



SWORD

EDGE

ISSUE 1

BUILDING MOMENTUM

How well a thriving organisation adapts to harnessing data driven technology is key to its success. We discuss how investing in tailored and solid technology systems can support this.

BEHIND THE WHEEL

With a rapid change of pace in technologies and growing challenges in finding the right people to implement them, we investigate how having the correct technology foundations in place can put you on the road to success.

FASTER TRUST

In conversation with Sword UK CDO Jared Owen and CXO Phil Brading, who discuss the key to finding the balance in using technology in managing your business.

GIVING YOU THE EDGE

Welcome to the first ever edition of Sword Edge, our quarterly communication designed to showcase some of the innovative thinking and developments within Sword.

In 2023 we've seen no slowdown in demand for technology services. In light of this demand and the global skills shortage in the tech sector, we have redoubled our efforts to train and develop the digital workforce of the future.

Among other things we have appointed a Chief People Officer (CPO) to develop our people strategy and employed record numbers of graduates to our training academy.

Many of your organisations have huge amounts of data and contained within it, a wealth of untapped business insight. We want to work with you to ensure that any data used is trusted and accessible to the right people at the right time!

And we want to do this at a pace that works for you.

Often suppliers want to sell 'the answer' before fully understanding the problem. This is why we want to work with you, listen and understand your needs, before recommending any technology solutions. We believe in combining our digital skills with relevant domain expertise, to provide people who understand your challenges quickly and propose relevant solutions.

Dave Bruce, CEO, Sword UK/US



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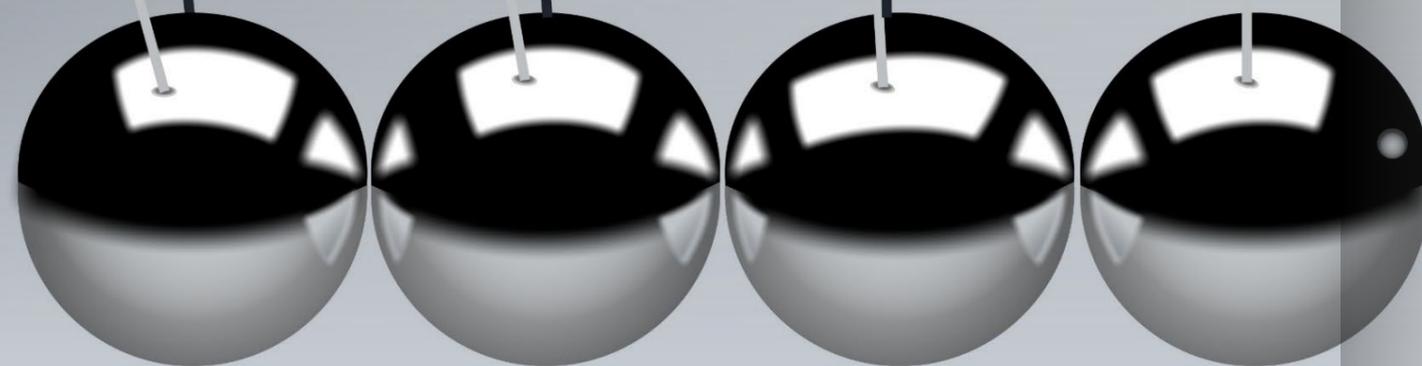
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BUILDING MOMENTUM

Graeme Humphrey, Principal Consultant

How well a thriving organisation adapts to harness data driven technology is key to its success. Technology investment is often driven by the need to address out-growing systems suited to smaller organisations, or when recognising that efficiencies are needed to make informed business decisions.

It is common knowledge that off-the-shelf software solutions don't always fulfil customers' needs alone, which can lead to a compromise on how well the solution tackles business challenges. Organisations can be lumped with extra costs from continuous product upgrades and increasing licence costs with additional users, leaving

them with no choice but to fork out for a system that doesn't do everything they need it to do.

On the flip side, many organisations don't have the budget available for a full bespoke software development when addressing a business challenge. Additionally, bespoke

software development can be time consuming and due to the rapid change of pace in our industry, organisations are looking for new solutions with shorter timescales.

The nature of organisations growing to involve multiple sites, assets and locations adds a layer of physical complexity meaning localised solutions no longer meet operational needs. The need for central database systems or software solutions often arises to rationalise procedures across different areas of the business.

SWORD'S SOLUTION

At Sword, we have developed a template-based software development solution; Momentum. Momentum is a starting point for bespoke software projects with a variety of web-based templates, which are fully customisable to each project. Momentum allows the build of software solutions that sit between off-the-shelf products and bespoke solutions.

