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PROJECT TRIDENT BUSINESS CASE

ProjectTrident
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STRATEGIC OUTLINE CASE

September 2024

Introduction from our CEO Steve Brittan

UK Link is the digital heart of the UK's gas market. It is responsible for processing transactions between the market's participants, ensuring that they are charged the right amount by way of settlement and billing. The system also brings to life many of the commercial rules of the industry as described in the Uniform Network Code (UNC) and its Independent Gas Transporter equivalent, and is trusted by all market participants.

The scale of the system is massive, holding a register of more than 25 million gas meter points, processing billions of calculations, and transactions worth tens of billions of pounds. The system therefore has to be extremely reliable, accurate, and secure, and Xoserve as the Central Data Services Provider (CDSP) is charged with ensuring that the system is effective in all these exacting requirements at all times.

Part of our job as the CDSP is to plan for the future, and the time has now come to consider the future of UK Link. This system currently operates on SAP Industry Solution for Utilities (IS-U) ERP Central Component 6 (ECC6) architecture, originally developed by Project Nexus. At the time, this implementation was one of the largest, and most complex of its kind, and even today, almost a decade later is still globally significant in scale. However, SAP support for IS-U ECC6 will soon come to an end. As a result, there has been a stream of organisations who are migrating off SAP IS-U ECC6, a trend that is accelerating. Most organisations that have undertaken this migration report that it is a complex, time-consuming activity, requiring substantial planning to assess options, and define the project. This is especially true in mission critical systems such as UK Link, where continuity of reliable service is essential.

To continue with the analogy of the digital heart, we are approaching the point where a heart transplant is needed, and as with any major surgery, a lot of planning is required in preparation for the operation to come. Project Trident has been initiated by Xoserve to do exactly this. We anticipate this will take several years and is significantly more than "just" an IT project. Project Trident will define the future operating model for Xoserve and UK Link, but also affect the wider industry, learning the lessons of what has worked well, and where there are opportunities to improve. Project Trident presents the opportunity to open the CDSP estate to a broader range of suppliers and innovators, and Xoserve will conduct competitive processes to access the best options to build the new system. We have already embarked upon this strategy, building our capabilities as intelligent owner and Enterprise Architect for the CDSP estate. Business Plan 25 (BP25) will highlight where we plan to invest to further develop these capabilities in support of Project Trident. This won't be the first time the industry is learning about Project Trident and what we are proposing. At the market engagement day in May 2024, I personally took the opportunity to introduce Project Trident and explain what our challenges are in relation to the future UK Link system. During the engagement day, we opened the dialogue for initial thoughts and questions around Project Trident. This dialogue and consultation approach has been further applied at our Project Trident Launch event on 9 September, where we enjoyed hearing your views, which we are now feeding into our planning process.

Project Trident will need to be adaptable to accelerating rates of market change, as the UK's efforts to decarbonise energy supplies intensify. The National Energy System Operator's (NESO's) recently published "Future Energy Scenarios" paint a rich picture of possibilities. From an Xoserve perspective, we welcome the clarity this has provided in that all future scenarios demonstrate there will need to be a UK Link capability until at least 2040, if not beyond. This therefore has become our planning window for Project Trident.

Project Trident may need to support a broader range of billing and settlements than just those associated with Natural Gas as defined in the UNC, e.g. other gases, clusters, etc. At this stage, Xoserve makes no prediction as to when, and how the market for these will develop. But as we plan the project, flexibility will be a key criterion.

It is also clear to Xoserve that Government and the Regulator will be asking more of Central Bodies to support a broad range of policy initiatives, including Code Management. We have already demonstrated our capacity to do this successfully with the Energy Price Guarantee scheme and, as a not-for-profit company, we are enthusiastic to play our part proactively ensuring the future architecture of the system delivered by Project Trident is a key policy enabler, especially through open, high-quality data.

In order to build the Project Trident investment business case to justify such a significant investment, Xoserve is using the well-known HM Treasury "Green Book" approach to building the Project Trident investment business case, and today I am pleased to present the Strategic Outline Case (SOC) for Project Trident. This touches on the points above, presenting a compelling "Case for Change", and represents the first step in the "Green Book" process with the Outline Business Case (OBC) and Full Business Cases (FBC) to follow. As Project Trident develops, we will be considering a range of options for implementation of the modernised UK Link system, culminating in an FBC which will capture the preferred implementation, and budget for Project Trident. We will build a range of specific stakeholder engagement vehicles, to ensure we consult widely, as well as establishing independent project assurance, as we arrive at a solution that best meets the future needs of our broad range of stakeholders.

Keeping our stakeholders and customers engaged on the journey is imperative for the success of Project Trident and we intend to continue to invest time in the quality and frequency of engagement with the market. I will continue to enjoy discussing Project Trident on my regular CEO visits. We are committed to listening to your views, learning from previous industry initiatives and are committed to making Project Trident the successful platform to underpin the UK Gas industry for the next 15 years.

I look forward to continuing to work with you all, as we embark on this major project.

Steve Brittan
CEO, Xoserve

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Executive Summary

As the Central Data Services Provider (CDSP), Xoserve offers critical centralised services to Great Britain's gas market. We are responsible for securely maintaining the gas supply register data, consumption, settlement and transportation data, securely on behalf of stakeholders and the market.

At the core of these data processing capabilities is the UK Link system connecting the complex data, information, technology and communications processes that underpin the successful competitive retail gas market in Great Britain.

The purpose of this business case is to provide the justification for Project Trident, which is to modernise UK Link, present the options considered to future-proof the system and capture the rationale for the outcomes, scope, and approach of the project. The case for change is built around a need to do something now to secure the future of UK Link, protect the integrity and security of the industry data and have a UK Link which is fit for purpose for the future energy market. The catalyst for this change is the current platform supporting UK Link will soon reach the end of serviceable life. If we don't act now there will be a high risk to UK Link, with system components becoming unsupported if there are any outages of the system, security patching won't be possible, and system updates will cease.

The UK Link system enables and supports critical data services for customers including the Supply Point Register managed on behalf of the whole industry, Transportation Invoicing on behalf of the Distribution Networks (DNs) which creates the capacity, commodities and reconciliation for the gas network, and other essential data services we divide into general service areas. The UK Link services are used and funded by customers, with charges apportioned across the customer groups, according to the services they benefit from and access. While this identifies the business processes UK Link underpins, there is a requirement to also consider the current technical architecture of UK Link. Project Trident will focus on how we address the technical structure of UK Link and the decisions we need to make to ensure UK Link will continue to support the CDSP service provision in the future. This means that a range of options will be assessed against key criteria to ensure a critical approach to deciding which future provision is most appropriate for the industry needs and delivers value for money for Xoserve's stakeholders and customers.

At the centre of the current UK Link technical architecture is the SAP Industry Solution for Utilities (IS-U) ERP Central Component 6 (ECC6) product set, which is approaching the end of its serviceable life. In 2027, SAP will end the product life of ECC6/Business Warehouse along with its associated product support. Whilst Xoserve potentially has the option to extend SAP support for UK Link until 2030, we must consider the options to modernise now, for a cost-effective and innovative UK Link from 2027 onwards, that will be fit for purpose until at least 2040. We have an obligation to ensure the DSC services UK Link provides remain reliable, highly available and secure with an industry change related addition of flexibility and agility.

While Xoserve could potentially buy additional support either from SAP or a 3rd party provider, we believe there are imperatives for more substantial change now:

- The support likely to be available post mainstream support ending in December 2027 will be at a lower level than currently offered. If we choose to negotiate extended support with SAP beyond 2027, this will also have an end point which will be controlled by SAP, most likely 2030. While these offers are still being finalised by vendors, it is quite likely key elements such as security patching will not be included. Without full support, we run the risk of longer outages in the event of incidents, potentially intensive manual workarounds, and delays to the quality of service, including payment of invoices, that are so important to a smooth functioning gas industry. This option of extended support does not address the anticipated system flexibility needed in light of upcoming industry changes.
- The gas industry and energy market anticipate some significant changes which will test the agility and scalability of our current UK Link solution. There are potential industry developments such as blending hydrogen in support of Net Zero and a move to half hourly meter reads driven by decarbonisation which will push system processing beyond comfortable capacity limits. While we may be able to build flexibility into the current system, this may not be cost effective or value for money when we have to invest to replace components of the existing UK Link system in the near future.
- The market we operate in is a complex place and the current UK Link system infrastructure reflects this. The complexity of our current architectural design means that change is increasingly time consuming and costly. Simplification and modernisation of our system, through Project Trident, can support a more agile approach to delivering change in line with industry requirements within UK Link. We don't want to wait to see exactly what is around the corner in terms of industry change, we need to get started on building a fit for purpose system now, which will be ready to flex to industry change.
- Our existing DSC+ contract is due for renewal in 2030. We want to ensure that we have options for our supply partners at that time if we believe diversifying our suppliers is right for the industry and for Xoserve.

Collectively, these are powerful reasons to review options now with an underpinning need for UK Link functionality and data processing service until at least 2040. Given that any new platform will take several years to commission and build, it is important we invest in 2025 to gain a better understanding of our options, budgets and timeline, to deliver this change. SAP is encouraging clients to move to SAP S/4HANA in the run up to 2027; we will explore this, and other alternative options to SAP S/4HANA as we need to understand the suitability of SAP S/4HANA in relation to our requirements, as well as exploring the suitability of other options. We must ensure we make the right choice for the industry and unique market requirements. The system the data is processed within is a large and complex platform made up of multiple data tables which provide calculations and processing capability for high volumes of data daily. This will be a large-scale investment in the system, based on the scale and size of the data processed on behalf of the industry within the system, and will become a multi-year investment project of work, with built-in high-quality project governance and management to ensure risks are managed and progress is delivered in line with industry expectations.

In summary Project Trident seeks to:

- Modernise the current UK Link.
- Secure the future of the DSC services UK Link supports.
- Provide an enabling platform that delivers agility for future change.
- Address the risk of future capacity limits on the current UK Link data systems.
- Increase the agility of the system to support industry change related to decarbonisation and Net Zero.
- Optimise Xoserve's organisational structure, operating model, and partner relationships to improve value for money, quality, innovation, control and flexibility for customers.

Reference documentation:

Xoserve, our role and customers:
www.xoserve.com/about-us/about-xoserve/our-role-and-customers/

Xoserve, Business Plan 2024-25 (BP24) sets out the intention for the UK Link replacement:
www.xoserve.com/media/ermb3rzb/business-plan-bp24-final-version-spreads.pdf

Xoserve, Business Plan 2025-26 (BP25) Statement of Planning Principles presents the intention for investment into Project Trident:
bp25.xoserve.com/wp-content/uploads/2024/06/Xoserve-Statement-of-Planning-Principles-2025-28.pdf

SAP, SAP will provide mainstream maintenance for SAP Business Suite 7 core applications until end of 2027:
support.sap.com/en/offerings-programs/strategy.html

1 Business Case Structure

We have adopted the Five Case Model approach as outlined within the HM Treasury Green Book[1]. This structure will support the evaluation of key decisions, provide transparent justification of the investment requirements, and demonstrate value for money, identify key risks, articulate the delivery approach and provide a vehicle to engage stakeholders.

The business case will be constructed iteratively, in three stages:

- The **Strategic Outline Case** (SOC): this document will focus on the strategic case, which will define the need for change, the parameters within which the project will work, and the outcomes to be achieved. It presents how the project fits within the context of government and regulatory transformation, wider market demands, and articulates the pressing need for a decision on the UK Link platform's future.
- The **Outline Business Case** (OBC): this document will present the results of an economic cost-benefit analysis and an indication of the preferred way forward.
- The **Full Business Case** (FBC): this document will outline a detailed costing of specific options and will outline arrangements for a cost-effective implementation.

Each iteration of the Business Case will be broken into five sections:

1. **The Strategic Case i**ncludes the strategic assessment of the industry and Xoserve's place within this, and the strategic context for the project's case for change. This will cover the challenges, an explanation of the catalysts for change, and the outcomes we are seeking to achieve.
2. **The Economic Case** constructs a long list of options, and provides the rationale for how we have narrowed the long list of potential options down to a shortlist, and then how we select a preferred option for a range of considerations.
3. **The Commercial Case** presents the procurement principles followed and the intended approach to the procurement of any external input, new systems, system upgrades and infrastructure required by the agreed solution.
4. **The Financial Case** presents cost estimates, and explains how procurement activity, project delivery and operating resources will be funded.
5. **The Management Case** articulates the actions that will be required and who will be involved, to ensure successful delivery of Project Trident.

