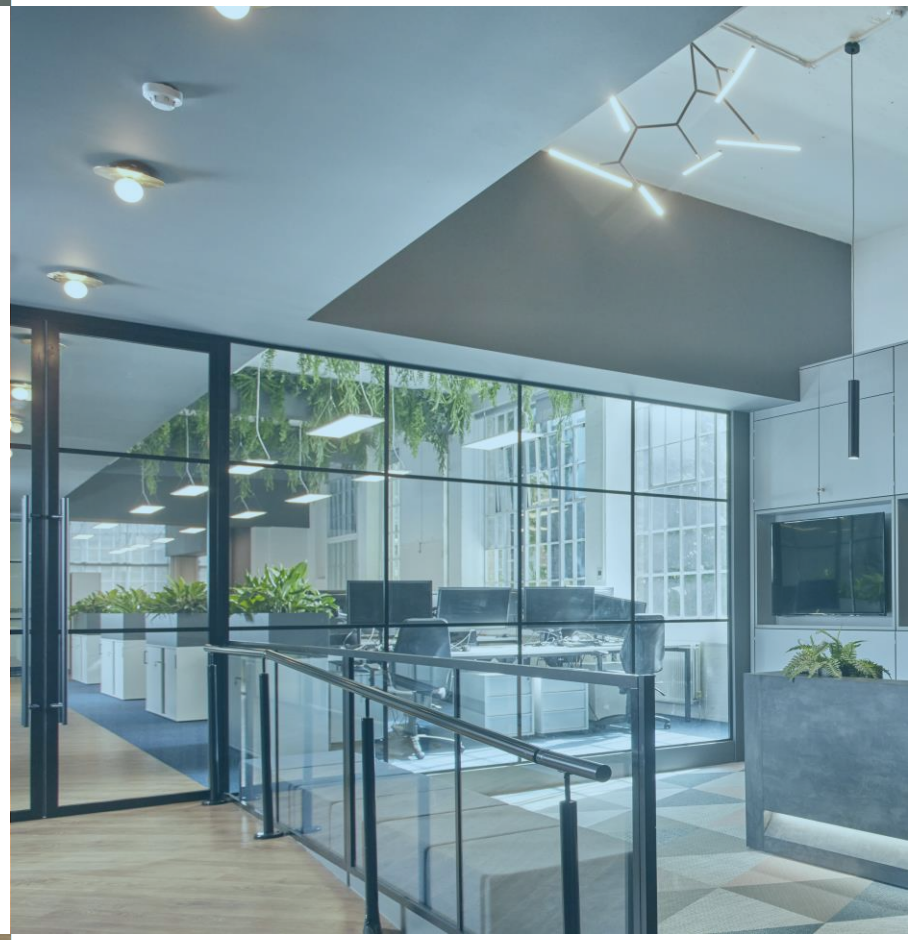
Softwire

Azure Cloud Migration and Modernisation

BACKGROUND, SKILLS & EXPERIENCE



Softwire at-a-glance

- A stable, consistently profitable business
- Privately owned, with founders actively involved
- Risk-averse, with no debts or liabilities
- Average 15-20% annual growth since inception
- ~95% annual staff retention

Awards and Recognition

- Sunday Times “Best Companies to Work For” 11 years running
- Financial Times “Leading UK Management Consultants 2021: IT Implementation”
- 4.7 rating on Clutch.co
- 4.8 rating on Glassdoor
- Microsoft Gold Partner
- ISO27001 and Cyber Essentials Certified