The templates are based on proven, existing architecture that we know performs well over slower network connections. Customers have the security of a protected log in, and we can create applications hosted in the cloud that meet our customers' needs.

Momentum is centred around business operations primarily involving people, stock and assets, and manufacturing. We understand that companies have personnel and equipment procedures, and they should be able to manage these through a single database system that unifies operational procedures across all sites.

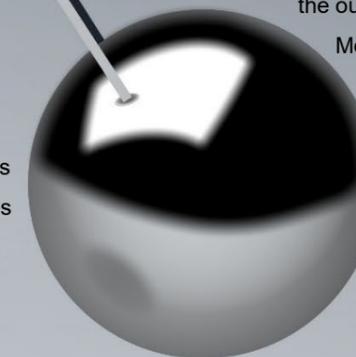
MOMENTUM IN MOTION

Our software templates have three primary uses; personnel, stock and assets, and manufacturing.

Personnel management is a key focus for many of our customers, where growth has led them to find talent acquisition increasingly complex. We have helped organisations implement software solutions that help to manage their recruitment process, using Momentum templates as the base, building bespoke code to create a solution tailored to their own processes.

Asset and stock management is another area where the software template concept comes into its own. As with any business process, every organisation does things slightly differently, but the core purpose of the process is similar in

the outcomes needed. Utilising Momentum's approach, our software engineers can build bespoke systems to suit each organisation's asset and stock management requirements.



Production planning in manufacturing is the third area where our software templates have proved useful, allowing significant divergence between project applications, but achieving the outcomes needed to enhance operations.

BENEFITS OF BUILDING WITH MOMENTUM

As the source code is already built and doesn't require starting from scratch, a Momentum project can take as little as 8 weeks. As the process is considerably quicker than full bespoke projects and carries no licensing cost, there is a significant reduction in expenditure.

We treat Momentum projects as bespoke, as the base templates act as a 'boost' to project timescales, with source code then being tailored to individual customers without restrictions as the project unfolds.

ENABLING A DATA DRIVEN FUTURE

Investing in tailored, solid technology systems that are fit-for-purpose is proving to be the key for many of our customers in building data driven foundations. Integrating processes across office functions and operations allows insights and analytics to enable informed data driven decisions on everything from recruitment to maintenance.

BEHIND THE WHEEL

THE TECHNOLOGY FOUNDATIONS OF BEING DATA DRIVEN

In recent years, there has been a steep learning curve surrounding digital adoption and changing technology landscapes. With a rapid pace of change in technologies and growing challenges in finding the right people to implement them, our customers continue to face concerns in an already complex and diverse landscape. Additionally, without smooth operations in their technology platform and infrastructure, organisations are increasingly finding access to data and applications, becoming problematic.

Without the right talent and experience to design, implement and support the technology platforms which are now required, organisations will face barriers to accessing and trusting data. With these barriers, organisations will encounter difficulties, when building and supporting applications that sit on data. Additionally,

these applications rely on critical technology operations to continuously run smoothly.

When we delve into technology, there are a myriad of pressures facing organisations, including business continuity, skills shortage, changing technology landscape

WHY TECHNOLOGY FOUNDATIONS?

When organisations are thinking about technology investment, there is an increase in the need to concentrate on readily available solutions to integrate critical workflows across the business. The infrastructure which data and applications rely on often needs to be prioritised to ensure the business can run as usual and support future projects.

and cloud adoption. From an infrastructure and platform perspective, the adoption of the cloud is an area many industries have been slower to embrace. The adoption of cloud technology presents new possibilities to work smarter, particularly in terms of mobility, real-time, and predictive analytics.

If not addressed, problems can manifest themselves when accessing regulatory documentation. If a server is out of date and siloed data is inaccessible, it will present challenges in accessing the data you need when it's required. In addition, information frequently resides in disparate, on-premise, aging systems that are unable to connect without intervention. This hinders organisations on their journey to be data driven.

HOW TO BUILD CRITICAL TECHNOLOGY OPERATIONS?

Sword works with our customers, delivering vital IT operations to allow you to focus on core business needs and objectives. With our deep understanding of your objectives and operational needs, we work to provide customers with a fit-for-purpose technology landscape, using the right infrastructure and solutions at the right time.

Organisations must focus on how they remain on top of their technology adoption. We work with customers to provide roadmaps that are aligned to their specific needs. These roadmaps provide a clear understanding of where your organisation needs to be in 3-5 years, how they need to be accessing data, and what foundations need to be put in place to access the data.

Our expertise in running critical infrastructure, deploying automated workflows, and managing information assets converges to put the right data, in the right hands, at the right time.