1 The Five Case Model is a methodology for producing business cases for spending proposals. See Green Book guidance: www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government/the-green-book-2020

The table below demonstrates how the coverage of SOC, OBC and FBC will develop over time:

Stage	Strategic Case	Economic Case	Commercial Case	Financial Case	Management Case
SOC	50%	40%	10%	10%	10%
OBC	80%	70%	65%	55%	55%
FBC	100%	100%	100%	100%	100%

2 Strategic Case

The Strategic Case presents the rationale for the proposed investment in Project Trident and describes the alignment with Xoserve's strategic priorities. It comprises of five main sections:

- Xoserve and UK Link context.
- Case for change.
- Project objectives and scope.
- Strategic assessment, including Xoserve's role and strategy and the industry, market and technology context.
- Project benefits, risks, constraints and dependencies.

2.1 Xoserve and UK Link Context

Xoserve is the Central Data Services Provider (CDSP) for Britain's gas market. Xoserve's obligations are to fulfil the requirements of the Uniform Network Code (UNC) and its Independent Gas Transporters (IGTs) equivalent, on behalf of stakeholders. We are the main information exchange for meter point administration, supporting customer switching, data services, invoicing. and settlement, which is critical for supporting the balance of the total system. We are responsible for industry critical data in relation to gas supply points, customers, transportation, metering, and networks. We have responsibility for invoicing and charging for stakeholders as well as regulatory compliance, market intelligence and reporting for compliance purposes. In addition to this we provide technical support and IT services for customers requiring data exchange.

The current technical architecture of the UK Link estate is made up of three architecturally separate, but functionally interdependent, elements of the UK Link platform:

1. **'Core'** – a bespoke configuration of SAP ISU ECC6 and SAP BW.
2. **'VCO'** - an integration layer which is formed of a collection of systems which validate, convert, and orchestrate data into and out of Core, with the objective of maintaining data quality and integrity of Core.
3. **'Customer Edge' –** customer-facing systems that DSC parties use every day to engage with Xoserve and ultimately Core.

This forms the basis of the starting point for Project Trident, which is to understand the business and technical process we need to carry over to the future UK Link system.

UK Link is the foundation for the provision of data to stakeholders and customers providing energy balancing across the gas network. We ensure the system's availability, performance, and security to support multiple business processes across the industry. This information is critical to the smooth running of the UK gas network ensuring efficiency and fairness in capacity management, billing, and settlement processes.

UK Link is funded through charges levied on the organisations and companies who use Xoserve's data management services, including gas transporters and gas shippers[2]. The costs associated with Xoserve data management and maintenance are distributed among the gas market participants who benefit from those data services. Charges for the specific services needed for the gas market to operate are outlined in

2 Xoserve invoices and collects funds from the Data Services Contract (DSC) and the UK Link User Agreement (UUA) customers: www.xoserve.com/about-us/about-xoserve/our-role-and-customers/funding-governance-and-ownership/

the annual charging statement. All are necessary for the gas market to operate.

We prepare an annual business plan which details the expected project and operational costs which must be budgeted for in the coming year and future business planning cycles.

Xoserve must now fulfil responsibility to the DSC customers and ensure the security and integrity UK Link data on behalf of the gas network, now and in the future.

2.2 Case for change

UK Link Core is built on the SAP IS-U ECC6 product set, which is approaching the end of its serviceable life.[3]

In 2027, SAP will end the product life of ECC6/BW along with the associated product support. Xoserve has the option to extend maintenance for SAP IS-U ECC6 until 2030. There are also other technical components that form part of the UK Link systems which are similarly approaching the end of their serviceable life.

The end of product support for UK Link components presents risks to the ongoing fulfilment of the CDSP services. UK Link functionality will be needed until at least 2040, based on gas industry demand. Project Trident, therefore, considers the options for a cost-effective and sustainable future for UK Link.

These options range from mitigating the specific end of life risks, to developing a new UK link system. Whatever the selected option, Project Trident will ensure we can continue in the role of safeguarding and processing data for Britain's gas network, and, if the selected option allows, develop a more flexible system able to cope with future industry and energy market changes.

In this section, we describe the issues with the current UK Link system and why we need to move to consider the future of UK Link under the following headings:

1. The risks of unsupported UK Link technical components.
2. Industry change requiring greater system flexibility.
3. The current limitations and opportunities of UK Link functionality, including:
    - Data processing capabilities and capacity.
    - Customisation and complex architecture.
    - Supply chain and organisational optimisation.

2.2.1 Risks of unsupported UK Link components

UK Link data services are required for energy balancing across the gas network up until at least 2040. Customers require data services that are highly available and reliable. A UK Link system built on unsupported components significantly increases the probability and likely impact of data outages of the system. Data outages could be more frequent and last for longer, and potentially with more serious consequences.

UK Link is a transactional service that our ecosystem of customers and the gas network relies on. If UK link stopped working, this would result in major data inaccuracies with settlement, invoicing, billing and supply point data being unavailable to the network. Settlement calculations may not be able to be made and invoicing would likely be inaccurate. This would be financially detrimental to stakeholders that ship

3 SAP will provide mainstream maintenance for SAP Business Suite 7 core applications until end of 2027. This offboarding phase will be followed by optional extended maintenance until end of 2030: support.sap.com/en/offerings-programs/strategy.html?anchorId=section_1614725897

and trade in gas as well as those further down the pipeline, as end customers could be billed incorrectly. The overarching issue of an unsupported system is that information couldn't be maintained or validated.

The current UK Link system is an integrated set of products and customised components, which have been developed to support the operation of the gas transportation system. The current VCO integration layer and Customer Edge layer are dependent on the availability of the SAP Core and an outage to the SAP Core could impact the customer-facing systems provided by UK Link.

Continuing to use unsupported components, particularly the SAP Core, could have the following implications:

- **Increased risk of security vulnerabilities and security incidents:** due to no longer receiving security patches and regular updates.
- **Compliance issues:** an increased risk of data breaches could compromise the ability to comply with prevailing legislation.
- **Operational risk:** due to increasing system incompatibility and performance issues.
- **Support risk:** lack of support in resolving incidents and problems on UK Link.
- **Increased costs:** due to the requirement for previously automated processes becoming manual, specialist skills and custom solutions.
- **Reduced ability to make changes:** due to the challenges of modifying systems configurations and customisations required as a result of periodic industry, regulatory, and code management changes.

The primary objective of Project Trident is to address and mitigate these risks and hence continue to provide a reliable CDSP service to customers. While the end-of-life risk primarily concerns Core, we will consider all current technical components of UK Link as being in scope for Project Trident.

2.2.2 Industry change requiring greater system flexibility

Xoserve's position within the energy industry enables us to know what may be arriving on the horizon and the changing industry demands that impact the data we process and manage as CDSP. Looking at key industry initiatives such as Net Zero, Market-wide half hourly settlement (MHHS) and the introduction of hydrogen blending gives us the foresight to know we need a flexible UK Link of the future. We need to build agility into the system which can adapt to the changing market around us. These changes we implement for UK Link will provide greater flexibility and enable us to incorporate these currently undefined industry adaptations. We know that if we make changes to the existing solution, it will be a wasted investment once we come to the point we need to upgrade or rebuild the system, we don't want to pay for change twice.

2.2.3 Data processing capabilities and capacity

The current UK Link systems were delivered as part of Project Nexus in 2017[4]. A notable limitation of the current system is the data storage and processing capabilities of the SAP system. The volume of data being held by UK Link is increasing and we expect the required data volumes to increase as the demands of the industry evolve.

The existing UK Link system is likely to reach its data capacity and processing limits and be unable to perform as required. There may also be an opportunity to simplify the complex data structures and processes with a resulting reduction in cost.

As part of the development of the Project Trident business case, we will analyse when these limits are forecast to be reached and consider possible mitigations.

4 Project Nexus was a gas industry programme that was implemented in June 2017. It developed industry requirements for changes to gas settlement arrangements and implemented new central systems and processes to support those arrangements such as UK Link: www.gasgovernance.co.uk/0617

2.2.4 Customisation and complex architecture

The current UK Link system is complex. It includes many integrated components and a high number of customised products and developments.

This creates several challenges:

- A complex support and supplier landscape.
- Increased costs to maintain and make changes.
- Increased complexity and risk of change, with reduced adaptability.
- Future scalability and upgradability issues.
- Challenges in maintaining documentation and knowledge.

Project Trident has the opportunity to review the complex data structures and processes which may be simplified, reducing the cost and complexity. This will also influence the options we select for the future UK Link platform, as selecting the best fit-for-purpose option is essential to simplification and innovation opportunity of our UK Link data processing product.

2.2.5 Supply chain and organisational optimisation

Currently, Correla supports Xoserve as a managed service provider, delivering DSC services under the DSC+ contract.

Alongside the technical aspects of UK Link, Xoserve will use Project Trident as an opportunity to examine its organisational structures, partner ecosystem, and operating models, to optimise efficiency and its ability to support the strategic aims for customers with value for money at the forefront of the exploration.

Considerations here include:

- Ensuring we are optimising organisational structures and partnerships to deliver quality and value for money.
- Optimising the balance of knowledge retained between Xoserve and third parties about its systems and processes.
- Organising the supply chain and partners for efficiency and future flexibility, control and adaptability.
- Appropriately managing and apportioning risk through the supply chain.

2.3 Programme Objectives & Scope

2.3.1 Programme Objectives

For Project Trident, the overarching project objective is **to ensure we continue to maintain and deliver the CDSP service today and in the future, enabling stakeholders and customers to continue to access and submit the data required to be used in ongoing industry processes.**

The BP25 principles we stated that ***"the new solution will need to support and facilitate key gas industry processes as they exist today. It will also need to incorporate any changes that are required between now and implementation, while maximising efficiencies that are possible via more modern infra-structure."*** Xoserve has a responsibility to support its stakeholders' various business processes which include, billing, settlement and capacity management through the availability of data within the UK Link centralised data system.

The primary driver for change is the discontinuation of SAP ECC IS-U, which is the core technology for UK Link. Decisions are now needed to ensure the future of UK Link and consider how we will maintain, secure and provide access to UK Link data in the future. Given this, the objectives for Project Trident are as follows:

1. **Deliver a UK Link, that as a minimum, provides the same functionality for stakeholder groups as the system provides today.** The system will continue to reflect and enable changes to the UNC, align to stakeholder data requirements and ensure data accuracy and integrity. We will ensure the gas network is able to continue to operate in

the way it does today, with settlement, billing and consumption data readily accessible for the market participants and stakeholder groups.

2. **Deliver a simple and robust system that is capable of efficiently adapting to future requirements.**
3. **Limit changes to customers but will explore improvement options which may enhance the way customers interact with UK Link data by considering innovation and futureproofing when deciding on the technical solution.** With the changing technical demands and digitisation customers are investing in, we must make sure the UK Link of the future enables customers to access their data in a way that is easy, open, reliable and secure. By providing more direct routes for data access, we will be able to streamline business processes and simplify the way customers access and use the data they need for operational continuity.

2.3.2 Project Trident Scope

The core scope of Project Trident will include ensuring the functionality currently provided by these key components of UK Link:

- SAP ERP Central Component (ECC)Core, including Industry Solution for Utilities (ISU), some SAP Process Orchestration (PO) components, SAP Business Objects (BO)/Business Intelligence (BI), Business Warehouse (BW), Solman, Governance, Risk and Compliance (GRC), NLS Sybase and OpenText;
- Validation Conversion Orchestration (VCO), including Market flow (AMT Sybex), some SAP PO components, Enhanced File Transfer (EFT), MoveIt; and Cloud Information Exchange
- Customer Edge, customer-facing systems that DSC parties use every day to engage with Xoserve, and ultimately, Core.

The degree of change to each of these components will vary depending on the final chosen approach and solution. There may also be consequential changes required on other services and systems, such as the Data Discover Platform (DDP), although we will seek to minimise the degree of changes for customers.

The elements that are currently assumed as out of scope as they are not a UK Link component are:

- Gemini[5]
- GES

The Project Trident principles include:

- Maintenance of customer promise and network data operational responsibilities as CDSP.
- Data security and integrity.
- Adaptability and functionality in the system to deal with changing energy industry needs.
- Scalability of system's ability to store and process data, in the context of increasing volumes and demands.

In addition, there is an opportunity to explore a backlog of features as part of Project Trident. These are enablers to delivering improvement and innovation for customers, including:

- **Data:** providing real-time data and data accessibility. Current batch processing is not in keeping with the industry standard provided by other data owners. Customers are seeking greater access to their data, in a real-time and open manner, using APIs rather than file transfer.
- **Customer Edge:** while we have invested in customer-facing systems in recent years, Project Trident presents the opportunity to examine opportunities for improvements to how customers interact with the systems.
- **Simplification:** Project Trident presents an opportunity to simplify Xoserve systems and in doing so, increase our efficiency as well as our ability to respond with agility to support future functional changes.

