us all.

With the ever-growing number of intelligent smart devices collecting huge amounts of data,

the need to be able to process data across large geographic distances, different providers, connectivity types and network zones, is becoming essential. Smart cities, smart manufacturing and self-driving cars are just some of the areas in which this is important.

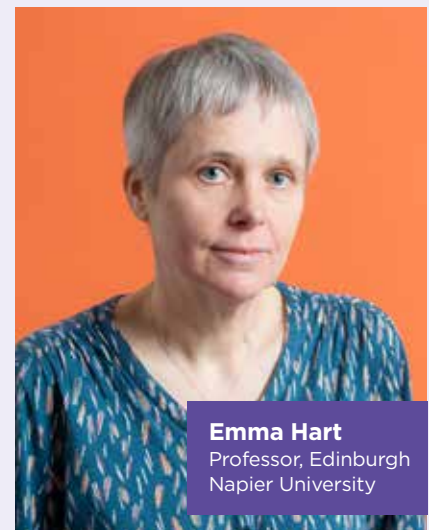
Our work in intelligent software systems is developing new ways to process data that accounts for energy usage and dynamically changing security requirements. We are also developing smart software systems to deliver optimised solutions in domains such as logistics and scheduling. Our smart systems autonomously improve with experience as they solve more and more problems and are even capable of auto-designing new algorithms to solve problems they haven't encountered before.

In robotics, we are exploring how new methods of generating language that can enable real-time communication between humans and robots, based on endowing robots with 'common-sense knowledge' and the ability to interpret multi-modal information from a variety of sources such as knowledge bases, images, and videos. Another project targets a long-term vision of a technology that enables the evolution of entire autonomous robotic ecosystems that live and work for long periods in challenging and dynamic environments such as outer space or at sea. Our approach combines novel AI design techniques with state-of-the-art 3D printing methods in a 'robot-factory' that

designs and produces robots in-situ, to ensure they are fit for purpose.

The pace of AI innovation over the last year has been truly astonishing, and there is no reason to expect it to slow down any time soon! At CAIR we are embracing this change and look forward to seeing how AI shapes Scotland's future.

To find out more about Edinburgh's Napier's Centre for Artificial Intelligence & Robotics (CAIR) visit our [website](#) or contact us at [innovation@napier.ac.uk](mailto:innovation@napier.ac.uk)



**Emma Hart**  
Professor, Edinburgh  
Napier University

# The Digital Evolution of Dun Eideann: The Next Steps in Edinburgh’s Data Development

Since the 2011 Scottish Digital Strategy, Scotland’s political and economic commitment to the technology industry has been consistent and substantial. The 2020 Scottish Technology Ecosystem Review and the subsequent TechScaler start up programme are great examples of this dedication at work today. Edinburgh’s vital role in these plans has been equally long-standing.



In 2018, a collaboration between the UK and Scottish governments launched a £661 million Data-Driven Innovation (DDI) Programme to capitalise on the area’s digital strengths, with the goal to make Edinburgh the data capital of Europe<sup>1</sup>.

In 2020, Scottish Development International (SDI) began positioning Edinburgh as the next UK tech hub. By mid-2022, the city had established a clear lead as the home of more than a third of Scotland’s high-growth tech businesses<sup>2</sup>.

The question now is, what next?

The first answer is artificial intelligence (AI).

As a commercial opportunity, AI is breathtaking. The September 2023 Worldwide Artificial Intelligence Spending Guide from the International Data Corporation (IDC) cited that AI spending in Europe will grow at just under 30% per year between 2022 and 2027, exceeding \$96.1 billion by 2027<sup>3</sup>.

Edinburgh is remarkably well-placed to capitalise on this opportunity. In 2021, the Harvard Business Review ranked Edinburgh as the fifth highest European location in a list of the top fifty global cities for AI, based on talent, investment, and digital infrastructure.<sup>4</sup>

Across the city, over 100,00 data experts will have been trained by 2028<sup>5</sup>. The AI

Cities Index 2023 from analytics firm SAS hails Edinburgh as the UK’s most AI-ready city outside London<sup>6</sup>, with 82 AI startups.

AI adoption is increasing at around 21% year on year<sup>7</sup>. In a digital and data-driven world where AI is set to become the norm, infrastructure matters. It is the basis of opportunity.

