VERSION 1

Is the Utilities Industry at the Centre of a Digital Shift?

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What is happening in the Utility environment?

As we digest the outcomes from COP26 and governments publish their Clean Energy Strategies for the next 10 years, it is clear that to progress towards Net Zero, there will also be a need for significant change to the current Energy ecosystem. Whether you are an energy generator, provide transmissions & distribution capabilities or are at the customer retail supply side; each business will be required to significantly transform how they operate over the next 10 years. All parties in this ecosystem will have to transform and in particular, digital transformation will be critical to support these aggressive targets and changes.

By way of example, retail providers will be seeking easier mechanisms to communicate with their customers, such as harnessing smart home devices and developing more sophisticated energy products to allow consumers to be savvier when consuming energy. Likewise, with network providers seeking to enhance open data capabilities thereby encouraging new and innovative services to the ecosystem. From a transmission and generation perspective, seeking effective means of managing significantly enhanced volumes of data to ensure energy demand is aligned with the maximisation of renewable energy.

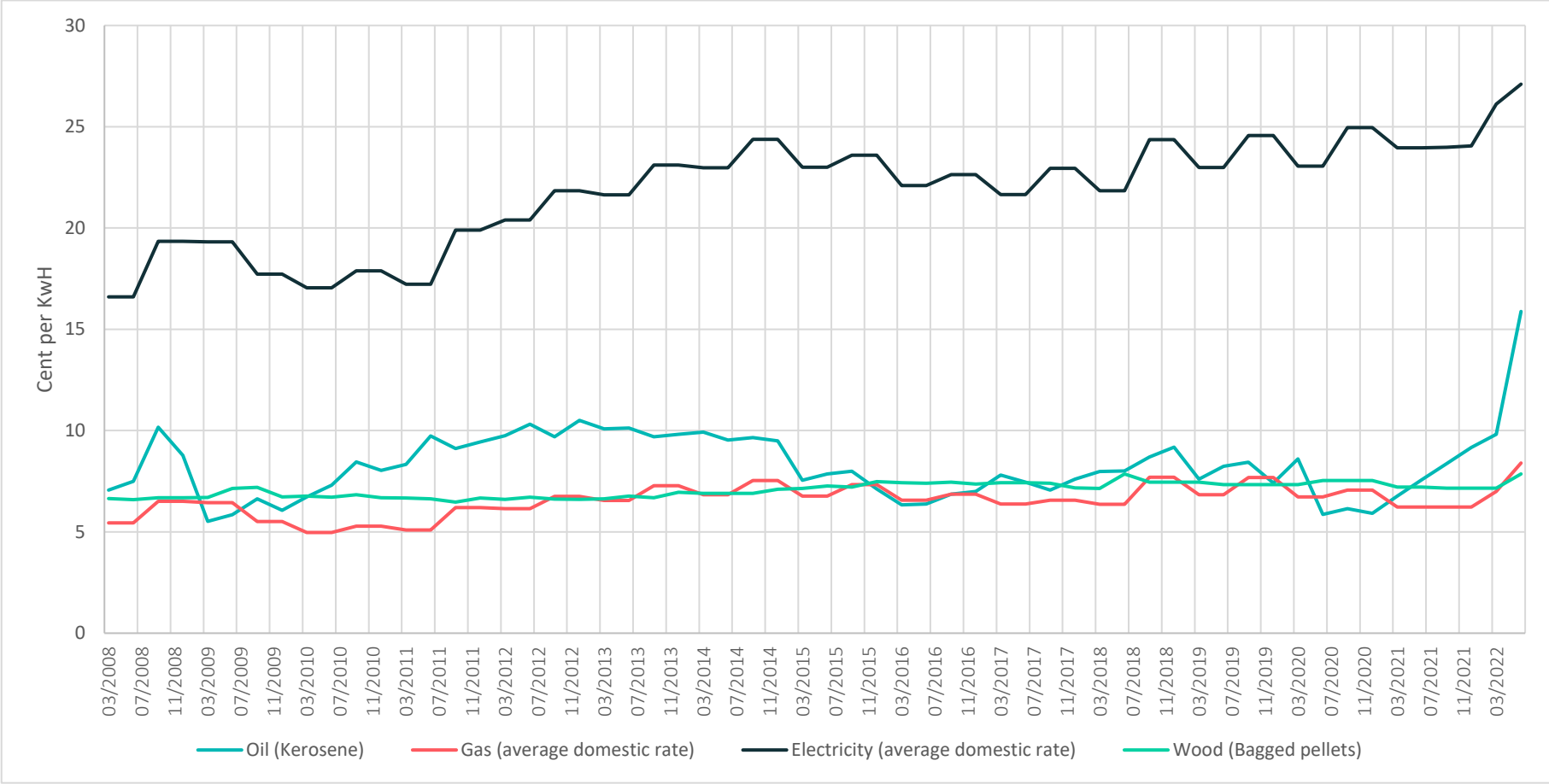
How will this be delivered?