FT FINANCIAL TIMES UK's Leading Management Consultants 2021 statista

THE SUNDAY TIMES 100 BEST SMALL COMPANIES TO WORK FOR 2020

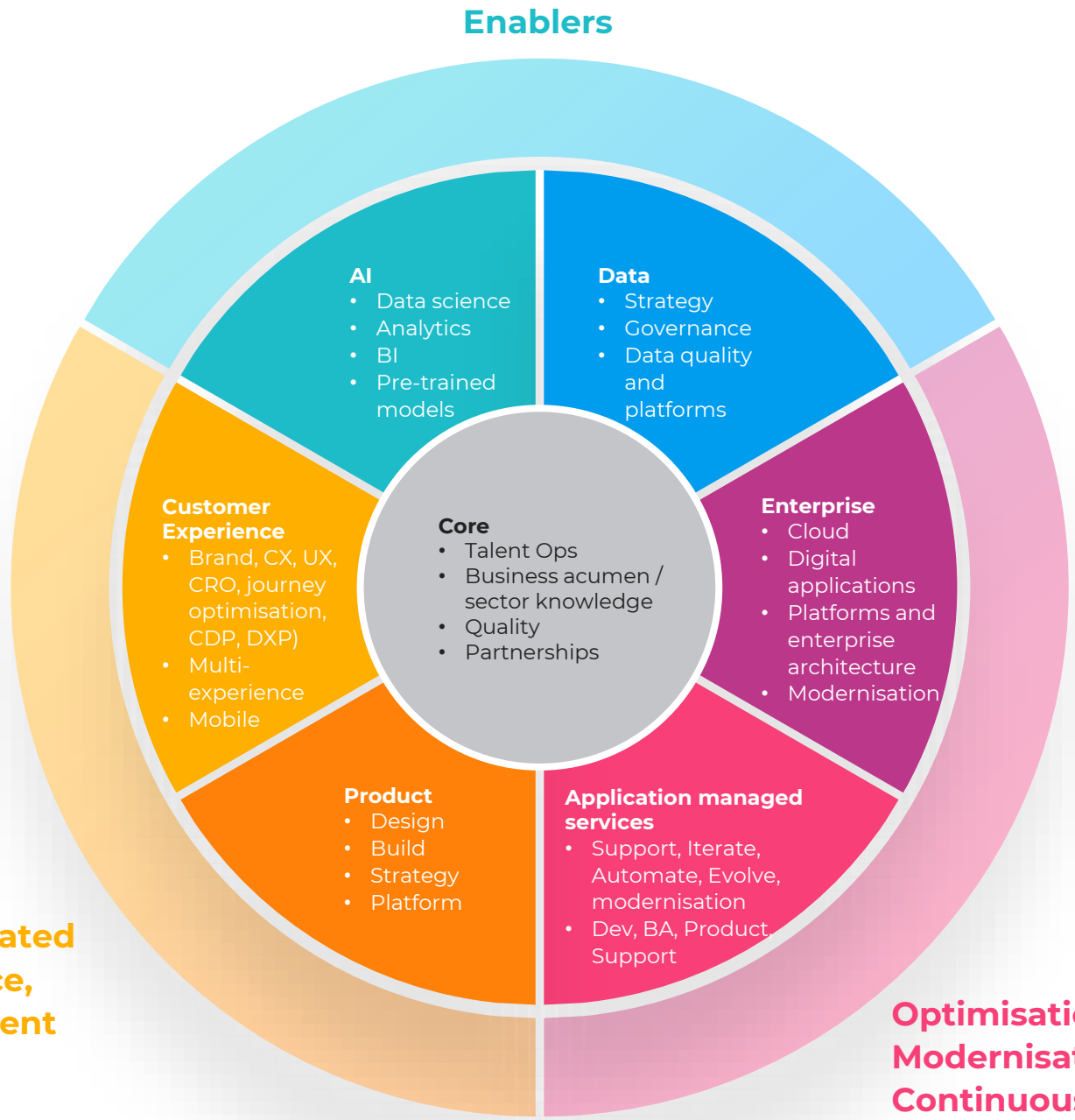
CYBER ESSENTIALS

Microsoft Gold Partner

ISO 27001 Certified

We offer a wide range of services

Our multi-skilled cross-functional teams offer **full-lifecycle management and ownership of outcomes** across a range of domains, using a range of specialisms.