For example, COVID left the Scottish Chamber Orchestra (SCO) unable to connect with live audiences. As a Pulsant partner of many years, we took the SCO online. Their watch time increased by 2,300%, and social media impressions rose by 600%. That level of engagement and data is the currency of the future of the SCO.

Pulsant’s network of edge data centres delivers high-speed connectivity and infrastructure opportunities for regional businesses throughout Edinburgh and Scotland, including a vital partnership with The Crichton Trust, which provides businesses in southern Scotland with access to edge compute through Pulsant’s platformEDGE infrastructure platform.

The UK Powerhouse Report from the Centre for Economic and Business Research (CEBR) and Irwin Mitchell ranked Edinburgh as one of the top ten best-performing cities for economic output and employment by the end of 2023<sup>8</sup>. The application of advanced technologies

will be vital to nurse the nascent flames of a digital Edinburgh into a beacon of economic activity.

[www.pulsant.com](http://www.pulsant.com)



## References

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5. See *Data talent and skills in Scotland (sdi.co.uk) citing Skills Development Scotland Sectoral Skills Assessment February 2021*
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We thank our Partners for their continued support of the Chamber.

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## A PLACE FOR WORK AND PLAY

- The Glasshouse rooms and event spaces
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- Restaurant dining and table booking
- Team building activities
- Workforce reward days
- QPark parking with EV charging points
- Free centre Wifi

Recently acquired by family-run investment firm Triple-b, OMNi Edinburgh is one of the city's top leisure and entertainment destinations, welcoming over 4.2 million locals and visitors annually.

Located on Greenside Row and neighbour to Edinburgh Playhouse, OMNi Edinburgh boasts a variety of leisure activities and pastimes, plenty of places to eat, and is home to a 5-star luxury boutique hotel. Scratch the surface and you'll also find the ideal city centre location to host meetings, client lunches and overnight stays, and team-building away days.

From conference facilities at Vue and meeting room hire at The Glasshouse to fun-fuelled team building activities, OMNi Edinburgh really is a place for all occasions.

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## FIND OUT MORE

To discuss meeting room hire and activity bookings contact the OMNi Edinburgh Centre Management Team: [info@omni-centre.co.uk](mailto:info@omni-centre.co.uk). Visit the OMNi Edinburgh website to view brands and find out more: [omniedinburgh.co.uk](http://omniedinburgh.co.uk)



A PLACE FOR ALL OCCASIONS



# Chamber Training Calendar

April/May/June 2024

|   |   |  |
|---|---|--|
| <p><b>April</b></p> <p><b>Tuesday 16th</b><br/>Essential Management Skills</p>  | <p><b>Wednesday 15th</b><br/>Understanding Export and Export Documentation</p>                          | <p><b>Wednesday 26th</b><br/>Digital Sales Excellence - A Masterclass in Digital Marketing</p> |
| <p><b>Wednesday 24th</b><br/>A Beginners Practical Guide to Exporting</p>   | <p><b>June</b></p> <p><b>Wednesday 5th</b><br/>Methods of Payment &amp; Letters of Credit</p>           | <p><b>Thursday 27th</b><br/>Import Procedures: Inward &amp; Outward Processing</p>             |
| <p><b>Wednesday 24th</b><br/>A Beginners Practical Guide to Importing</p>   | <p><b>Wednesday 12th</b><br/>Viral Content &amp; Trending Topics</p>                                    | <p><b>July</b></p> <p><b>Wednesday 3rd</b><br/>Incoterms 2020</p>                              |
| <p><b>May</b></p> <p><b>Thursday 2nd</b><br/>Understanding Commodity Codes</p>  | <p><b>Thursday 20th</b><br/>Customs Procedures, Documentation &amp; Rules of Origin</p>                 | <p><b>Tuesday 9th</b><br/>Becoming a Successful Leader</p>                                     |
| <p><b>Thursday 9th</b><br/>Social Ads Mastery Course: Propel Your Business Growth with Effective Online Marketing</p> | <p><b>Tuesday 25th</b><br/>Mastering the Art of Project Management: Strategies for Seamless Success</p> | <p><b>Tuesday 16th</b><br/>A Beginners Practical Guide to Importing</p>                        |

Visit our website to find out more and book your place.

[edinburghchamber.co.uk/training-events](http://edinburghchamber.co.uk/training-events)



# 7 Steps for Harnessing Business Data:

## A Guide to Initiating Data-Driven Strategy in Your Organisation



In today's digitally-driven world, data is the cornerstone of decision-making processes across industries. From multinational corporations to local start-ups, organisations are increasingly relying on data to gain insights, make informed decisions, and drive future strategies. However, for many businesses, the prospect of delving into the realm of data analytics can seem daunting.