5 The Gemini System is a suite of online applications for managing the transportation of gas through the National Transmission System (NTS) in Great Britain: www.xoserve.com/products-services/data-products/gemini-system/

2.4 Strategic Assessment

As Xoserve's key system supporting CDSP services, UK Link plays a central role in Xoserve's strategy. The strategic context will consider the following:

1. **Organisational strategy, priorities and aims:** This explores strategic principles, and how we intend to reflect these in the Business Case for Project Trident.
2. **Related industry and external developments:** This explores dependencies, constraints and future ambitions which will impact the energy industry and gas market including external technology and political dependencies. These long, medium, and short-term considerations build a picture of the future for the industry.

2.5 Organisational strategy, priorities and aims

Xoserve is committed to a strategy that delivers for customers and stakeholders with a focus on the core regulatory principles of cost consciousness, engagement, and transparency. The organisational strategy and priorities have been shared with customers and stakeholders within the business plans: Business Plan 2024 (BP24) and Business Plan 2025-28 (BP25).

This strategy depends on market change, industry ambitions, cost consciousness, customer protections required by the regulator and stakeholder obligations. We aim to minimise costs for our customers, whilst helping them to realise the benefits of the assets we manage (and they fund), ensuring it is easy for them to access and utilise the gas market data we are responsible for. Xoserve's business planning process underpins the strategic plan for the future direction and investment portfolio in the coming years.

BP24:

The most recently published business plan, BP24, includes the strategic direction and budget provision for services within the 2024-25 financial year, with projections up to 2027. Within BP24, we have outlined development areas to focus on, including ***customer engagement, transparency and infrastructure and change investments***[6] to keep up with and anticipate industry transformation. BP24 sets out some potential choices for UK Link going forward, and following the completion of the discovery work we are now ready to embark on the journey of change for UK Link with Project Trident. The key priority for stakeholders is a commitment to efficiency and value for money. The business plan also commits to assessing and understanding (in the face of market uncertainty) ***"all possible future scenarios … from a CDSP system and process perspective; to ensure well-informed, least-regret development decisions."***[7]. This principle is a foundation of Project Trident, ensuring we are shaping a future solution with the adaptability to manage future uncertainties.

BP25:

As part of the next stage of development in May 2024, Xoserve introduced a framework outlining the strategic principles that are the foundation of the approach to BP25. In BP25, we articulate the approach to value-for-money delivery, how services can be delivered in an efficient and consistently effective way, and how costs will be shared in an equitable manner. These foundational strategic principles will further support Xoserve's ambition to be a trusted partner in the gas market, delivering value across the whole stakeholder portfolio. In the first customer engagement session in May 2024, we shared Xoserve's ambition and principles and, in the process, began to build trust and encourage confidence from stakeholder groups. Xoserve is to ensure equity, fairness, and value for money within the complex gas market.

6 Xoserve, Business Plan 2024-25 (BP24) sets out the intention for the UK Link replacement: www.xoserve.com/media/ermb3rzb/business-plan-bp24-final-version-spreads.pdf

7 Xoserve, Business Plan 2024-25 (BP24) sets out the intention for the UK Link replacement: www.xoserve.com/media/ermb3rzb/business-plan-bp24-final-version-spreads.pdf

As part of BP25, we set out a core portfolio of both infrastructure and operational change projects. Some of the pivotal projects (including UK Link Sustain and Gemini Sustain which all include modernisation and enhancements to existing platforms) will have interdependencies with Project Trident and should be closely considered when developing the future of UK Link.

Change initiatives are critical when anticipating and adapting to the changing industry ecosystem. In BP25 there are current investments in decarbonisation insight change projects, Retail Energy Code (REC)[8] changes, optimisation of platforms and regulatory change adaptability. The change projects aim is to deliver efficiency improvements, cost reduction and simplification of Xoserve's infrastructure. Underpinning the portfolio of work is the theme of transparency, investment in understanding future energy scenarios and value-for-money which drives the CDSP organisational vehicle.

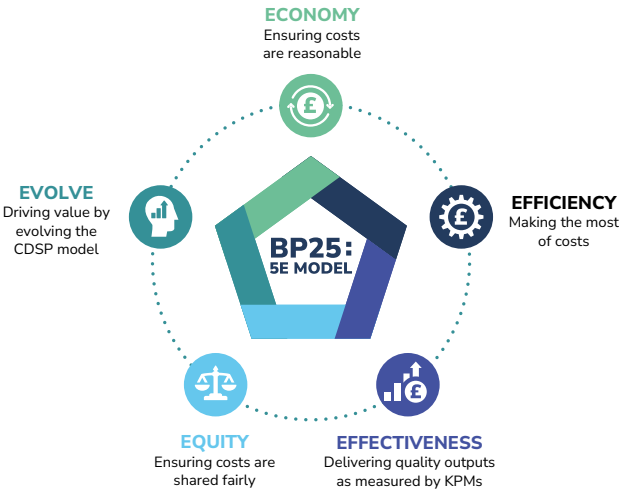


Figure 1: pathway to BP25

Xoserve's strategy:

The strategic priorities, which we have shared in BP25, drive focus and decision making and form the basis of success for Project Trident. We have identified three strategic principles that encapsulate how we must approach Xoserve's evolution:

- **Trust** – transparency with proactive engagement and information sharing to build confidence in Xoserve's ability to deliver with big picture strategic thinking in mind, working with customers to explore business planning and activities.
- **Innovate** – sustaining the infrastructure when delivering the principles of value-adding, flexibility and scalability whilst managing an uncertain industry future.
- **Deliver** – serving stakeholder with expertise in the market and guiding through opportunities for improvement and development.

8 The Retail Energy Code (or REC) is a set of obligations governing market participants operating in the retail energy market within Great Britain. recportal.co.uk/rec-wiki-definitions-and-governance

Figure 2: BP25 strategic journeys

From **transparency** to **trust**

From **assurance** to **confidence**

From **system custodian** to **transition facilitator**

From **stakeholder servants** to **serving stakeholders**

From **code delivery** to **code management**

Strategic Principle	Strategic Journey	Application to Project Trident
Trust	From transparency to trust	• Early customer engagement and collaboration from May 2024 until implementation. • Transparent sharing of strategic principles and plans for initiating Project Trident early.
	From assurance to confidence	• Demonstrating best practice for business plan development, underpinned by the HM Treasury Green Book framework for the Project Trident business case
Innovate	From system custodian to transition facilitator	• The consideration of innovation as part of the critical success factors for Project Trident, driving customer value, and aligning with industry and net zero priorities.
Deliver	From stakeholder servants to serving stakeholders	• A principle of minimising customer impact as a critical success factor for Project Trident. • A review of how a phased implementation could be used to implement Project Trident. • A consideration of 'whole life' costs and how we reduce the cost of change in the future
	From code delivery to code management	• Roles and responsibilities of the CDSP: The industry recognises a need for a guiding body to play a central role in the safe delivery of complex programmes and code changes. Xoserve's responsibilities as CDSP may change as discussed in BP25 and if so, these changes could influence and support the success of Project Trident.

2.5.1 Related Industry and External Developments

The UK gas industry has experienced several trends in recent years, shaped by economic, environmental, and policy reforms, some of which are directly influenced by wider energy market transformation and demands.

There are three key external trends in the gas market to consider in Project Trident and are described below in more detail:

1. Decarbonisation.
2. Digitisation.
3. Increasing data volumes.

These industry trends described below are considered in the context of Xoserve's role and responsibilities as CDSP. There are three factors to consider that might change the application of the industry trends on Project Trident:

1. Application of energy policy.
2. Regulatory environment.
3. Introduction of the gas industry code manager.

2.5.2 Decarbonisation

As the UK works towards its Net Zero target to address the climate crisis, the energy sector is a primary focus. The UK Government's ambitions for Net Zero, decarbonisation and the use of alternative fuels will have consequences for the future of UK Link and the DSC data.

The UK Government has committed to legally binding carbon budgets that set interim science-based targets leading up to 2050 including cutting carbon emissions by 78% by 2035 compared to 1990 levels. We are committed to supporting the evolution and decarbonisation of the gas network, with a dedicated decarbonisation team established to act as an impartial partner gathering customer requirements[9]. As part of Project Trident, we will review the current UK Link system against requirements for the necessary decarbonisation efforts in the market.

Whilst UK oil and gas production is declining at 7% a year[10], it is still an essential part of the UK's energy supply, and it is expected that the UK will continue to have a reliance on the gas network over the coming decades[11]. The Environmental Audit Committee[12] suggests a considerable proportion of our energy will come from oil and gas even when we reach Net Zero in 2050:

- ***"To meet this supply domestic production is better in terms of jobs, tax receipts and environmental emissions than imported alternatives. Beyond energy, oil and gas will remain essential to modern life for many years to come, including in the production of plastics, chemicals, and fertilizer.***
- ***'The domestic oil and gas industry is vital to the UK's energy security. While the Government is scaling up domestic clean energy sources, the UK still relies on oil and gas for most of our energy needs and there will be continued need over the coming decades".***

One of the primary methods of balancing the need to reduce emissions with the ongoing reliance on the natural gas network will be to look to blend in new and diverse energy types. Whilst we are not proposing to prepare for 100% hydrogen at this stage, our view is that the future UK Link will need flexibility to support blended gas arrangements. Responsibilities will include facilitating the tracking and certification of lower carbon energy, managing the data from distributed energy resources, and

9 Xoserve decarbonisation knowledge centre: www.xoserve.com/decarbonisation/decarbonising-gas/decarbonisation-knowledge-centre/

10 UK oil and gas production: oeuk.org.uk/product/decommissioning-insight-2023/

11 IEA, natural gas has a role in the clean energy transition as it may still be needed as back-up for variable wind and solar power: www.iea.org/energy-system/fossil-fuels/natural-gas#tracking

12 The financial sector and the UK's net zero transition: Government Response to the Committee's First Report: committees.parliament.uk/publications/43462/documents/216112/default/

supporting the balancing of supply and demand in a more complex energy system.

- ***In BP25, we state that "we believe that the new version of UK Link might need to be able to support blended gas arrangements. This will, therefore, be a requirement of the new solution. Conversely, we believe that it is less likely the new solution will need to support 100% hydrogen data."***

Hydrogen and biomethane have the potential to be lower carbon alternatives to natural gas[13]. Projects are underway to pilot their introduction already, such as:

- Future Billing Methodology.[14]
- Hydeploy.[15]
- H100: a carbon free network in Fife, Scotland.[16]
- Project Union, to create a hydrogen spine through the UK to connect hydrogen centres.[17]

These projects enable the energy industry to progress towards the ultimate ambition of Net Zero by 2050[18]. We must be on the front foot and be prepared to embrace the changes in the management of data to meet the network customers' requirements.

The impact of blending on the gas market will influence the way Calorific Value (CV) is applied and calculated. Blending could be permitted in the distribution network at levels up to 20%[19] and so we will need to accommodate the resulting variation and fluctuation in regional Calorific Values in the transportation and balancing systems. Hydrogen has a lower CV (12) in comparison to natural gas (37-43), and there will need to be greater flexibility to accommodate the adjustments required in billing. As the CV calculation within UK Link currently allows for gas CV and not hydrogen CV, an approach to calculating gas supply with blending will need to be based on demand/past use. With current usage measured daily, there is potential for investment in more frequent read provision to multiple reads per day, to accurately apportion usage for blending calculations.

Project Trident will need to provide a UK Link that can adapt to requirements for blending, and cope with uncertainty around the future of renewable energy given their potential impact on CDSP services.

2.5.3 Digitisation

Digitisation is a crucial enabler for the decarbonisation of the UK gas network. As part of Project Trident, we must consider customers' demands for further technological advancements and innovation within the services that UK Link can provide.

The UK Government expects that digital technologies such as Internet-of-Things (IoT), Distributed Ledger Technology (DLT) and Artificial Intelligence (AI) will increase GDP and improve the efficiency and flexibility of the energy sector, whilst reducing global carbon emissions by up to 4%[20].

We see this demand and personal investment from customers now. One of the greatest digital requirements that we hear from customers is with regards to data access. The primary function that we deliver for customers is management of the business-critical data within our operating systems. This data is harnessed by customers to inform supply, settlement, and billing information.