At Sword, we recognise the need for reliable infrastructure, particularly in the energy industry where asset transitions are common. Our team have deep knowledge of oil and gas IT platforms, engineering content and subsurface data, and can be trusted partners throughout the process. With outdated data management platforms, the vast amounts of data being generated and stored across these systems makes it difficult for the end users to access and trust the lineage of data. Without trusted data, asset transition projects run the risk of falling behind and facing unforeseen expenses.

OUR DESTINATION, DATA DRIVEN OUTCOMES

Organisations should be looking at their overall objectives and aligning these with their critical IT technology. In the energy industry, maximising uptime whilst minimising downtime is just as important in IT infrastructure as it is on an offshore platform. Having a secure and reliable infrastructure is critical when you want to deliver high-quality applications, built from trusted data.

If we are to achieve data driven outcomes, we need to ensure that data is placed at the heart of our operational and project thinking. The only way we can do this is by ensuring the foundations of our data is built on a reliable and secure environment. With investment in solid, fit-for-purpose, platforms that integrate across office functions and operations, our customers can trust their data as a single source of truth.

FASTER TRUST

IN CONVERSATION WITH JARED OWEN AND PHIL BRADING

Phil Brading, Sword UK CXO, has worked with energy industry data for almost 25 years. He is helping to shape the data services and solutions that Sword offers from its offices in the UK, Netherlands and US.

Jared Owen, Sword UK CDO, has worked in the technology and energy industries for over 20 years. He is responsible for energy industry engagement and aligning the strategy and direction of Sword's digital services and solutions with energy sector customers.

How are energy transition and energy security needs affecting organisations?

Phil: Across the energy industry, organisations are having to find a balance in their response to both the energy transition and energy security needs. The pressure of taxes, regulation and public opinion are making it harder for operators and energy generators to sustain a position that satisfies all their stakeholders. To support business planning and operational success in the next 5 years, we know that faster and more agile critical decision making will be a priority.

What do the energy industry need to focus on going in to 2023?

Jared: Energy industry leadership will be driven to reevaluate their investment position between renewable energy sources, and to maximise economic recovery through production in mature oil and gas assets. This may feel like burning the candle at both ends as the industry must instil a sustainable balance to maintain progress of the energy transition, whilst continuing its focus on regulation and safety.

How do Sword deliver this balance to the industry?

Phil: At Sword, we work with the energy industry to deliver services that enable customers to respond easily to such business needs. Our expertise in running critical

infrastructure, deploying automated workflows, and managing information assets comes together to put the right data, in the right hands, at the right time.

Jared: We can only do this successfully if we have a deep appreciation of the pressures our customers are under. Finding the balance requires the right talent and technology mix to deliver trusted data and analytics in an effective, insightful way.

How does the lack of skills in the industry affect the way we should be working?

Phil: Experience is leaving our industry due to the turbulence of recent years, and it is getting ever harder to attract new talent as there is a perceived lack of long-term opportunities in the UKCS. As an industry, we need to learn from other sectors and engage with graduates to broaden the conversation. We should aim to attract new ways of thinking to encourage collaboration and tackle our sustainable energy needs now and in the future.

How do we need to adapt our ways of working?

Jared: We must also get comfortable with working smarter, doing more with less resources, as well as offering more rewarding careers. By explicitly linking an individual's role to business outcomes, we can create more purpose in our work and challenge our teams to work creatively to solve the most important problems.

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Data is the common thread that drives value from technology. It's the ability to store data, enable data, and use the data for insights and analysis that generates the actionable outcome. Therefore, our focus should be on the quality and accessibility of that data to ensure we can trust it at pace.

Jared Owen, Chief Digital Officer, Sword UK

How can we use technology when working towards the energy balance?

Jared: Our industry needs to maintain and increase the productivity of its current assets. We don't have the luxury of breaking these down and building them back up with technology embedded. Rather than over-engineering solutions, let's look at what we already have available and integrate critical workflows across the business.

How does Sword work with organisations to ensure reliable technology operations?

Phil: Technology is opening up new possibilities for us to work smarter, particularly in terms of mobility, real-time and predictive analytics. Automation and cloud make this possible, and we all want to increase the size and speed

of returns on the technology spend already made, as well as future investment. These can all be applied within the industry's existing infrastructure.

How will Sword continue to work with customers in trusting and accessing their data, faster?

Phil: Sword's role is pivotal in working with customers to provide the skills and technology required to enable access to, and trust in, data. We deliver domain understanding for our customers to increase their agility.

Jared: When data is the common denominator and can be trusted, we can make smart decisions. If we can do that at pace, we find our balance in a fast-paced environment where investments need to work harder and smarter.