Here are seven essential steps to getting started with using data in your business, helping support and drive future strategy.

**1. Define Your Objectives:** The first step in leveraging data effectively is to clearly define your organisational objectives. Whether it's improving operational efficiency, enhancing customer experience, or expanding market reach, your data strategy should align closely with your overarching business objectives. With clear objectives identified you are then able to quickly understand what data is required to support and measure progress towards them. [Click here](#) for more detail on how to identify your organisational goals.

**2. Identify Key Data Sources:** Once you've outlined your objectives, the next step is to identify the relevant data sources. These may include internal sources such as sales records, customer databases, and operational metrics, as well as external sources like market research reports, social media data, and industry benchmarks. Data from a variety of sources is encouraged, but be aware that there will always be limitations on time and resources.

**3. Invest in Data Infrastructure:** Building a robust data infrastructure is essential for effectively managing and analysing data. This may involve investing in data management platforms, cloud storage solutions, and analytics tools like Tableau, Google Analytics

4, Power BI, Apache Hadoop and R and Python to name a few. Additionally, ensure that your organisation has the necessary talent and expertise to handle data-related tasks, whether through hiring data scientists or providing training for existing staff.

**4. Data Collection and Cleansing:** Once you've established your data infrastructure, focus on collecting and cleansing your data. This involves ensuring data accuracy, consistency, and completeness. Implement data quality checks and validation processes to identify and rectify any errors or inconsistencies in your datasets. Clean, reliable data forms the foundation for meaningful analysis and insights. In organisations with multiple data users comprehensive training should be provided for all. Establishing and maintaining a "Data Driven" culture throughout operations will lead to better quality and more reliable data sets.

**5. Data Analysis and Interpretation:** With your data in hand, it's time to analyse and interpret it to extract actionable insights. Use various data analysis techniques such as descriptive analytics, predictive modelling, and data visualisation to uncover patterns, trends, and correlations within your data. Interpret these findings in the context of your business objectives to inform strategic decision-making.

**6. Iterative Approach and Continuous Improvement:** Data-driven strategy is not a one-time endeavour but rather an ongoing process of iteration and improvement. Continuously monitor key metrics and performance indicators to track the effectiveness of your strategies. Use feedback loops to refine your approaches based on real-time data insights and market feedback.

**7. Cultivate a Data-Driven Culture:** Finally, fostering a data-driven culture within your organisation is crucial for long-term success. Encourage collaboration and knowledge sharing among teams to ensure widespread adoption of data-driven practices. Provide training and resources to empower employees at all levels to leverage data effectively in their decision-making processes.

Harnessing the power of data to drive future strategy is not an insurmountable challenge but rather a strategic imperative for organisations looking to thrive in today's competitive landscape. By following these essential steps and embracing a data-driven mindset, your organisation can unlock new opportunities, mitigate risks, and achieve sustainable growth in the digital age.

- Jimmy O'Connell, Head of Operations & Business Support, Edinburgh Chamber of Commerce

# Support Street Assist Edinburgh

Street Assist operates every Friday and Saturday from 22.00 to 04.00 providing a non-judgemental welfare & first aid service to help people who have become vulnerable during the busy night time economy hours.

- A dedicated phone line to answer calls and support those in need quickly and effectively.
- Reducing pressure on the emergency services and providing cost savings.
- Providing volunteers with experience of working with the public supporting career progression.
- Promoting a vibrant and safer night time economy through partnering with venues and public bodies.

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**Jeremy Doherty**

## Arup has named a new Edinburgh Office Leader

Global engineering and sustainable development consultancy Arup has named Jeremy Doherty as its new Edinburgh office leader.

With over 17 years of expertise in digital technology, engineering, energy, and environmental projects, Jeremy specialises in innovative technologies and data. He leads Arup's Digital Services Business and Environmental Impact Assessment program in Scotland, Northern Ireland, and North-East England. Jeremy is dedicated to utilizing digital technology and data to address climate and nature emergencies, collaborating closely with clients to amplify Arup's impact on local communities and environments. He envisions Arup's role in decarbonizing energy systems, creating resilient transport networks, and promoting biodiversity for a more equitable and prosperous future.