A long history of delivering in the public sector

We have delivered outcomes for a range of departments and related bodies

Central Government

Department for Education

Department for Levelling Up, Housing & Communities

Cabinet Office

Ministry of Justice

Government Digital Service

Department for International Trade

Department for Energy Security & Net Zero

Healthcare

NHS England

Office for Health Improvement & Disparities

Department of Health & Social Care

Moorfields Eye Hospital NHS Foundation Trust

NHS Improvement

The Fleming Fund

Arms Length Bodies

ofgem

Office for Product Safety & Standards

LNER London North Eastern Railway

Local Authorities

Camden

Southwark Council

Azure Cloud Migration and Modernisation

As Microsoft partners, we have delivered a wide range of cloud migration and modernisation projects in the public sector, including Critical National Infrastructure and services with extremely high uptime requirements.

Our team will work with you to determine your requirements, and design an approach and architecture that will make best use of cloud technology, including helping you decide between IaaS, PaaS and SaaS approaches.

We can also support in upskilling your team in cloud best practice, including infrastructure-as-code and DevSecOps, as well as supporting skills such as Agile coaching.

Service Features

- **Assessment and planning**: Reviewing existing infrastructure, mapping to business goals, analysing total cost of ownership and return on investment
- **Security and compliance**: Defining security models, IAM strategy, audits and industry standards
- **Architecture Design**: Defining service models, architecture best practices
- **Migration strategy**: including post-migration validation
- **Training and transferring knowledge**: platform and tools training, documentation, knowledge transfer sessions
- **Optimising and managing costs**: Defining performance metrics, implementing auto scaling and cost controls
- **Managing operations**: monitoring, logging and reporting, Infrastructure as Code, DevOps and continuous integration
- **Ongoing support**: Providing 3rd line technical support for cloud services