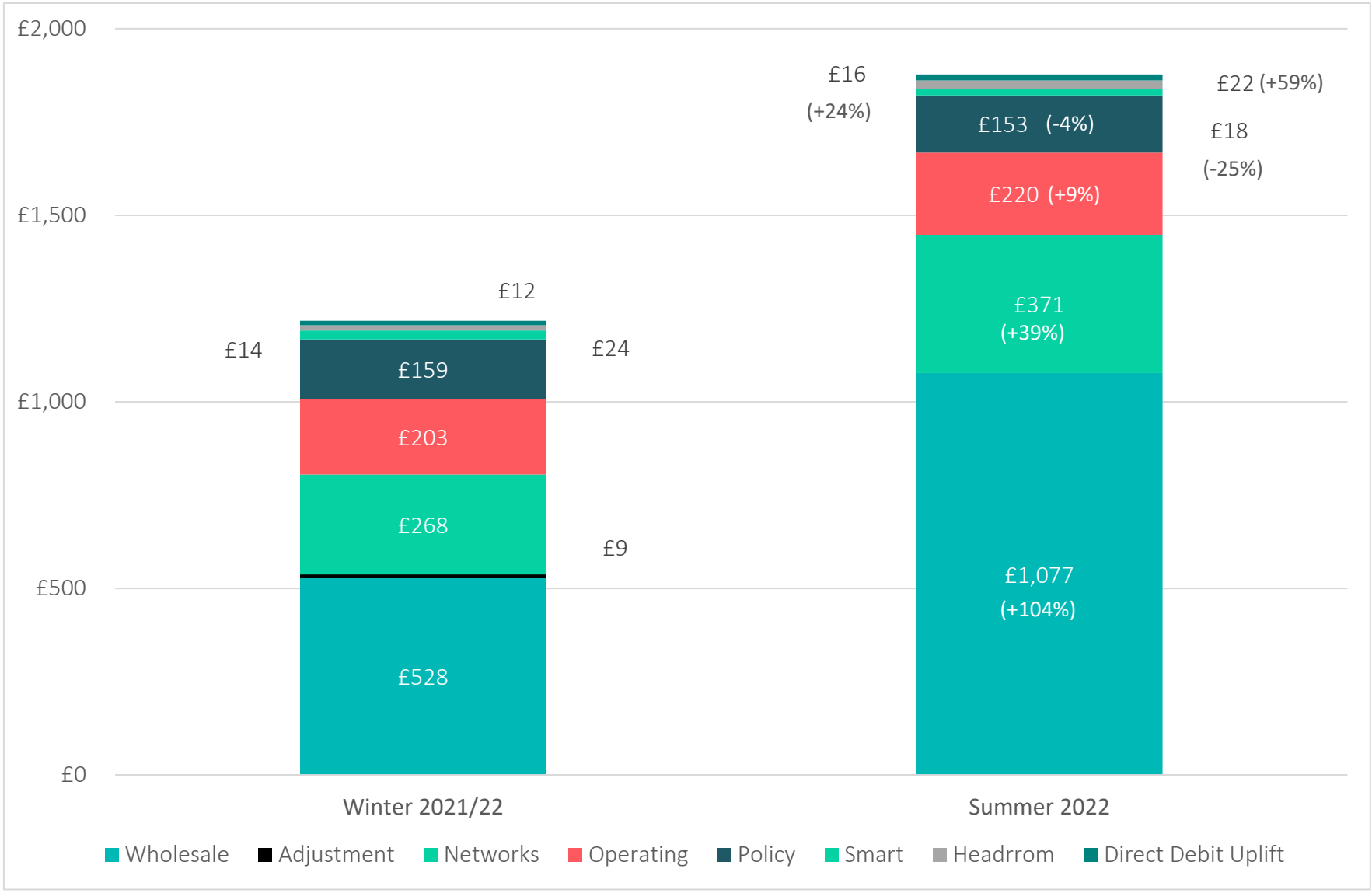
Regulation will have an important role to play as the net zero agenda is delivered. Regulation will be required to encourage innovation and competition, yet also ensure that sections of the population are not left behind. This is especially important to those who are vulnerable to an increasingly digital world. This is not a new concept; we have been witnessing this in the Banking sector over the past number of years where Retail banking sought to gain efficiencies through the development of online applications and products. This resulted in the banking sector inadvertently focusing on Generation Z and Millennials despite the fact that 83% of household wealth was held by people over 50 who were reluctant to change (Grandma wants digital banking too - Forbes Technology Council Sept 2020). We now see financial institutions shifting focus towards this population demographic.