ON THE PATH TO SUCCESS

Organisations are increasingly dealing with large quantities of untapped, unstructured data, which can be misaligned with business processes. This often causes disruption across the entire business and can manifest itself in a myriad of different ways, such as a lack of trust in data or misleading insights.

We talked to **Paul Newey** and **Tracy Beglin**, the brains behind MigraPath - a data driven methodology that helps organisations to overcome these challenges and harness the value from their information and records.

Tell us about the four stages of MigraPath that turn an organisation's unstructured data into actionable information?

Step 1 is a discovery phase, where we analyse your unstructured estate. In step 2, we rationalise this by identifying and streamlining your data. In step 3, we harvest value by classifying and tagging your data to extract information. In step 4, we migrate, by visualising, planning and transferring information to a place you can manage your information using modern tools and insight models.

Which stage of the MigraPath solution makes the biggest impact on your clients?

It's a difficult question to answer as each stage brings benefits, which is itself the beauty of a modular approach, as value is realised from the outset. That said, so often at the start of the discovery phase there is a lack of clarity on what information an organisation has, who exactly it belongs to, and what state it is in. Even applying simple visualisation to represent the current state can be incredibly insightful, especially when combined with highlighting easily achievable early gains.

Can you share an example with us where you used MigraPath to help a customer improve operational efficiencies in their business?

We tackled a global oil and gas operator's inherited information estate, arisen from various business acquisitions, which was a mix of live and outdated information totalling over 320TB and 25 million+ files. Over 4.8 million duplicate, ROT, Archive and PII files were removed, significantly reducing the time to locate and find the right information. Combined with many other resulting benefits, we enabled informed business decisions that helped our client to make the most of their acquisitions and increase operational efficiencies.

How did MigraPath evolve into the solution we know today?

Over a decade ago, we created a solution to help a client overcome the issue of finding their data and information management too onerous. We came up with a way to shorten the time traditionally taken to find useful information from data using long manual processes by developing tailor-made tools, technology, and a fresh approach to restructuring files. Technology has advanced and evolved over the years since its inception, but MigraPath in its current incarnation continues to bring a fresh approach to making sense of client organisations' data and information.



What problems do you foresee MigraPath being able to solve in the future?

Organisations who stand to gain most value from MigraPath are those where business activity triggers changing landscapes that require value to be extracted from newly acquired data and information. In the energy industry, where acquisitions and divestment of trading assets are common, MigraPath can unlock enormous value. Similarly, not just in the energy sector but across all large organisations in the private and public sector, mass migrations of moving or combining large datasets are prime examples of where turning unstructured data into actionable information is worth getting it right with a tried and tested methodology like MigraPath.

What common misconceptions do you face when introducing MigraPath?

MigraPath is a combination of skills, experience, and technology that we use flexibly and interchangeably to solve information problems. Contrary to preconceptions, it is not a single system or software product. Instead, we utilise the most appropriate, accessible, and sustainable tools to apply technology to help solve complex, enterprise-wide data problems.

STAYING SHARP

AN INTERVIEW WITH A DATA DRIVEN CTO



Greg Anderson, CTO, Sword

Greg has worked in the technology industry for over 15 years. He is responsible for Sword's technical strategy and assuring data and digital solution design across all their industry verticals.

As one of the UK's largest providers of digital services, Sword focuses on building solutions to some of the most critical business technology challenges by enabling our clients to capture, manage, and utilise data to make informed decisions. This is supported by technology adoption and people engagement, together with modern ways of working, to give confidence that the right decision is made every time.

Tell us about your current role and how you have seen the adoption of digital over recent years.

I have always been passionate about how technology can improve business outcomes and am fortunate to apply this in my role as Chief Technology Officer for Sword Group UK. I have the opportunity to work with some exceptionally talented colleagues, delivering innovative and forward-thinking solutions across multiple industry verticals such as energy, public sector, retail, and financial services.

We have seen a significant acceleration in our customers embracing digital and data-driven solutions over the last 18 months. By sharing the knowledge and expertise we have gained across a variety of sectors, we find some are

further along in their digital adoption journey and others can benefit from their lessons learned. I'm excited to see how this evolves in the coming years.

How do digital and data challenges in other industries differ from those of the energy industry?

Other sectors have similar challenges to energy when it comes to digital adoption and becoming data driven.

However, in energy, we typically encounter much more diverse data sources, higher data velocity, and greater data veracity than we do in other sectors. We have seen other sectors embrace cloud computing from a platform and infrastructure perspective, quicker than energy. Typically, this has led to faster innovation than

on-premises-centric environments as cloud platforms can enable more rapid delivery of data driven solutions.