Microsoft Solutions Partner

CYBER ESSENTIALS PLUS

nqa ISO 27001 INFORMATION SECURITY MANAGEMENT

Softwire

Case Study: Anthony Nolan Partnership

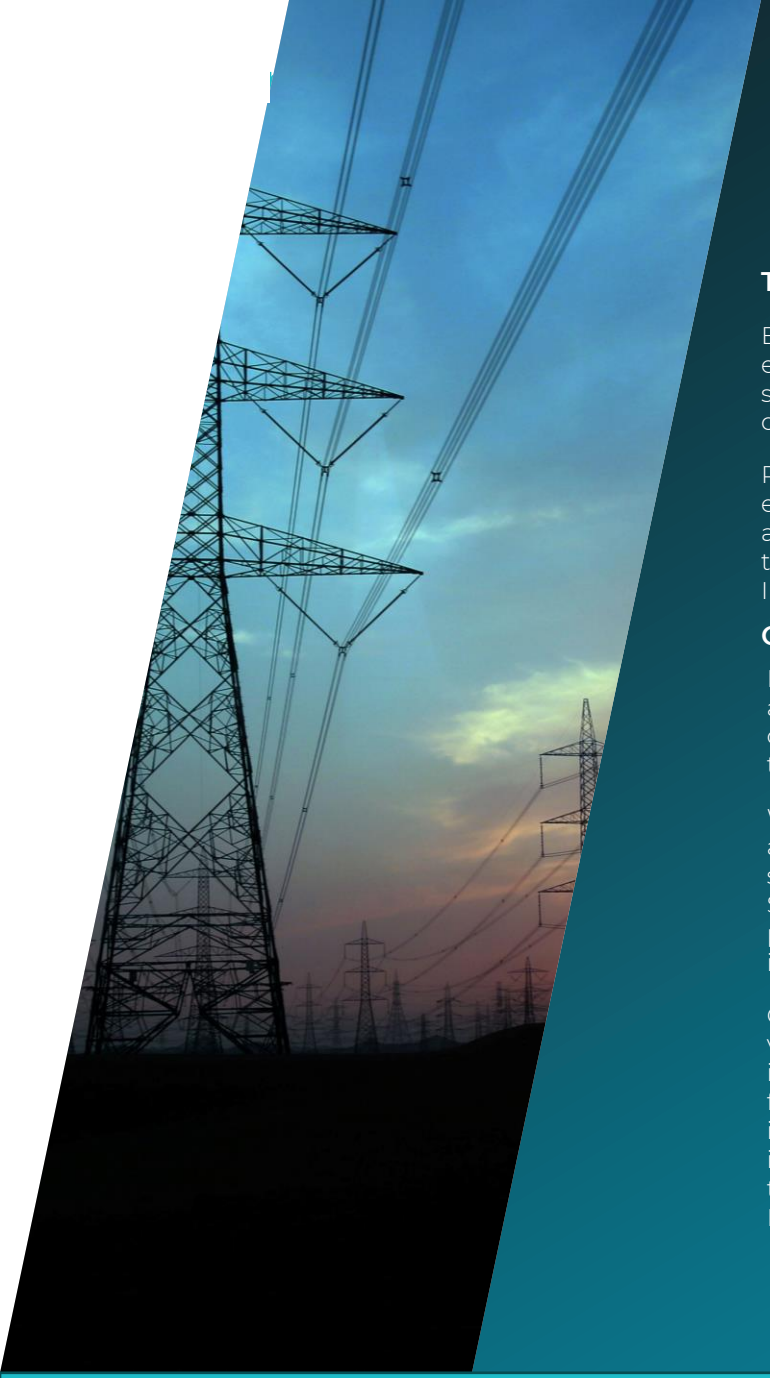
Technology refresh

To help achieve its vision to save and improve the lives of everyone who needs a stem cell transplant, Anthony Nolan wanted to refresh key IT systems. This would involve setting out a long-term IT strategy, designing a new, optimised IT architecture based on the Azure platform, identifying the best way to deliver it and understanding the skills it would require. Its new IT management team brought in Softwire, initially to advise on the strategic roadmap, then to work with them on delivering the improvements.

Softwire carried out a detailed discovery phase to understand Anthony Nolan's business-level goals and how its IT architecture, team skills and business processes needed to change to support these. We put forward a new strategic IT architecture and identified the areas that would deliver the greatest benefit most quickly, and began the transformation by rebuilding the search system used to find possible donor matches for people needing transplants, improving performance and adding features to better support the way the search team worked.

Subsequent projects included building a new system to handle sample collections, integrating with laboratory systems to automate processing. Softwire led the build and deployment of this tool against a very tight deadline to ensure that the new streamlined approach was available in time for the peak sign-up period.

The solution is built primarily on Azure PaaS features, making heavy use of AppService, Service Bus, Azure Functions and Azure SQL. Security and Scalability have both been key focuses concern since the system stores genetic data and identifying potential donor matches is a computationally intensive process.



Case Study: Elexon

Delivering a real-time, high-availability, end-to-end data solution to generate new market insights

The Challenge

Elexon is a not-for-profit organisation at the heart of the British electricity system. It plays a critical role in ensuring there is always sufficient power available across the network to meet the country's demands in real time.

Part of Elexon's remit is to publish a wide variety of data about the electricity market. Data published by Elexon helps stakeholders such as traders, forecasters, researchers and data providers make decisions that move the country towards Net Zero. Our work focuses on the Insights Solution which is a new, cloud-native, Azure data hub.

Our Solution

Elexon split the delivery of the Insights Solution into phases. The first addressed electricity generation and demand data. We formed a combined team with Elexon for the project, working alongside its technical and product specialists.

We designed and provisioned a greenfield Microsoft Azure cloud architecture for the platform, in line with the electricity industry's stringent security requirements. The delivery team worked with Softwire and Microsoft cloud infosec specialists to lock down the platform in line with the latest best practices and had the solution independently penetration-tested.