Within the energy sphere similar efficiencies are being sought. The Sustainable energy Authority of Ireland (SEAI) recently published commentary on the significant and recent spike in the cost of gas over the past 10 years, as well as our forecasted price increases over the next quarter.

Data for graph below is sourced from two separate sources and compiled to illustrate Domestic Irish Energy Prices

The significant and recent increase is frightening yet, when looking into the next 6 months, Ofgem are also predicting even further price increases;





How will this affect consumers?

From a customer perspective, the rapid increase in energy costs over the past six months and the likely continuation of these higher prices over the next few years, will translate into a change in consumer habits. A focus on energy efficiency will become increasingly more important. Consumers will want to harness more renewable energy to support the climate change goals yet become more influential in how they control it's use within their daily lives. For example, we will see the proliferation of household battery storage, a shift of when energy is consumed for household appliances or EV's. Seeking deeper knowledge of energy prices, seeking out products that provide more granular time of use tariffs.

Whilst it is easy to focus on the many challenges and uncertainties ahead, it is also true that Energy businesses will have significant opportunities as well. However, given this environment of uncertainty it does mean that to grasp these opportunities, it will require these businesses to be dynamic and flexible in their approach. "In other words, technology will be an enabler for their success in a competitive and changing world."

By way of example, network operators will need to balance the requirements of government and the regulator whilst also being an enabler of change in the energy transition for customers, potential future stakeholders, and partners. From a network providers perspective, this will be done when much of the detail of the endpoint remains highly uncertain.

Version 1 and the energy sector

For the last 25 years Version 1 has been supporting Energy customers across the whole energy ecosystem as it continuously evolves. We understand the importance of technology and how it is an enabler for reaching strategic business goals. Version 1 has demonstrated this capability from the many energy and utility projects we have delivered over this period. We have been at the forefront of every competitive market opening in the Electricity sector in Ireland over the past 14 years. The following projects are examples of how Version 1 have supported several energy customers who were seeking to deploy technology solutions as part of this digital transformation.

Assisting Networks and several Retail Suppliers during their Domestic Retail market opening – essentially supporting the development of the systems and processes to enable retail competition in the island of Ireland.

Supporting a Network Operator during the competitive market opening of their Connections business. Specifically focusing on the technology required to facilitate their business and the wider market.

Supporting the Regulators in Ireland, an Energy Generation provider, and Retail Suppliers with the introduction of iSEM – the auction mechanism from which wholesale energy is traded.

Supporting the introduction of Smart metering by introducing the latest cloud technology with traditional billing engines. This emanated in the development of a digital engine which was the basis from which an Energy Retailer could build their digital capabilities when interacting with their customers and the market.

Developing an iSEM forecasting application for Retail Energy Suppliers. This application is used to support the business in finding the optimum price and quantity of energy transacted on the iSEM market