13 IEA, Clean hydrogen produced with renewable or nuclear energy, or fossil fuels using carbon capture, can help to decarbonise a range of sectors: www.iea.org/energy-system/low-emission-fuels/hydrogen

14 Future Billing Methodology: www.xoserve.com/decarbonisation/decarbonising-gas/future-billing-methodology-project/

15 HyDeploy is generating evidence to demonstrate how blended hydrogen can be used safely: hydeploy.co.uk

16 H100 is producing a 100% hydrogen gas network in Fife, Scotland: www.h100fife.co.uk

17 Project Union is a pioneering project led by National Gas to create a British hydrogen backbone, capable of transporting 100% hydrogen, connecting hydrogen production and storage with end users: www.nationalgas.com/news/national-gas-deal-paves-way-towards-no-regrets-hydrogen-network

18 It set out the government's vision for a market-led, technology- driven transition to decarbonise the UK economy and reach Net Zero by 2050. www.gov.uk/government/publications/powering-up-britain/powering-up-britain-net-zero-growth-plan

19 Government has taken a strategic policy decision to support blending of up to 20% hydrogen by volume into GB gas distribution networks. assets.publishing.service.gov.uk/media/657a0a82254aaa0010050cde/hydrogen-blending-strategic-policy-decision.pdf

20 The Parliamentary Office for Science and Technology: researchbriefings.files.parliament.uk/documents/POST-PN-0655/POST-PN-0655.pdf

Sharing of data: Customers have requested improvements to how we share data from UK Link. Customers currently access data via file transfer. The current file transfer format is inconvenient and inconsistent, meaning customers can receive their data in a way that is not compatible with their own systems such that it needs to go through additional compatibility processes.

Requesting data: Customers have told us that they want to self-serve their data requirements rather than raise requests. There is pressing demand for an 'open data' model which will satisfy the changing demands of customers within the industry and provide a 'real time' market insights.

Processing of data: UK Link currently uses a batch system for data processing, meaning customers experience some delays in data updates and availability. Real-time decision-making could be impacted as UK Link stakeholders might not have access to the latest information until the next batch process is completed. Other areas of the industry can already access real-time data. There may be advantages in providing real time data integration for customers and their feedback is telling us there is demand for this feature.

Customers are investing in their own digital future by using new and innovative technologies to support business initiatives and day-to- day activities. With this in mind, we need to consider the changing demands of the customer in the way they access and undertake data transactions which we maintain on their behalf, to establish an improved digital experience. UK Link should be fit to meet future digital requirements, and we plan to measure the success of Project Trident against UK Link's capability to adapt to future digital requirements. In BP25, we state that ***"the modernisation of infrastructure will present opportunities to make service delivery more efficient and economic. As such, we are assessing how our IT suite can be simplified and optimised ahead of producing an investment proposal in BP25."*** Delivering this ambition will be built into how we assess the design principles for the future UK Link.

2.5.4 Data Volumes

Intertwined with further digitisation and decarbonisation are the demands for larger quantities of data to be managed by Xoserve and its customers within the UK gas market. UK Link is required to process larger quantities of data and maximise the value of this data for its customers.

The rollout of smart gas meters as part of the national infrastructure upgrade contributes to this increase in data processed by UK Link. Unlike traditional meters, which simply register a running total of energy used, smart gas meters can record half-hourly price and consumption data and provide automatic meter readings.[21]

While some flexibility exists in the current UK Link system, we are approaching the limits of the number of meter reads that can be held and processed within the UK Link system. This constraint is a concern given the potential number of meter reads expected to be provided by smart meters in the future. A system that allows for more frequent data reads, increased data storage and the ability to adjust for UNC changes will align with this changing market demand.

The future UK Link must, therefore, be equipped to cope with processing larger amounts of data in the near future when increase in meter read frequency is implemented. There is potential opportunity to further develop the database infrastructure by:

- Serving customers better by aligning supplier to meter point databases; and
- Integrating databases to give a simplified and streamlined view of operational data to support better customer insights.

2.5.5 Application of energy policy

Detailed requirements for decarbonisation, digitisation, and data volumes, whilst pressing, are uncertain. Their application to Project Trident is dependent on the legislative and regulatory environment in which we operate.

21 Ofgem: www.ofgem.gov.uk/get-smart-meter

The energy ecosystem which is heavily influenced by political, economic, legislative, and international political drivers.

Strategic planning is an essential part of how we serve stakeholder groups and customer base, to ensure continuity of CDSP responsibilities and service provision to those groups. With a strategy based on legislative requirements, gas market fluctuations and global political dependencies, it can be difficult for us to predict how the future gas market strategy should adapt to these unpredictable headwinds.

The recent change in government (July 2024) may impact public policy, legislative updates, and UK Net Zero target roadmap to 2050.

The change in government will likely mean new policies for energy and gas. A recent update reflected in the UK Labour party manifesto is commitment to set up 'Great British Energy' and an ambition to make the UK a clean energy superpower with an ambition of clean power by 2030. It is unclear what the direct impact of these policies will be on the UK gas market or the wider global market. We do know it is likely there will be new policies and potential legislation and UNC[22] changes which we will need to deliver on behalf of stakeholders. Other factors we may have to consider as a result of the UK election are delays to decision making or pauses to current projects with potential changes to investment and funding structures.

2.5.6 Regulatory environment

Five key regulatory principles, as set by Ofgem[23], form an essential part of Xoserve's management responsibilities, ensuring adherence to stringent industry standards and consideration of code management dependencies.

Regulated companies must comply with the rules and obligations set out in their licences, industry codes and other regulatory instruments. Compliance with these regulatory standards ensures that we operate within legal frameworks designed to maintain fairness, transparency, and reliability in the gas market. Non-compliance could lead to penalties or regulatory action, impacting Xoserve's ability to operate effectively and undermining market integrity.

Regulated companies must adhere to data management standards, ensuring data is secure, transparent, and consistent with applicable data protection legislation. This is crucial for us to maintain trust among stakeholders and ensure the accurate billing, operational efficiency, and compliance with data protection mandates. Poor data management practices may lead to errors, breaches of privacy, and regulatory scrutiny, potentially harming Xoserve's reputation and operations.

Regulated companies are expected to deliver value for money to consumers through efficient operations and prudent cost management. Ensuring cost efficiency allows us to keep service charges reasonable or low for gas industry components, which ultimately benefits consumers. Failure to manage costs effectively could result in higher service fees, impacting market competitiveness and consumer affordability.

Regulated companies should actively seek to innovate and improve their services, and to adapt to changing market conditions and technological advancements. Embracing innovation allows us to enhance service delivery, introduce new technologies that improve efficiency, and respond effectively to evolving regulatory or market requirements. Not investing in innovation could block us from meeting industry demands.

Regulated companies must conduct effective and transparent engagement with stakeholders to ensure that their views are taken into account in decision-making processes. Engaging meaningfully with stakeholders, including gas suppliers and network operators, ensures that the operations reflect industry needs and regulatory expectations.

22 The Uniform Network Code sets out the common terms of the transportation arrangements between licensed gas transporters and gas shippers: www.gasgovernance.co.uk/UNC

23 www.ofgem.gov.uk/energy-policy-and-regulation/industry-codes-and-standards

Transparent communication builds trust and fosters relationships needed to ensure regulatory compliance.

We will align Project Trident to the above Ofgem principles to improve customer experience, enhance trust and confidence in Xoserve and to deliver for gas market customers.

2.5.7 Introduction of gas industry Code Manager

As the industry is maturing, Ofgem is planning to introduce a Code Manager to the gas market with a more proactive role than the current Code Administrators, overseeing a merged Gas Network Code (GNC) encompassing the currently separate UNC and IGT UNC.

Xoserve could be perceived as a natural fit for the Code Manager role, given the position within the gas market. There are benefits to being appointed code manager which may support the delivery of Project Trident. One of the learning points from Project Nexus was that the control of gas network code changes running alongside the project changes was inefficient and caused issues such as regret spend, where changes were made to the old system that could have been incorporated into the new system. Part of the responsibility we have is to keep UNC, the DSC, the DSC+ and UK Link all in alignment and lockstep together. We want to ensure simplification of alignment of information between these entities. As Code Manager, Xoserve would be able to assess the impending code changes and manage these in line with Project Trident which would help prevent unnecessary expenditure on updating an old system when the changes can be incorporated into the project of work for the new system. Having the ability to understand and manage the gas network code changes around the project would enhance the approach to Project Trident and the wider gas market.

In addition, increased trust and confidence resulting from the safe delivery of Project Trident as well as the proposed simplification and changes to the UK Link system would align with Xoserve's role as a potential candidate for code manager. Trident will ensure the right tooling and insight about system performance is available which will enable deeper understanding of how to best serve customers as code manager.

2.6 Project benefits, risks, constraints and dependencies

Project Trident is a required to ensure the continuity of the UK Link system and its supported service. Below, we have considered the associated benefits, risks, constraints, and dependencies.

2.6.1 Benefits

Included here are some potential core benefits Project Trident will deliver:

- Continuity of the service of the CDSP services UK Link supports.
- A more modern technology platform with improved features and functionality.
- The ability for customers to access data more easily, and therefore better customer service.
- A less complex system with more adaptability for change to accommodate changes to the gas market and uncertain future.
- An opportunity for Xoserve to review its business process, architecture knowledge and governance.
- An opportunity to build customer confidence.
- An opportunity to update outdated processes, particularly around enabling customers to access data.

2.6.2 Dependencies

Dependencies for Project Trident will be considered and managed to minimise disruption to live service and project delivery. This list is not exhaustive and contains the key dependencies that require further

investigation and management throughout the initiation of Project Trident.

Capability and capacity within Xoserve: There is a dependency on Xoserve and its providers having the right resources with capability and capacity to initiate and deliver Project Trident. As well as supporting the live service, other projects that are currently ongoing within Xoserve, such as Gemini and Decarbonisation. We will need to consider the resource requirements for Project Trident and appropriately phase other changes required across the organisation to avoid stretched resources. Project Trident teams will need to be informed of any changes to the internal projects, or technology such as Gemini, and assess whether any changes will impact the current UK Link system.

We are also aware that many other organisations will be planning to mitigate the risks associated with termination of support for SAP ECC6 in 2027, and there will be a dependency on securing SAP specialists if the leadership team decides to extend support or continue with an SAP product.

Cooperation and engagement with ERP Suppliers within the process: There is a dependency on the cooperation and engagement of potential ERP suppliers, such as SAP, throughout the duration of Project Trident. This cooperation will be required throughout participation in the discovery and tender process, implementation and any customisation required as well as following implementation, with ongoing support and maintenance of the future of UK Link.

Market and customer response to Project Trident: We will need the engagement and cooperation of customers within the initiation and delivery of Project Trident. We will engage with customers to understand and minimise the impacts from the design of a new solution. Throughout delivery, we must plan for the migration of any new solution with their technology roadmaps and transition needs in mind.

Policy interactions and external factors: Any policy projects or legislative changes to the energy sector that could impact or interact with UK Link and its intended benefits. Factors outside of Xoserve's control such as new government policy following the election on 4th July 2024, or industry code freezes or changes, will need to be considered within Project Trident.

Project Trident will have both "give" and "get" dependencies on external industry change projects such as Decarbonisation. Ongoing interaction and engagement with both Ofgem and customers will be required up to and after the point of Project Trident scope freeze.

2.6.3 Considerations, Constraints and Assumptions

Within the scope and creation of this business case, we must consider the following ***constraints***:

- **DSC+ contract:** Correla supports us as a managed service provider, delivering DSC services under the DSC+ contract. Substantive changes to this arrangement may be needed to align around key dates and terms in this contract.
- **SAP Core Enterprise Architecture:** The quality of institutional knowledge and documentation of some areas of the system needs to be further established.
- **SAP Core customisation:** The current SAP system includes a high number of customisations, and this may constrain ability to use standard migration and upgrade pathways.
- **Data volumes:** The current SAP system holds large data volumes and this may constrain ability to migrate to new systems while maintaining data integrity and service.
- **Market testing:** The project will need to consider the testing required on CSS, API, and solutions with the UK link estate.

There are several ***assumptions*** that will be tested throughout project initiation, including:

- **SAP Support:** We assume that support from SAP from 2027 will be lower than present and there will be no possible support from 2030 onwards. Whilst there are 3rd party alternatives that can provide extended support after 2030, levels of support available will be verified with SAP throughout the process.
- **3rd Party Support:** We assume it may be possible to secure 3rd party support between 2027-2030 as a new system is being built.
- **Functional changes:** We assume that if there are no functional changes, this will be a simpler project to deliver.
- **Project scope and options:** We assume that we will not consider any option that extends the current UK Link past 2030 and that there is a requirement for the platform to be supported.
- **Service continuity:** We assume that we must ensure high level of service continuity through any migrations to new systems or onto new build options and this may constrain options.

2.6.4 Strategic Risks

This non-exhaustive list contains the strategic risks to consider within the initiation of Project Trident.

Scope creep: There is a risk of scope creep in the initiation phase of Project Trident that could make it more difficult to secure investment and agree upon the design of the right solution. As with any large-scale technological transformation project, timing and smart planning is crucial. We are currently building the development and delivery plan for Project Trident, with the new solution needing to be implemented before potential extended support expires in 2030. We are conscious that code changes and reviews might have an impact on the future solution. Therefore, anticipating and prioritising these will be key to mitigating scope risk during the lifecycle of the project.

Funding: There is a risk that the business case for Project Trident is not a compelling enough case for change and the project does not receive sufficient funding to deliver its target benefits. There is also a risk that the requests for funding take too long and that we could run out of time to get the most cost-effective options within the ERP procurement.