"Scotland has an extraordinary foundation of innovation, commerce, and engineering, creating a rich cultural landscape. Our academic institutions consistently supply industry with talent and expertise, placing us in a unique position to elevate our global standing and play a leading role in addressing worldwide challenges."

## New appointment at Edinburgh Napier University

Serial entrepreneur and experienced tech sector leader Lynne Cadenhead has been named Entrepreneur in Residence at Edinburgh Napier University.

The ENU alumna will help to foster innovation at the university by offering support and expert advice from her successful career in business.

In a career spanning more than 25 years, the Women's Enterprise Scotland chair has started and grown three successful businesses, while drawing recognition for her work to support women into entrepreneurship.

Reacting to the appointment, Lynne said she was "honoured" to take up the role.

"I am particularly excited about supporting and inspiring women in enterprise, as they face numerous additional barriers when it comes to starting and growing a business," she added.

Nick Fannin from ENU's enterprise hub, Bright Red Triangle, said the move aligned with the university's aim to "nurture and support" women, while helping them to make an impact and commercialise their research.



**Lynne Cadenhead**



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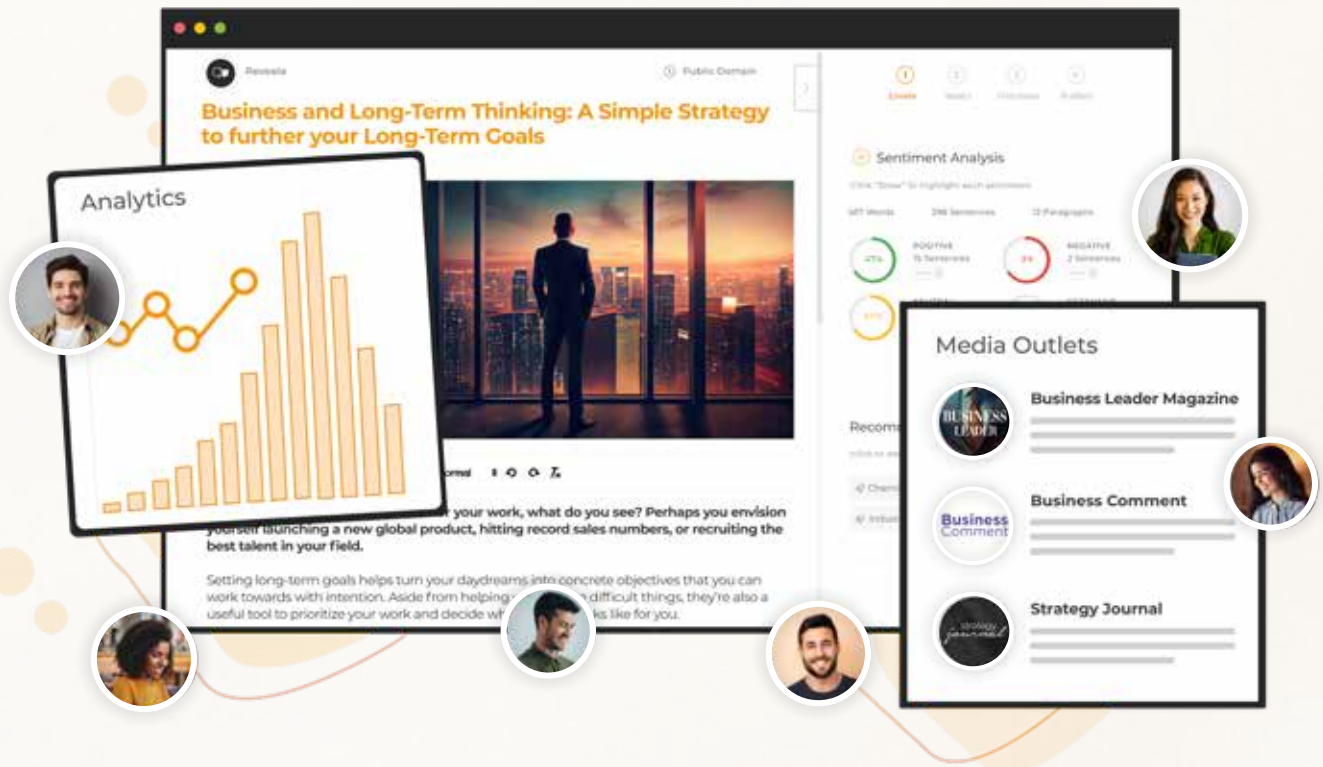
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