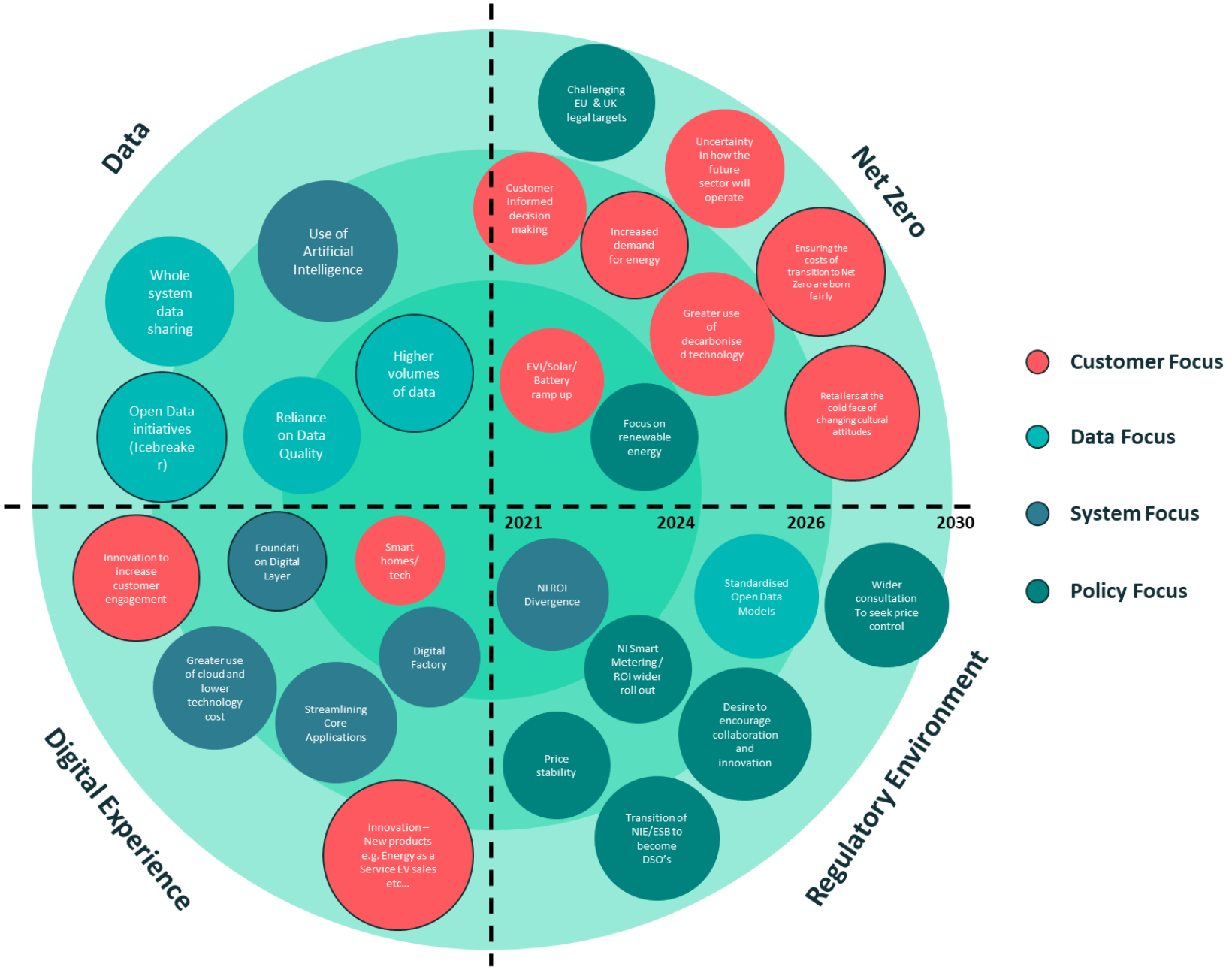
Developing cloud-based applications focused on customer support and billing within the Energy Retail Sector.

Our predictions and challenges

So, what are the likely future industry challenges from our perspective?

The following diagram outlines our view on the market, its challenges and the impact that using technology as a solution will have.

Fig1: Version 1 Tech Radar for Energy Industry 2021 to 2030



The two right-hand quadrants focus on the energy ecosystem, with the circles representing high-level considerations from an industry and regulation perspective. Version 1 has watched how governments and regulators are reacting to these challenges in a variety of different ways, however there are increasingly common threads that appear to be emerging:

- The increase in generation through renewable energy and how this energy can be stored efficiently for future use both at micro customer level through to industrial grid level.
- The movement towards customers having more control of their energy requirements.
- The separation of network ownership and maintenance from its operation through the greater separation of network businesses into Distribution System Operator (DSO) and Distribution Network Operator (DNO)
- A much greater focus on stakeholders' opinions in shaping future price controls and regulatory arrangements
- Active encouragement of new market entrants, to provide new services to the network, such as flexibility and aggregation, especially through innovation projects
- A very significant focus on opening data to current and future market entrants, and ensuring that this is done in a standardized way, for example through the Open Data initiative and Icebreakerone in GB
- A recognition of the need for neutral market facilitation
- The importance of meeting sustainability requirements for the network businesses at a corporate level
- A growing appreciation that network operators will need additional funding to make their digitalisation happen. In turn, this means an increasing focus on the cost and effectiveness of the network businesses' proposals

On the left-hand side of figure 1, Version 1 outline these impacts from a technology perspective and the key changes arising from the government and regulatory directives. Increasingly, Version 1 are witnessing common threads from our wide customer base both in Utilities and other sectors who have undergone a similar transformation.

The following is a list of some of these emerging common threads:

- The identification of new services that a DSO (Distribution System Operators) will need to provide through the energy transition to support optimisation in all timescales. This means that strategy needs to be set in the context of the new ecosystem that will emerge, developing flexible approaches that are robust to the uncertain outcomes you face.