Customisation and complexity: There is a risk that ERP providers could struggle to provide a solution that matches the functional and nonfunctional requirements delivered by the current UK Link system within the timescale required due to large levels of customisation. With high levels of customisation in the SAP core, any UK Link modernisation could be more complicated than initially anticipate.

Impact to live service: There is a risk that if we choose to do nothing within the allotted timescales, the live service to customers within the gas market could be compromised. If we do not decide on the future of UK Link or decide to take no action, there is a risk that we may be unable to maintain the data needed by stakeholders when SAP support ends.

3 Economic Case

The purpose of the Economic Case is to identify and describe a wide range of options which have the potential to meet the objectives of the Strategic Case. The Economic Case describes each option of this long list, including their strengths and weaknesses. This allows a preferred way forward to be formulated.

3.1 Critical Success Factors

The purpose of the critical success factors is to understand what we need to consider and work towards when creating and assessing the long list. There are certain factors that will deliver success for the project; further, there are dependencies which we need to explore.

The critical success factor deliverables are aligned with Strategic Case scope and the focus of Project Trident. We have shaped the critical success factors through discussion and consensus in a long list workshop. These were further refined in deep-dive sessions and through ongoing discussions regarding what Project Trident should be delivering for CDSP stakeholders. The following success factors have been identified:

Strategic Fit and Business Need

- Be well supported to reduce risks to security, availability and integrity of data.
- Allow flexibility, innovation and increased ease of change.
- Be attractive to suppliers, enabling a contemporary operating model.
- Increase stakeholder trust.
- Expose processes and architecture to maintain knowledge and control within Xoserve.
- Conform with regulatory and industry compliance guidelines.

Potential Value for Money

- Be long-lived with support until at least 2040.
- Architecturally focused on simplicity and efficiency as well as open standards.
- Enable architectural transformation opportunities beyond the Core.

Affordability

- Meet cost, value, service and business objectives.
- Provide predictability of cost to customers.

Achievability

- Minimise delivery and cut-over risk and meet timelines.
- Minimise impact on customer as a general rule.
- Limit customer change impact to improvements.
- No degradation of functionality or service.
- Thoroughly tested and assured.
- Can be delivered by 2030 at the latest.

Capacity and Capability

- Capable of scaling to increased data processing needs which are driven by market and business changes including decarbonisation.
- Supports automation and estate rationalisation.

These critical success factors guide us in the development of specific and measurable preferred option selection criteria against which we will assess the options in the next phase (Outline Business Case).

3.2 Options Analysis

3.2.1 Scope Dimensions

The scope of Project Trident covers the current UK Link architectural layers of Core, VCO, and Customer Edge.

Project Trident can further be split into two dimensions:

1. The selection of a Core renewal option.
2. The depth of transformation needed and desired beyond the minimal Core renewal to include the whole of the current UK Link and integration layers.

We are looking into our options with UK Link and how we renew the Core, as well as investigating the depth of transformation into the wider components of UK Link. Whilst we recognise that there is a connection between the two, we believe that taking these decisions in sequence facilitates analysis and consensus building.

To select a Core renewal option, a long list of options has been generated from several stakeholder workshops, followed by deep-dive sessions and storyboard reviews. These options are outlined in the following sections of this document.

Transformation depth relates to the understanding that the renewal of the current Core has an impact on the surrounding VCO and Customer Edge systems and necessitates changes in those systems. Some application-critical VCO components are also reaching End of Service Life and should be considered in scope for Project Trident. Beyond that, there are opportunities for improvement in the architecture. Whilst changes to these systems are not forced by a Core renewal, they should be considered on the basis of the value they bring, balanced against cost and risk of change.

Figure 3 below illustrates how the scope of Project Trident needs to define:

- those elements of UK Link which need to be changed.
- elements which should be changed.
- elements which should not change.

There is a sliding-scale decision required regarding the transformation depth; this decision is distinct from the option selection for UK Link Core.

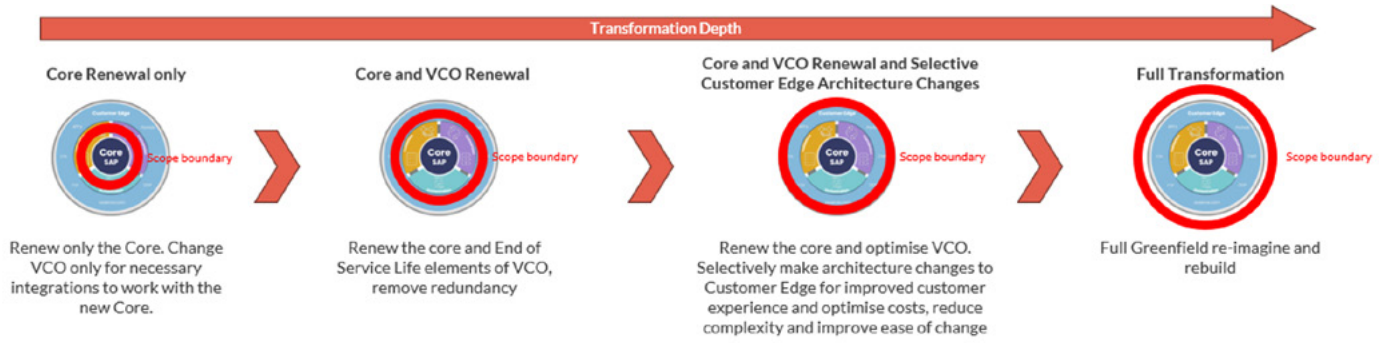


Figure 3: Transformation depth of UK Link

3.2.2 Identifying the long list

To arrive at a long list, we conducted long list workshops with technical and business process experts across the organisation, and with supplier support. This has enabled us to describe six potential options for renewing the Core.

A	Do Nothing	Remain on the current Core product. Maintain the service without support from SAP or any third party.
B	Extended Support	Remain on the current Core product. Buy extended support from SAP or contract with a third party for support.
C	SAP Renewal	Buy and rebuild SAP to run on the next generation of SAP's product suite (S/4HANA). No in situ upgrade available.
D	Alternative ERP Package	Buy an alternative to SAP product, either new entrant such as Kraken, Ensek, or established product such as Salesforce, and rebuild.
E	Self-Build	Build own solution specific to Xoserve's requirements and business processes.
F	Hybrid	Build and Buy. Buy a packaged product and build significant parts of the solution.

With the long list identified, we have been able to deep dive into the details within each option to make an initial assessment of how they match to the strategy and scope of the programme. The following sections are an assessment of the options.

3.2.3 Option A - Do Nothing

Description: Do nothing - take no action in the face of SAP declaring the current product End of Service Life and ending mainstream support by the end of 2027. Remain on the current Core product (SAP Business Suite 7) and run the system as-is today. Maintain the service without support from SAP or any third party once SAP support ends in 2027.

Strengths: Utilises the investments made to date to create a working system which satisfies today's requirements. No need for implementation of a new solution, removing implementation cost and risk of making changes. Gain cost savings through removal/cessation of SAP annual maintenance costs.

Weaknesses: No support for security patching, resulting in an increased risk of data breaches and unavailability. Limited ability to react to market changes or customer change requests (e.g. register new site). Unlikely to be able to cope with increasing volumes from decarbonisation and digitisation. Does not address today's complexity of making any changes to the architecture. Increase in costs of additional in-house support staff. Risk of longer-term legacy skills retention and staff attraction.

Consideration: If UK Link goes down or breaks, accurate billing to customers will cease and be replaced with estimate-related billing based on previous usage. There are reputational risks to both Xoserve and its customers linked to system availability and security breaches. There is also a risk that any cost savings to UK Link are negated if there were a prolonged outage to customers who would incur significant costs to running their businesses. We are already maintaining the system under "sustain", this choice would impair this possibility and regular sustain activity would need to stop.

Cost: Avoids implementation and support contract costs; adds in-house support staff costs. Risk of high cost if major fix is required, and it would have to be considered how the funding cost for fixes would be devolved to customers.

Conclusions

This is a high-risk route to progress with, given the industry demand for change and the heavily customised nature of UK Link. Being unable to make changes or to manage outages swiftly would have serious implications for responsibly fulfilling the role of CDSP and for the British gas market's data supply.

3.2.4 Option B - Extended Support

The "Extended Support" option sees us remaining on the current Core product as with the "Do Nothing" option. This means there is no renewal of the software product. This is buying additional maintenance services for the existing UK Link Core.

There are 3 variants of this option to consider:

1. SAP Extended Maintenance 2027-2030.
2. SAP Customer-Specific Maintenance to 2030 and beyond.
3. Third-Party Support.

1. Description: SAP Extended Maintenance 2027-2030 for support of the existing Core product. This option extends the current support we are receiving from SAP. However, this support is only offered by SAP for customers who are migrating to S/4HANA until 2030[24].

> **Strengths:** No need for implementation of a new solution, removing implementation cost and risk of change. Maintains established vendor relationship as well as possibly the current discount on the base licence price. Buys time for the industry to better understand the impacts of decarbonisation – we can defer a decision on the solution until we are in a more informed position. Defers the need for us to understand the current architecture of UK Link before migration. Extends time to review the significantly customised code and redevelop for S/4HANA.
>
> **Weaknesses:** Option is only offered until 2030. Defers but does not avoid necessary decision making. Limited ability to react to market changes (e.g. decarbonisation), increasing data volumes, or customer change requests (e.g. register new site). Long-term unlikely to be able to cope with increasing volumes from decarbonisation and digitisation. Reduced security due to vendor investment priorities into their new products (SAP as well as underlying software vendors for OS, DBs, etc.). Underlying products may go to End of Life and be unsupported by their vendors. Use of Microsoft SQL Server database may be unsupported by SAP. There is a heavy dependency on SAP.
>
> **Consideration:** This option is only offered if Xoserve decides to migrate to S/4HANA. There is low confidence that all requirements for decarbonisation or blending will be known before 2030. The support contract with SAP expires in 2025 and requires renegotiation.
>
> **Cost:** No additional run costs are expected beyond today's costs. No implementation costs. Likely maintains current discounts

2. Description: SAP Customer-Specific Maintenance up to and beyond 2030 for support of the existing Core product. SAP offer this support for customers who do not opt for Extended Maintenance (i.e. have not chosen S/4HANA migration) and all those who need support beyond 2030.

> **Strengths:** No need for implementation of a new solution, removing implementation cost and risk of change. Established vendor relationship maintained although we would be unlikely to maintain current discounts. Maintenance remains with SAP, a large global company with a brand to protect, backed by significant resources, resilience and ability to execute.
>
> **Weaknesses:** All points from variant 1 plus the need to negotiate custom agreement which may not benefit from existing discounts.
>
> **Consideration:** Degrades commercial negotiation position. There is a potential degrading

24 See "Innovation Commitment for SAP S/4HANA until 2040 Clarity and Choice on SAP Business Suite 7" support.sap.com/en/offerings-programs/strategy.html

of commercial positioning if or when retendering DSC+.

Cost: Increased maintenance cost due to new agreement. No implementation costs. Possible loss of licence discount.

3. **Description:** **Third Party Support** provider for the Core product. Cease the support contract with SAP by 2027 and sign with an independent third-party service provider to maintain the current SAP implementation.

Strengths: No need for implementation of a new solution, removing implementation cost and risk of change. Able to diversify the supplier pool and build a new provider relationship. Anecdotally, third parties are more responsive than SAP and provide an equal or better quality of service.

Weaknesses: Limited ability to react to market changes (e.g. decarbonisation), increasing data volumes, or customer change requests (e.g. register new site). There may be increased security risks. Third parties are unable to amend the core product, they would offer limited compensating controls instead of security patches. A likely need to increase size of in-house support team with skills that are ever harder to recruit. Maintenance moves from a global brand to a smaller, lesser-known company with fewer resources, and less resilience and ability to execute.

Consideration: The third party might only agree support of status quo and may not allow increased data volumes or significant functional changes. There is a potential degrading of commercial positioning if or when retendering DSC+. We need to consider one of these options as a temporary solution in case a strategic solution cannot be in live service by 2027.

Cost: Unknown maintenance cost compared to current SAP which might be positive or negative. No implementation costs. Assumption is that if there is no extension with SAP there will be a loss of licence discount if the decision is to progress with S/4HANA later down the line.

Conclusions

Extended Support leaves the system at its current capabilities but avoids the risk of having no external help to maintain it after 2027. This option could be used as an interim solution to safeguard against a "cliff-edge" scenario at the end of 2027, affording us more time and opportunity to plan for the implementation of a new system.

3.2.5 Option C – SAP Renewal

Description: Buy the next generation of SAP's product suite (S/4HANA) and rebuild UK Link on that technology. S/4HANA is built on a different base technology from the current SAP solution.