Our data engineering team built the pipelines to ingest the large volumes of data and ensure it could be output in real time. This involved addressing various complexities associated with the legacy file and data formats being used, and working with legacy vendors to investigate and fix data issues. We designed and built APIs to enable industry users to pull the Elexon data into their own decision-support tools and produced interactive visualisations of the data for the Insights Solution website.

The Result

While Elexon had created a traditional requirements specification for the first phase of the Insights Solution, its aim was for subsequent phases to fully embrace agile, user-centric methods. One of our agile evangelists worked closely with the customer to showcase the approaches the Softwire team would be using.. This helped secure the buy-in required to make agile, user-centred working the default for subsequent phases of the Insights Solution delivery

Best-practices we introduced included the introduction of various continuous delivery and automated testing strategies, using Elexon's Microsoft Azure DevOps Services tooling. We also brought in end-to-end design thinking with user research, persona-creation, prototyping and user testing.

Elexon launched the beta of the Insights Solution, including electricity generation and demand visualisations, as well as the API. It invited comments from the industry, and feedback has been superb, including around ease of use and quality of the visualisations and the API.

> *"As an organisation, we wanted to shift from a waterfall-centric mindset to be more agile. All eyes were on Softwire to see whether they could help us do this, and what the benefits would be."*

> *"One of our aims was to be faster to market with new features. In the past, new functionality would take up to eight months to deliver. We can now do things in as little as two weeks, which has been genuinely transformational."*

> *"Benefits like this, coupled with the fact that the whole delivery with Softwire went really well, have given Elexon confidence we can run successful agile projects. Others in the business have since followed down the agile path, which was our ultimate aim."*

Reza Nia
Product Owner

Case Study: EMRS

Migrating industry-critical data flows into Azure to decouple applications and enable unified analytics

The Challenge

EMR Settlement Limited (EMRS) administer financial schemes that enable the smooth operation of the UK electricity grid.

EMRS has a suite of legacy systems that operate key industry schemes, but was concerned its siloed data architecture was inflexible to upcoming industry-wide changes and did not meet modern expectations around data analytics and governance.

We worked with EMRS to design and build a cloud-native Data Lake and unified analytics platform as part of a wider Azure migration roadmap.

Our Analysis

Our team of cloud and data experts worked closely with EMRS teams and stakeholders to understand BAU processes and pain-points with their current data architecture. We talked to the client's design team to understand their long-term cloud roadmap and ambitions around data analytics. Considering both short-term needs and long-term ambitions, we made detailed recommendations for migrating their data infrastructure into Azure, including actionable first steps.

We analysed data interfaces between existing applications and identified key technical barriers which prevented analytics across multiple systems in real time. We presented recommendations on an Azure-native architecture to consolidate data exchange through Azure Data Lake Storage (Gen2) and enable live multi-system analytics via PowerBI.

We prepared options to facilitate informed discussion about Azure data engineering, including approaches to data ingestion, pipeline orchestration, ETL tasks and real-time event handling. We evaluated cloud-native and open-source technologies against EMRS's specific needs.

We proposed a cloud data architecture balancing cost, scale and observability. Our proposed architecture made the most of off-the-shelf tooling while keeping the door open for future data integrations.

The Result

We built a proof-of-concept system in Azure, re-implementing a key industry reporting scheme to demonstrate the end-to-end feasibility of the technologies recommended.

This proof-of-concept established and de-risked design patterns that are being re-used in EMRS's ongoing cloud migration, delivering a data infrastructure built around core data technologies:

- **Azure Data Lake Storage** (Gen2) with medallion architecture for data storage
- **Apache Airflow** for data flow orchestration and ETL
- **Azure Databricks** for data science and regulatory reporting
- **PowerBI** for data visualisation and dashboards

The proof-of-concept platform provides a secure data infrastructure to enable application re-platforming to commence.

Self-service reporting and analytics tools, Databricks and PowerBI, are connected directly to the data lake where access can be controlled via Azure RBAC. This reduces data duplication and enables client data scientists and analysts to explore real-time data and build custom reports without developer involvement across multiple, previously separate, datasets.