- Improved visibility of data, to further empower end customers and others currently or potentially providing services to help make efficient decisions.
- Improved data quality to increase confidence in decisions. Transparency is good, but a digital network business relies on data being correct – solid technical infrastructure, data strategy and governance are key to this.
- Better information to staff, so that they can make more timely and informed decisions, both operationally and for planning. This might include more efficient capex and risk-based maintenance regimes, optimising your costs.
- Next generation tools to make the digital transformation more manageable for your staff, for example with mobile technology or AI.
- The opportunity to drive more efficient operations as a result, without compromising service levels. Greater automation is a typical component of this – Version1 would see this increasingly being a focus in GB and across Europe.
- Better knowledge capture and sharing, improving workforce efficiency, and breaking down silos. Many utilities are using this as an opportunity to pivot their businesses to be employee focused.

How can Version 1 Support this Transformation?

Where do we fit into this? From a technology perspective, Version 1 has identified two main emerging themes:

1) Digitalisation of systems – we know…everyone mentions this! For Version 1, in its simplest form it means putting the customer or employee first. Yes, making the most of emerging technology, enhancing existing core systems, and developing use of cloud technologies. Yet doing so with a clear vision of your customer's and employee's needs.

2) Data – the visibility of data in an open environment, the value of data to ensure effective decisions are taken and a core understanding how data moves within each energy participant and the entire energy ecosystem.

Over the next few months, we will be releasing a series of documents focusing on areas where we have been actively working with our customers on these two themes. The following provides a high-level summary of the areas we plan to discuss further.

A Digital Enhancement

Digitalisation perspective we will discuss:

- The Solution Canvas – it is clear the energy market is changing so how confident are you that the changes you make to your technology estate will translate into tangible business gains? Version 1 has developed an approach for the scoping, ideation and planning of solutions to fundamentally improve your business. For Utility businesses, we place customer / employee value streams at the heart of our approach. We have a laser focus to both enhance the level of customer satisfaction and reduce the cost to serve their customer base. We will discuss how, for one of our customers this approach directly translated into business performance improvement as well as clarity between defined business outcomes and technology improvements.

- A Digital Layer – most Utility companies have invested in strong core systems that perform certain functions incredibly well. There is no need or desire to replace them, we would agree! However, information (data) is needed to be shared between these systems yet many utility providers find this incredibly hard to achieve in practice. The market changes we outlined above are fundamentally dependent on system integration internally and externally in the market. Utility companies that ignore this fact in our view will struggle in the future and enhance the risk of losing market share to their competitors. We will discuss how we have already supported a leading Irish energy supplier to put in place a digital foundation from which they can take advantage of the future changes coming in the Irish market.

- Developing software applications to meet a business need, whether this is through Low Code solutions (such as Microsoft PowerPlatform and OutSystems) or another defined technology solution. We will discuss how one of our clients, following our Solution Canvas approach, decided to harness a Low Code platform to develop a cloud-based solution. This solution will transform how they manage their organisation and how they communicate with the public. For one of our customers, using this type of technology has translated into quicker deployment times again enhancing their ability to stay ahead of their competition.

Informed Improvements

From a Data perspective we will discuss:

- Our Data Maturity Assessment tool – with the push towards an Open Data environment, how confident are you about the quality of your data to help make correct decisions or are their reputational concerns should poor quality data get released to your customers. Version 1 has developed a tool to assess the quality of your data, identify areas of improvement and provide guidance and support to make practical improvements.

- Data analytics - one of the expected future outcomes is a significant increase in the volume of data flowing around the energy ecosystem. There is also a clear correlation between employee or customer satisfaction levels and how utility providers use the data they have captured in their systems. Version 1 and their team of data experts and scientists have undertaken multiple assignments with customers to support how data is captured, managed, and analysed to support customer decisions or communications.

- Open Data – a core government agenda, to encourage making data more open to the public thereby enhancing innovation in the market. Version 1 and their Data experts have been supporting businesses in using open data to their advantage from connecting with customers, developing new tool to analyse data or in understanding how reputational data can drive your corporate brand.

It's time to enable your ecosystem

Version 1 has been successfully supporting Utility customers in Ireland and UK for over 25 years now. We have a strong team of individuals who have a depth of knowledge in the industry equalled with a depth of knowledge in technology. Our team are excited about what the future holds for the Utility environment and how technology will be an enabler for these changes.

Should you wish to find out more about how Version 1 has been supporting the Energy ecosystem or indeed would like to find out more about some of the topics raised then please do not hesitate to contact us.

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Get in Touch

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