Strengths: Maintains established vendor relationship and possibly the current discount on the base licence price. Opens up more options for support. SAP product comes with an energy sector data model. It is quicker to rebuild in S/4HANA than in a new database or product. Stable platform with proven scalability and performance. Vendor support and maintenance until 2040 with regular updates and patches by a globally recognised vendor. Built on performant columnar database technology for increased volumes of data and processing performance compared to current solution.

Weaknesses: Product is geared to energy retail, not Xoserve's use case; functional fit to be determined. No in situ upgrade available, migration and rebuild required. The current solution is significantly customised and this would need to be rebuilt within S/4HANA, incurring implementation costs and negating some of the benefits of packaged software (i.e. cost and implementation time savings through out of the box (OOTB) functionality. Missing opportunity to review customisation and remove unnecessary complexity. SAP is promoting a "clean core", maintaining a streamlined architecture. Risk that not all current functionality can be implemented and that future ability for customisation is restricted. Unlikely to

avoid customer impact with customers potentially needing to change their processes. Risk of vendor lock-in and may be unable to diversify suppliers in the future.

Consideration: This would be a large migration; we would need to have the skills and capacity to implement the new solution. Skills differ from the previous version of SAP. Upgrade to S/4HANA is an industry-wide challenge causing a shortage of skills, and therefore, may be difficult to resource. It is unclear whether we would be able to iteratively implement or whether this would be a big-bang implementation.

Cost: Incurs implementation, migration and rebuild costs. Run cost profile likely similar to today. May be able to renegotiate or retain current SAP discount profile.

Conclusions

SAP's next generation S/4HANA solution uses fundamentally different technology which is better suited to the growing volumes of data than the current solution. SAP offer an industry-specific solution which is geared towards energy retailers, so customisation for the business would still be required. The change in technology, combined with customised functionality, necessitates a rebuild rather than an upgrade or migration. While this option offers benefits through the use of an established product and vendor, it is likely to be a high-cost option.

3.2.6 Option D – Alternative ERP Package

The fourth option is to buy a solution from an alternative ERP package or solution vendor as an alternative to buying from SAP. There are two variations of this option:

1. Established vendor.
2. Challenger solution.

1. Description: Established vendor - Buy a packaged software product or software service from an established player in the ERP solution market.

Strengths: Established products with large user bases. Stable platforms with proven scalability and performance. Support and maintenance with regular updates and patches by a globally recognised vendor.

Weaknesses: No established vendor relationship. Products geared towards retail and CRM (customer relationship management) not Xoserve's use case. Therefore, heavy customisation required. Unlikely to avoid customer impact; likely that customers would need to change their processes. Lack of migration tooling and increased need to understand data models of both legacy SAP and the new solution. Limits options for extended support if solution is not in place by 2027.

Consideration: Degree of change is likely bigger than migrating to SAP S/4HANA. Functional fit/gap to be assessed and compared to SAP option.

Cost: Incurs implementation, migration and rebuild costs (likely higher than SAP). Run cost profile likely similar to today (SAP).

2. Description: Challenger solution – Several newer market entrants have developed offerings which challenge established vendors with solutions built on newer technology concepts and operating models. This option proposes to buy a packaged software product or software service from a newer market entrant.

Strengths: Architecture built around modern digital concepts (APIs, event driven, decoupled, cloud-native). Strong use of automation, including machine learning. Modern technology likely to have a long time to live. Where the solution is a Software as a Service (SaaS), they are "evergreen" with no need for infrastructure support or ownership. SaaS products fully managed by vendors. As a major early adopter, Xoserve would have large influence over vendor development roadmap. Modern technology base is attractive to staff and suppliers.

Weaknesses: Designed as solutions for mid-market energy retailers, with focus on retail

customer user experience with mismatch in priorities. Migration tooling (data and functionality) very limited. There is a heavy need to modify functional modules with fewer pre-built OOTB available. Smaller vendors have less capacity, experience, and scalability to provide support. Smaller vendors may not offer the support model Xoserve requires (e.g. 24/7 support, uptime SLAs). Smaller vendors pose greater third-party risk (including take-over or bankruptcy).

Consideration: Ability to scale is unknown and unproven (both technology and vendor support organisation). Customers want stability in pricing with a consumption-based SaaS model which may be ill-fitting. Need to ensure that emerging, lesser proven vendors can meet industry-standards for security and availability requirements. As a major player, we could take a stake in developing the solution as an additional commercial opportunity and Return On Investment (ROI) and to balance third-party risks. Solutions will come with a differing degree of data integration layers and may offer APIs only; in general, modern solutions have more mature integration architectures OOTB.

Cost: Incurs implementation, migration and rebuild costs. Run costs (licence, maintenance, support) likely consumption-based, billing-in-arrears commercial model. These are typically used in SaaS and offer no fixed, upfront cost. Our customers would likely prefer predictable costs.

Conclusions

Incurs implementation, migration and rebuild costs. Run costs (licence maintenance, support) likely consumption-based, billing-in-arrears commercial model. These are typically used in SaaS and offer no fixed, upfront cost. Customers would likely prefer predictable costs.

3.2.7 Option E - Self Build

There is an option to build Xoserve's own solution specific to its requirements and business needs. This option takes advantage of today's cloud platform offerings which allow a focus on building and maintaining business functionality while the operation of infrastructure and software platforms is managed by cloud service providers. This option has 3 variants to consider:

1. Full Greenfield build.
2. Greenfield build with accelerators.
3. Brownfield build on Central Switching System platform.

1. Description: Full Greenfield Build - Full Greenfield Build - Build a greenfield custom solution to Xoserve's requirements on modern technology. This option proposes that all elements of the in-scope solution are self-built.

Strengths: System can be built to exact needs without the overheads and compromises of a Commercial off the Shelp (COTS)/SaaS system, and no one knows our business like we do. Ability to change and adapt swiftly to changes in market or customer requests and supports innovation. Not paying for use of a COTS/SaaS product that contains features which do not fit the needs. Easier to change, better tuned for performance, evergreen and long-lived. Architecture can be lean and less complex, taking advantage of modern decoupled concepts and technologies. We remain in control of product roadmap and continuous improvement. We own and control the Intellectual Property, code, architecture, processes and knowledge base. Enables easier and better testing automation across the whole of the system. Low third-party and vendor risk due to use of open standards, open-source software and Cloud-native products. There is an opportunity to licence and sell a self-build product.

Weaknesses: We own more risk; it is more difficult to assess timelines, costs and complexity of a self-build project. We own more operational risk and maintain the system to remain current. Requires in-house technology skillset including at executive level. There is a large initial effort to develop basic data model and functionality

which other solutions offer OOTB. Testing and assurance fall under Xoserve's responsibility. Whilst this system can be highly secure, it requires additional security skills and function within the operating model.

Consideration: Cost profile with ongoing run costs are likely lower, but there will be need for upfront investment. This option can and must consider the processing and storage requirements of large volumes of data in its design. Time and specialist skills required to gather solution requirements and to understand delivery timeline. Common use of open-source software. Likely drives a deeper transformation of VCO and architectural change, including opportunity to amend architectural inefficiencies. There is an opportunity to licence and sell a self-build product.

Cost: Likely lower ongoing run costs and cost to serve. Potential for significantly lower infrastructure costs. High costs of design and development. Use-case specific design optimises infrastructure run-costs for data-heavy processing.

2. Description: Greenfield build with accelerators. Build a greenfield custom solution to Xoserve's requirements on modern technology but buy modules (products or services) where there is a convincing value proposition. These include specific pieces of specialised software and external services provided as SaaS or APIs.

Strengths: All points from variant 1 and reduces size of architectural estate and development effort by buying in accelerators where these are a good fit. Accelerated delivery timelines.

Weaknesses: All points from variant 1 and it introduces external dependencies; including potentially need to manage multiple external parties.

Consideration: All points from variant 1 and the decoupled architecture allows accelerators to be replaced by alternative products or in-house build at a later stage.

Cost: All points from variant 1 and opportunity to offset development cost with licence cost based on value.

3. Description: Brownfield build on Central System Switching platform. Build a custom solution which utilises DCC's Central Switching Service (CSS) database as an existing core industry asset. Build the required business functionality around CSS and extend CSS with additional databases.

Strengths: All points from variant 1 and reuse of existing industry asset which is already part of the wider UK energy data landscape. Reduces duplication of data.

Weaknesses: All points from variant 1 and this introduces significant operational dependencies on a third party for day-to-day service level achievement. Changes to CSS system risks impact to switching service.

Consideration: CSS needs to have the ability to meet additional data volumes for Trident. Changes Xoserve's role as data owner and provider, to data provider only. Changes to CSS need to be contracted to the relevant Central Systems provider.

Cost: Lower cost for development than variant 1 due to reuse of an existing asset. Likely lower ongoing run costs than a buy option due to reuse/shared asset.

Conclusions

Self-build as an architectural choice has become increasingly popular since the wide availability of cloud platform services (PaaS). It provides the ability to construct a system built specifically and exclusively for CDSP needs and requirements. An open architecture means that a self-build option offers the flexibility to include bought-in services or to reuse existing services, effectively providing a sliding scale between greenfield and brownfield.

3.2.8 Option F – Hybrid

This is a combination of buying a packaged product as well as building a significant part of the solution. There are two variants of this approach to consider.

1. **Description:** **Buy database and build modules.** Buy a packaged software product or software service as the core database and build modules which provide the required business functionality around it.

> **Strengths:** Combines reuse of industry-specific data model OOTB with the ability to tailor the functionality to Xoserve's business requirements. Reduced dependency on vendor timelines and roadmaps for development of required features. Allows a two-speed model with more responsive Agile and DevOps methodologies for custom-build elements. Greater level of flexibility and scalability for customer demand in the future e.g. taking hydrogen in the future. Possibly some reuse of existing custom functionality. If using SAP as the database, may be able to maintain SAP discounts on licence fees. May provide a good balance between risk and flexibility. If using SAP, their migration scripts can be used for at least some of the data migration.
>
> **Weaknesses:** Combined costs for buying product and building own likely means large upfront costs and ongoing maintenance costs, negating cost benefits of either one of the distinct options. Uncontrolled dependency. Roadmap of vendor product and ad-hoc changes to product impact self-built elements and require update work as well as risk of breaking changes. Complex organ-isational model. Requires two change roadmaps, two change delivery pipelines to be maintained, and two technology skillsets.
>
> **Consideration:** If using SAP, to understand the costs, there would need to be an agreement on the proportion of ERP core and customisation around the edge, and whether the SAP licence discounts are accessible within hybrid options. We need to understand the licence costs per module to under-stand the full benefits (e.g. how much do we pay for core ECC vs BP vs BW).
>
> **Cost:** Combines all cost dimensions from buy and build options where value is dependent on optimising cost benefits from both.

2. **Description:** **Build database and buy modules.** Buy a packaged software product or software service which provides the required business functionality and build a datastore which supports those modules.

> **Strengths:** Avoids need to custom-develop functional modules.
>
> **Weaknesses:** High complexity and limited freedom to design database. Database needs to provide data model which provides for functional modules (or an integration layer has to be built to translate between them). Unlikely that functional modules that satisfy Xoserve's requirements are available out of the box. Dependency on vendor to make changes.
>
> **Consideration:** This option is unlikely to be feasible. This use case is fairly specific so the functional modules we require are unlikely to be available out of the box from a vendor. On the other hand, there is likely little value in developing a database that needs to represent a data format which is dictated by the consumers.
>
> **Cost:** The same as variant 1.

Conclusions

The benefit of a hybrid option is the ability to reuse an existing product while adding what is missing through a self-build approach. In effect, it is an extreme version of the customisation which any packaged product or service requires. While this option attempts to combine the benefits of both, it also runs the risk of combining the negatives of gaining partial reuse and vendor support but adding cost, complexity, dependencies and redundancies. Therefore, this option is only feasible if it can be shown that there is a balance which provides value above other options.

3.3 The Preferred Way Forward

After laying out the options for UK Link in this Economic Case, we believe that a preferred way forward has emerged. Whilst we have not excluded any option at this stage, we are able to take a view of what is likely and unlikely for us to progress with. We believe that options A and B, which are remaining on the current system, do not fulfil the purpose, mission or strategy of Xoserve. Instead, the way forward is to renew the system through either a build or a buy option (options C to F). As this is the initial assessment of the long list there is a need for further information and a deeper dive into the options before a preferred option can finally be decided on.

Doing nothing is not a likely option to pursue because we need a secure and functioning UK Link which is fit for the future. An unsupported system is high risk, and we need to ensure that support and future running of the system will continue to provide integrity of data. The extended support option does not meet long-term strategy as it carries risk and does not support a future UK Link which is acceptable to the CDSP customer base.