Levelling up the industry in this space is less daunting now due to the advancement of Modern Data Platforms and Azure Synapse Analytics, which we deploy using our data-centric "Tillit" framework. This focuses on establishing confidence, faith, and trust in data, enabling the business to make trusted, data-driven decisions.

Can you tell us about Sword's strategic direction, and how this helps your customers?

We are focused on doing the right thing for our customers, ensuring we deliver the services and support we have become known for in the energy, public, retail and financial services sectors over the last 20 years.

Throughout our organisation, from IT services and information management to digital solutions, we are ultimately focused on placing the right data in the right hands at the right time.

We know that digital, in all its guises, is a key enabler, not only for business growth but for ensuring sustainability.

Over the past five years, we have listened intently and refined our services in response to emerging technology and lessons learned from our project and service delivery teams.

As a result, our strategic direction is focused on how we support our customers by starting at the foundations, and our significant investment in skills and experience across our Sword practices enables us to support our customers on every step of their data driven journey.

How does Sword stay on top of horizon scanning with the pace at which technology moves?

We understand the importance of staying up to date with emerging technologies and approaches, as many of our customers look to us to help bridge that gap in their knowledge. It can be a full-time job to keep up with changes in platforms such as Microsoft's cloud-based PowerPlatform or Azure Synapse Analytics, so it comes down to focusing on what is fit-for-purpose for our customers.

As one of a select group of fully managed Microsoft partners in the UK, we invest heavily in maintaining close alignment with our Microsoft counterparts responsible for technology platforms. We regularly hold knowledge-sharing sessions, both internally and externally, to ensure our solution practices remain ahead of our customer's, and their industry's, needs.

This investment allows us to maintain relevancy and enables us to help our customers compare and contrast the benefits that digital solutions will bring; whilst also understanding any gaps in supporting technology.

WHAT IS SWORD'S FOCUS GOING FORWARD?

Today's technology landscape is complex and diverse. Sword recognises the importance of having the right skill-sets across data, platforms, security, development, and change to deliver the types of solutions our customers need.

We continue to focus on building strong data foundations and truly embedding digital into the business. Organisations are starting to understand what digital transformation specifically means to them. It's going to be fascinating to see how they choose to mature their data driven roadmaps and build on the digital solutions momentum driven by the COVID-19 pandemic.



LOOKING TO THE FUTURE

RECORD NUMBER OF GRADUATES JOIN SWORD

With the global skills shortage in the tech sector an ongoing challenge, Sword have looked to address this by nurturing new talent through its own inhouse academy. Our finely-tuned learning environment provides opportunities for new and growing talent and provides our customers with the highly skilled workforce they have come to expect from Sword.

In 2022 we had many new faces through the academy including seven graduates through the doors fresh from Aberdeen's Robert Gordon University (RGU).

Six graduates of RGU's School of Computing joined Sword in October 2022 as software engineers, plus a graduate from Aberdeen Business School, making this a record intake for the firm, which in recent years has welcomed two or three RGU graduates each year.

Five of the new joiners studied RGU's BSc (Hons) Computer Science degree (Kyle Taylor, Callum Wingfield, Bryce Dawson, Ryan Wilson, and Dillon Scott). Fellow RGU graduate Catriona Bruce joins the Aberdeen ranks, having recently gained a degree in BA (Hons) Management with Marketing.

Grzegorz Bronka also joins after completing a year-long industrial placement with Sword (in 2019/2020) whilst studying on the BSc (Hons) Cyber Security course.

Several other software engineers have also followed this route into Sword in the past, including Ben Owen, who has now been employed for 10 years.

Sword's software engineers begin with an induction process and boot camp for the first three months, including immediate immersion into a mixed team of software engineers.

The training plan includes guidance, learning materials and tailored training on relevant programming languages. Their utilisation on customer projects is gradually scaled up as their confidence and experience grows.

Sword's software engineers get the opportunity to work on a huge range of data driven projects which help to give graduates, and the wider team, engaging work as they contribute to engineered-led solutions that stand the test of time.

John Isaacs, Dean of the School of Computing, RGU, said: "Forging strong industry connections is a core element of our ethos at RGU, and the relationship we have built with Sword over the years is a great example of how we can support talent development."

In 2023 we are looking forward to continuing to engage with local Universities to onboard new talent and further develop our academy.



Our long-standing relationships with local Universities helps us to support investment in talent and build a skilled workforce that Sword customers trust to deliver technology services and solutions. We have fine-tuned the learning environment and career path opportunities we can offer technology professionals over the years, and we anticipate further increasing our graduate intake in 2023."

Dave Bruce, CEO, Sword UK

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