DIGITISATION IN THE ENERGY AND UTILITIES SECTOR

PROJECT ONE

Digitisation has been a growing feature of transformation and change in the Energy and Utilities sector over the past five to ten years. All areas across the sector have had to embrace digital transformation. From the design, build and maintenance of infrastructure, to generation, operations and service delivery, all have been subject to digitisation and change in some way.

THE MOVE TO DIGITAL IN THE ENERGY SECTOR

The advent of smart metering, smart grids and virtual power plants have been developed alongside the rise of renewables and the drive to decarbonisation. We have seen consumers become producers, paid to deliver power to the grid through feed-in tariffs. The next logical extension of this is the car becoming the power plant, by flowing electricity back to the grid at periods of high demand. The overall change affecting the sector has grown and the development of new technology has both facilitated and accelerated the transformation. Without smart systems, sensors, and machine learning capabilities the interconnected, intelligent power markets and grids would not be possible.

In the customer services area, with the move to smart phones being omnipresent, the demand for managing company and service interaction via apps has become commonplace. Customers are looking for ease of access and transaction. This drive to manage interactions online and with as much ease as possible has led to the rapid expansion of Agile developments in many areas of the energy sector. Apps are now being used by customers to manage their services, tariffs, and payments, and for field staff to manage customer sign-ups and connections, alongside asset management interventions, and repairs. This holistic digitisation process has delivered many great benefits, but not all companies have got it right first time or managed to move as quickly as competitors.

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THE GROWTH OF DIGITISATION IN THE WATER SECTOR

The benefits of digitisation are highly visible in the Water sector specifically. Water companies have traditionally been high users of technology to help deliver services. Operational control systems such as SCADA and telemetry systems have been present in the sector for decades. Similarly, customer services and corporate areas have also been enthusiastic adopters of technology, through the implementation of Enterprise Resource Planning (ERP) and customer relationship management systems (CRM), investing to help manage finances, large customer bases and billing cycles.

LOOKING TO THE FUTURE

The increase in regulatory scrutiny and the need to deliver efficiencies has intensified the need to leverage technology. Companies across the Water sector have realised that it is imperative to look at all digitisation possibilities in order to deliver improved service, asset management and operational performance.

EMBRACING TOMORROW'S TECHNOLOGY

Opportunities with machine learning technology make it possible, with the large amount of data available, to predict events such as burst water mains or sewer flooding. Similarly, by looking over to the Energy sector, Water companies can learn from the smart metering roll-out, to deliver an interconnected operational and customer service experience via a smart water grid, which could derive massive benefits for operational efficiencies and customer service outcomes.

HOW TO DELIVER CAREFULLY MANAGED AND PLANNED DIGITAL TRANSFORMATIONS

These opportunities need to be carefully managed and planned properly, with the approach and benefits case clearly understood. The right suppliers and resources need to be identified and highly capable experienced leaders and managers need to be employed to deliver the change effectively. It is imperative to ensure stakeholders are aligned, and the people, process and technology changes are delivered with the risks managed and the benefits secured.

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DIGITISATION IN THE NUCLEAR SECTOR

In a sector that has been built on long-term engineering projects and the aspect of safety critical processes, the drive to digitise can seem counter intuitive. However, deployed in the right way, through a managed and well thought through approach with a focus on adhering to regulations and well-honed processes, the introduction of digital systems can provide wide-ranging benefits. In line with the Water and Energy sectors, the Nuclear sector has typically used instrumentation and control systems to great effect.

OPTIMISATION THROUGH DIGITISATION

There is a wider opportunity in Nuclear however, to use new technology across the enterprise for management and operations alongside the building and decommissioning of power station assets. In all aspects of the design, build, operate and decommission life cycle, systems such as document management, asset management, work management, product life cycle management and supply chain management can be utilised to deliver substantial benefits and implement the core processes. On-site operations such as resource management and operational health and safety can be optimised through introducing intuitive technology including location tracking and virtual reality systems.

GREATER EFFICIENCIES WITH DIGITAL TECHNOLOGY

The advent of the 'digital twin' concept has led to the development of the virtual power station, whereby every asset is tagged, identified, tracked, maintained, and re-ordered in a virtual world. The deployment of these technologies must be exact and with zero defects. The existence of an error could cause a major issue that may only be realised in months or years in the case of a power station build. It means therefore, that these new digitisation and technology projects must be managed extremely carefully and with the right level of experience and capability.

DO YOU NEED CHANGE EXPERTISE?

At Project One, we have a long track record of successfully delivering major technology and regulatory related change, along with numerous digital developments across the Energy and Utilities sector. Our work reaches all areas across data, digital technology, Agile methodology implementation and large enterprise-wide digital developments.

Our unique perspective brings in experiences and the lessons learned from different programmes that our customers would otherwise not have access to. This cross-fertilisation of experience is crucial for organisations to short cut the development of the knowledge and skills required to successfully compete.

If you would like to discuss your challenges and how we can help, please get in touch. **Sean.Ellis@projectone.com**

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