Option	Variant	Meets Strategic Objectives	Preferred Option
A Do Nothing		**Unlikely** – does not prioritise security and availability of data to customers. Limits ability to react to market changes	**REMAIN** – not preferred
B Extended Support	1. SAP Extended Maintenance until 2030.	**Unlikely** – does not prioritise security and availability of data to customers beyond 2030. Limits ability to react to market changes. NB: This option may be needed as an interim solution from 2027 until the strategic option is live	**REMAIN** – interim
	2. SAP Customer-Specific Maintenance.		
	3. Third Party Support.		
C SAP Renewal		**Likely**	**BUY** - preferred
D Alternative ERP Package	1. Established vendor.	**Likely**	
	2. Challenger solution.	**Likely**	
E Self-Build	1. Full Greenfield Build.	**Likely**	**BUILD** - preferred
	2. Greenfield Build with Accelerators.		
	3. Brownfield Build on CSS.		
F Hybrid	1. Buy Database, Build Modules.	**Likely**	
	2. Build database, Buy Modules	**Unlikely** – unlikely to provide value as the effort would be greater than options C, D but the benefit would be the same	

3.3.1 Next steps

We need to invest time to understand all the UK Link business processes and technical architecture to confirm the direction of Project Trident and to make two key decisions:

1. The UK Link Core renewal option to choose as the preferred option.
2. How far to transform the full UK Link architecture.

We think that the choice of a Core renewal option needs to precede the decision on transformation depth.

To arrive at a shortlist and ultimately a preferred option we need to refine the assessment criteria as well as including business, technical and volumetric requirements for the future replacement of the UK Link system. We will then be able to assess the options against those criteria.

We propose going to market to present the problem we are trying to solve for UK link. This will widen the view of Xoserve's long list options with input from additional parties and provide more assurance that all considerations and dependencies have been captured. This step will furnish us with additional opinions and ideas.

4 Commercial Case

The Commercial Case presents the approach for decisions on procurement of suppliers to support Project Trident.

The core sections the Commercial Case will cover are:

Procurement approach and strategy

1. Legal considerations - understand the legal frameworks and dependencies which will underpin the strategic approach to procurement.
2. Existing commercial agreements – understand the dependencies and constraints imposed by the DSC+ and other existing contracts.
3. Procurement approach - recognise any currently known guardrails, constraints, and dependencies.

Commercial viability

1. How we propose to test market appetite for this procurement.
2. Establish market engagement strategy and approach.

4.1 Procurement Approach and Strategy

Xoserve will explore procurement options and legal, regulatory and existing partner contractual arrangements. We will perform early market engagement to establish the market appetite for Project Trident to enable us to construct viable and attractive procurements.

4.1.1 Existing commercial agreements - the DSC+ contract

We currently partner with Correla who delivers the DSC+ contract on behalf of the CDSP. The DSC+ contract describes the arrangements under which Correla, Xoserve's primary supplier, provides services as described in the DSC+ contract to deliver our CDSP obligations. We must, therefore, fully understand our obligations within the DSC+ contract whilst making decisions about how we progress with the Project Trident options.

We will work closely with our primary delivery partner to support the work we are completing as part of Project Trident. We want to make sure Project Trident is delivering value for money for stakeholders and customers and the wider CDSP responsibilities to the market.

We will review the DSC+ contract for any applicable guidance and/or guardrails on procurement.

4.1.2 Procurement Approach

Xoserve expect to procure a range of partners to support the outcomes of Project Trident. There are a range of ways these procurements could be organised to ensure they deliver the best outcomes for Xoserve and are viable and attractive procurements, e.g. separate build and run, build-run, multiple vendors building portions of the solution etc. We will ensure fairness in competition for any procurement packages developed for Project Trident and ensure the supplier selection criteria are clear and considered from the outset.

The Economic Case provides some early insights regarding the solution options and approaches. We will analyse and engage the market to evaluate different approaches, agree an appropriate balance of risk across Xoserve and its suppliers, and decide on the procurement approach.

4.2 Commercial Viability (Procurement Scope and Packaging for Market)

Xoserve will undertake procurement exercises considering a range of factors including cost, quality, reliability of delivery, and vendor stability. We have articulated in the Strategic Case that value for money is at the centre of strategic decision-making. This is important when going to market with an attractive procurement package(s) which can be competitively sourced with expert supplier(s).

We intend to engage with the market as soon as reasonably possible, subject to any legal considerations as laid out above.

A critical success factor of Xoserve's early commercial approach is to ensure we have high-level requirements for UK Link. These requirements will provide an overview of UK Link functionality and high-level processing rather than a detailed requirements profile which would apply to the RFP.

The engagement will be three-fold:

1. **Understand the market and supplier appetite for this type of work:** we will look to understand whether portions of the delivery are attractive, and with what granularity. We will look to ensure various options are explored.
2. **Ascertain whether there are alternative solution approaches or refinement of the options we have already considered** in the Economic Case, as outlined in section 3 of this document.
3. **Validate the level of detail potential vendors would expect to see in procurement in terms of specification/documentation.** We recognise that a detailed specification of processes, functional requirements, and non-functional requirements is key to getting accurate proposals from vendors and to avoid multiple change requests throughout Project Trident delivery. We will be reviewing what information vendors require from us so they can propose with as much certainty as possible. This exercise is also an opportunity to strengthen knowledge and understanding of Xoserve's systems.

Based on initial feedback from the market, and the refinement of solution options as part of the Economic Case, we will propose one or more tenderable procurement packages. Tendering multiple lots provides some longer-term risk management by engaging multiple suppliers. We need to make sure we can give the market confidence that this is an open, and not pre-determined, selection process. Multiple lots may be one route to achieve this.

The options that follow will be outlined and explored in the next phase of the business case and underpin the procurement approach documentation.

Within these procurement packages we may look for the opportunity to share risk though fixed-price/gain-share type contracts. We will only do this at an appropriate point of certainty, e.g. when we are satisfied we have a sufficiently baselined set of requirements and an agreed design.

The eventual procurement strategy and resulting award will also inform the skills that we will need to acquire to operate the UK Link replacement system e.g. numerous smaller contracts could drive us towards developing some form of Service Integration and Management (SIAM) function, with compo-nents that will support integration, functionality and processes (business and service delivery). This set-up would become the de facto system integrator or we could procure a 3rd party to undertake the running on Xoserve's behalf. This choice will have a significant impact on the eventual "run" costs of this solution. We will consider what is best for the future of the gas market and the CDSP commitments to stakeholders when looking at these options.

5 Financial Case

As part of the Financial Case section within this SOC, we have started to detail the financial implications of this business case. This will be significantly developed through the OBC and FBC documents as we firm up the options, preferred approach and solution to gain accurate estimates of costs from the preferred vendor(s) for the identified procurement packages.

The Financial Case within the SOC has two main sections:

- Funding arrangements: How will this project of work be funded?
- Typical Drivers of Cost: What are the key levers that will drive increased (or decreased) costs?

5.1 Financial Implications

There may be a range of funding implications for Project Trident based on the wide range of options being considered, with replace and build options potentially spanning over multiple years with a requirement for substantial investment.

5.2 Funding Arrangements

Xoserve is a not-for-profit organisation funded by customers through a pre agreed funding mechanism[25]. This is agreed on an annual basis, with costs being published in draft format each summer for the following calendar year, and then refined through the autumn as part of the Business Plan process.

Costs are categorised as one of:

- **General Service Charges** to fund the operational activities across the General Service Areas.
- **Infrastructure Charges** for maintenance of core system capabilities (UK Link Sustain, UK Link Service Essentials, and Gemini Sustain).
- **Change Charges** to fund specific initiatives.

We expect most Project Trident costs to fall into the change charges cost category. We also expect changes to all three cost categories once Project Trident is live, with the materiality of these changes being driven by the operational cost in the future. We will give an estimate of these changes as part of the Full Business Case (FBC).

The Xoserve finance team is currently undertaking an 'Equitability Review' of current funding arrangements for all of Xoserve's costs to confirm that the current apportionments between service area and/or constituents is fair. We expect to complete this by summer 2025 and this will form the basis for overall funding allocations for BP26 onwards.

We therefore propose to agree an interim basis for Project Trident funding for BP25, and then revisit based on the results of the Equitability Review, and a greater understanding of the beneficiaries of Project Trident, as the basis for funding in BP26 onwards. We believe that the existing mechanisms for investment cost allocation across the customer base are a good starting point for interim BP25 funding.

As part of the next phase, we will explore with both the Xoserve finance teams and customers whether alternative cost recovery is an attractive option. This would involve Xoserve raising the investment costs ourselves and then recovering this, including appropriate interest payments, through higher annual fees through the lifetime of the asset. This would smooth customer costs, so we don't suffer from a "spike" in the investment years while the UK link replacement is built.

25 umbraco.xoserve.com/media/40432/budget-and-charging-methodology-v4.pdf

5.3 Stakeholder Commitments

At the BP25 Statement of Planning Principles roundtable event on 9 July 2024, customers and stakeholders were briefed on Project Trident. There was largely a consensus around the understanding of the case for change, with questions focused on how the project will balance costs and minimise disruption whilst maximising the value delivered. Customers and stakeholders also wanted to understand more about identifying opportunities for further service improvements within UK Link.

5.4 Typical Drivers of Costs

While the UK Link replacement is considered a licence to operate investment, accurate and transparent forecasting of costs is an important part of Xoserve's planning principles.

Detailed costs will be captured for UK Link dependent on the option selected, initially as broad ranges as part of the Outline Business Case (OBC). This will allow us to give an indication of the likely investment required from customers to realise Xoserve's recommended approach. We will then firm up the numbers as part of the Full Business Case (FBC) with the final numbers received from the preferred vendors.

We will also track variations to existing and future run costs captured in the DSC+ contract. We expect variance to the current run cost profile. The materiality of this will be dependent on the detail of Xoserve's preferred solution. There may be variation in costs to rescope parts of the DSC+ contract, both as one-off and annual run costs.

Example build cost drivers:

1. **Selected solution, implementation timeframe and approach:** The architecture of Xoserve's recommended solution for UK Link will have a significant impact on costs. The duration of Project Trident will also have a significant impact, with the project team costs significantly influenced by the duration.
2. **Level of customisations:** A higher proportion of customisations will lead to a higher implementation cost. Given the unique role Xoserve plays in the gas industry, some level of customisation is inevitable.
3. **Licensing model (1-off vs SaaS):** The software industry has increasingly moved from a large one-off licence fee with smaller annual maintenance charges (typically 15-20% of licence fee) to more of a Software as a Service basis where the costs are incurred on an annual basis, either on a consumption or annual fixed fee basis.
4. **Exit/Adjustment costs to DSC+ contract:** There is the potential for one-off adjustment costs as the scope of DSC+ is changed in line with Xoserve's recommended solution.
5. **Changes to interfacing systems (e.g. GES via RECCo):** It is likely that several of the systems that UK Link currently interfaces with will need adjustments or re-testing depending on the option selected for UK Link. We will factor in estimated costs for this work as part of the build profile cost.
6. **Modifications driven by the UNC Code:** We have a steady stream of changes to the existing systems driven by modifications to the UNC Code. There is no reason to expect this volume of change to drop during the build phase for the project, and so this will be another cost driver to Trident costs.

7. **End to end costs:** We will look to develop a methodology for capturing costs incurred in the E2E eco-system, including into customer systems. This will be helpful as we make comparisons between different options. While we recognise that it is unlikely we will get accurate costs from all customers, we are sensitive to the consequential costs we are loading to them as a result of these decisions, and will seek to minimise this.
8. **Run operating model (including insource/ outsource):** We will build a full run cost for the proposed future solution accounting for all ongoing costs including annual cloud hosting charges etc.
9. **Licensing model (1-off vs SaaS):** As noted above, the software industry has increasingly moved to a SaaS model. We will account for annual fees, whether SaaS charges (under a fixed or consumption-based model) or annual maintenance fee(s) for individual products. In theory, a SaaS model should include some level of benefit for "ever green" of core components that could reduce ongoing costs compared to larger periodic upgrades.

Transparency is one of Xoserve's core planning principles. We expect to use market engagement (discussed in the Commercial Case section) to ensure we are getting value for money for all expenditure. We will use a variety of factors including delivery approach/risk as well as the indicated price from vendors to select the preferred implementation partner(s), and it is therefore possible that it isn't the vendor proposal with the lowest price that is awarded the contract.

We will follow Xoserve's cost categorisation including appropriate treatment of costs as Capex/Opex. Because of the funding arrangements of Xoserve by its customers, in practice, this will be accounted for with an end of year reconciliation.

5.5 Cost Ranges

At this stage of Project Trident, there is a high degree of uncertainty about the cost of the project, due to the need to make key decisions about the scope, options, solution, timescales and approach to the project as exemplified by the cost drivers above.

We will manage Project Trident to ensure we deliver value-for-money while achieving the desired outcomes, managing risk, and delivering with quality. However, it is evident that Project Trident could become a substantial and complex project of work and will require substantial investment.

Based on an assessment of similar programmes of work undertaken in the industry in recent years, we expect a total programme cost in the range of £55m - £109m for FY24-25 to FY28-29. We expect the scale of the project to be complex and large-scale, therefore, the project costs reflect this.

This assessment has informed the BP25 planning process in estimating first-year Project Trident costs.

6 Management Case

The outline Management Case sets out Xoserve's initial view of the governance and assurance arrangements that are necessary to enable the successful delivery of Project Trident.

6.1 Key Programme Management Considerations

We will ensure we have the right framework for governing a project of this scale and complexity. With governance already operational in this initial phase of the project, we can make key decisions early. We will evolve as we move through the phases outlined in this Management Case, and as the Outline Business Case and Full Business Case are developed.

6.1.1 Managing the project of work

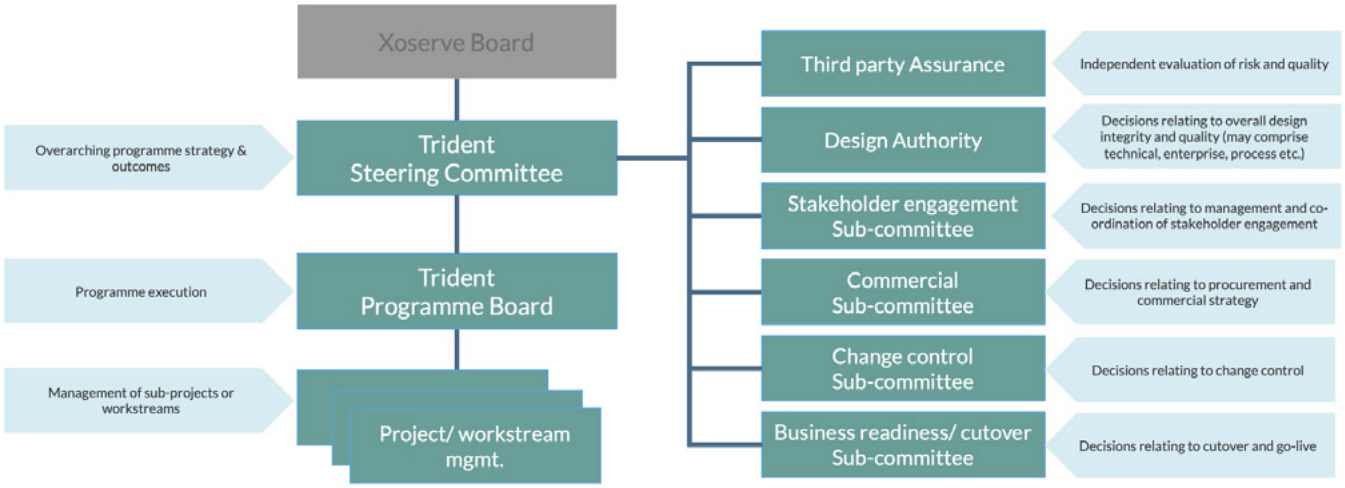
We expect to run four distinct phases, with governance varying as we move through these. There is potential for this to be iterative per procurement package, depending on the preferred procurement approach and the number of lots dictated by the evolution of the Economic Case.

	Pre-procurement ▶	Procurement ▶	Design, Build & Test ▶	Implement
Key outcomes	• Market engagement to test appetite and solicity additional approaches • Agreed solution approach to addressing the problem • Agreed set of functional / non-functional requirements for the proposed solution • Agreed procurement approach, including procurement packages	• Vendor(s) selected to build and run the replacement UK Link system	• Replacement UK Link system build and tested • Investors / customers trained and appraised of implementation approach • Xoserve upskilling to manage the new solution	• Revised UK Link is live and stabilised under new operating model • Lessons learned from Project Trident
Customer Engagement ▶				

6.1.2 Governance Arrangements

We have an initial governance structure for this pre-procurement phase underpinned with agreed Terms of Reference. This governance structure reflects learnings from other similar projects. We expect this to evolve as the project moves through procurement and into delivery and implementation, and we expect this to be validated at each stage.

At the most evolved target state, we expect governance to consist of overall tiering of project governance, reporting ultimately to the Xoserve Board, with supporting specialist committees supporting:



	Pre-procurement	Procurement	Design, Build, Test	Cutover / Go-live	Hypercare / Go-live
Key Activities	• Strategic / Outline Business Cases	• Market Engagement, procurement • Requirements, solution options • Full business case	• Detailed design • Building / config • Testing	• Data migration • Cutover • Business readiness • Customer readiness	• Transition to support
Steering Committee	✔✔	✔✔	✔✔	✔✔	✔✔
Project Board	✔✔	✔✔	✔✔	✔✔	✔✔
Workstream management		✔	✔✔	✔✔	✔
Third Party assurance	✔	✔✔	✔✔	✔✔	✔
Design Authority		✔	✔✔	✔✔	✔
Stakeholder Engagement	✔	✔✔	✔✔	✔✔	✔✔
Commercial		✔✔	✔	✔	✔
Change Control		✔✔	✔✔	✔✔	✔✔
Business Readiness			✔	✔✔	✔✔

Key:
✔ Some activities in progress - accountabilities may be included in another governance group
✔✔ Fully active

	Responsibilities	Representation
Steering Committee	Overarching project strategy & outcomes	• Exec/ senior level sponsors, leads and function representation • Key suppliers/ partners • Customer representation
Project Board	Project execution	• Delivery leadership
Workstream management	Management of sub-projects or workstreams	• Workstream/ project teams
Third Party assurance	Independent evaluation of risk and quality	• Independent assurance (input to Steering Committee)
Design Authority	Decisions relating to overall design integrity and quality (may comprise technical, enterprise, process etc.)	• Architecture (technical, enterprise, data etc.) • Process owners • Project management • Test lead
Stakeholder Engagement	Decisions relating to management and co-ordination of stakeholder engagement	• Stakeholder engagement / comms • Project management • Customer representation
Commercial	Decisions relating to procurement and commercial strategy	• Project management • Finance and support • Procurement / commercial • Legal
Change Control	Decisions relating to change control	• Project Management • Architecture (technical, enterprise, data etc.) • Process owners • Risk / compliance • Procurement / commercial • Test lead
Business Readiness	Decisions relating to cutover and go-live	• Project management • Test lead • Change management, training etc. • Finance and support • Cutover leadership • Stakeholder engagement / comms • Business function representation • Risk / compliance

We have a fortnightly Steering Committee that reports to the Xoserve Board . There is a Project Board meeting weekly and which reports to the Steering Committee. These forums are chaired by representatives from Xoserve Executive and include appropriate subject matter experts (SMEs).

We expect to augment existing governance structures with representatives from customers, independent assurance, and technology specialists. This will also include a dedicated User forum to ensure users are actively involved and represent the Voice of the Customer is represented.

We have identified initial stakeholders to be engaged through the various phases of the project and will continue to evolve this list through the project duration:

- Correla
- Customers
- Key suppliers
- Independent Assurance
- Third party advisors
- Legal
- Ofgem
- Other central bodies (e.g. RECCo)

The stakeholder engagement workstream will actively engage these different groups through a variety of methods to ensure they are and feel actively involved.

6.2 High Level Management Strategy

We are following industry standard delivery processes with key Project Management disciplines as part of the daily project rhythm as outlined below.

6.2.1 Planning

Robust planning is key to supporting a well organised and risk ready project. Xoserve's current work is focused on establishing a solid baseline for procurement and the deliverables to enable these are being actively managed, with supporting activities and dependencies in the plan.

The vendor delivery approaches will be a key input to the future plan and the projected delivery timelines. Regular review of the delivery plan is part of the governance of the project, including dependency, resource, and risk management.

6.2.2 Reporting

Project Trident will be implementing robust reporting aligned to the plan. Governance meetings will ensure weekly workstream/project board, fortnightly steering committee, and quarterly Board reporting. We will also align with stakeholder engagement workstream to ensure customers can support and engage where needed and are aware of progress, risks, and upcoming activity.

Standard reporting includes progress against key milestones, cross-workstream dependency management, RAID reviews, and upcoming resource requests.

6.2.3 Risk Management

Risk management is a core part of delivery. Once identified, each risk will be analysed for likelihood, severity, and proximity and assigned an owner. We have an initial set of risks identified and will continue to actively manage this list through the weekly cadence of project meetings (Workstream ➜ Project Board ➜ Steering Committee). The top risks surface for review at the fortnightly Steering Committee to ensure visibility of the most critical items that could derail progress.

We will the financial impacts of risk, holding a risk contingency budget that reflects the materiality and likelihood of risks. This is in line with Green Book guidance.

6.2.4 Change Request Management

Change is an inevitable part of project delivery. We know for example, that the current UK Link system will continue to evolve during the delivery of its replacement, and that these changes are likely to need to be incorporated in the new system too. However, we will put in place plans to minimise the impact of change to manage cost and timescale overruns.

Key to a successful Change Request Management process is a solid baseline and accurate documentation as the basis for procurement. We are currently in a pre-procurement phase where we are building this baseline based on review and uplift of existing materials, simplification of processes where appropriate.

The budget included in the FBC will include a 'Change Request pot'. This will be governed within Project Trident governance. Each tier of governance has an appropriate Delegation of Authority (DofA). In addition, all Change Requests, even if approved by DofA at a lower forum, will be surfaced at the Steering Committee to ensure oversight.

6.2.5 Financial Management & Benefits Realisation

Project Trident will be underpinned by a robust business case based on the government Green Book framework. We will profile build and run costs over the lifetime of the asset, including consequential changes to up/downstream systems from both a build and run perspective. The business case will be maintained as appreciation of costs and the nature of the solution grow, and as Change Requests are approved.

The project will also ensure a robust Benefits Realisation plan is put in place with accountabilities on individuals and teams clearly called out for achieving the identified benefits. This will be supported with an appropriate Business Change Management workstream.

Where possible, these benefits will be baked into appropriate budgets in advance to maximise the chance of successful realisation.

6.2.6 Supplier/Contract Management

Delivery of Project Trident is likely to require multiple suppliers and contracting structures. We will ensure there is alignment and engagement with the Contract Management Committee (CoMC) at the appropriate points. This will ensure that this diverse ecosystem of delivery partners is actively managed for e.g. contract management and supplier performance management.

We will ensure suppliers are onboarded in a structured manner, with onboarding packs maintained to ensure a common understanding of the goals and current status.

6.3 Key Risks

Key determining factors to a successful delivery are:

1. **Finalising the scope and generating an accurate specification** (or specifications) for tender. We will do this in combination with early engagement with the market as outlined in the Commercial Case section of this document, and collation and uplift of existing UK Link documentation.
2. **Generating interest in the market for this type of procurement.** We will do this by engaging early with the market and understanding the appetite for different packages of procurement (e.g. separate run vs build, different sizes of award, etc.).
3. **Holding to cost and time estimates for this delivery.** We will do this by adhering to good project delivery practice as outlined in section 6.2.
4. **Ensuring sufficient capacity for a delivery of this scale.** Projects of the scale and complexity of Project Trident inevitably demand significant commitment of experienced resources from multiple parties. We recognise this resource is at a premium, and that we will also need to retain a focus on Business-As-Uusual. We have on-going capacity management processes running as part of the Programme Management Office (PMO) workstream to ensure we accurately forecast resource requirements across the delivery ecosystem.

7 Next Steps

7.1 Developing the Outline Business Case (OBC)

The next step is to further develop this document into the Outline Business Case (OBC). More detailed plans will be developed for the Commercial, Financial and Management cases.

Additionally, we will undertake further detailed economic analysis on the long-list project options, and a preferred option will emerge. We will take steps to deliver quantitative and qualitative information to support the assessments and agree the preferred option. Within the SOC document we have explored the strategic themes and case for change. It is important we revisit this within the next stage of the Business Case to make sure the facts remain the same and make any adaptions based on market or strategic challenges.

We will deliver a market engagement approach to gain more insight and information around the options available for Project Trident. We will engage industry-recognised technical specialists to understand the market and supplier appetite for Project Trident. This will also cover alternative solution approaches and detail for refinement of the options considered in the Economic Case. Additionally, this will inform how we approach procurements, and the specification and documentation levels expected as part of the Request for Proposal (RFP).

We will approach the UK Link options selection by defining the Preferred Option Assessment Criteria to a greater degree of precision and measurability. For each option, we will gather further data and insight through both our own research as well as industry and market engagement. In addition, we will document the business, technical and volumetric requirements for the current UK Link and expectations for the future system to help us decide on a preferred option for Project Trident.

Xoserve's intention is to further investigate the costs and benefits which will be aligned to Project Trident and provide an overview of the scale and timing of the funding required and the apportionment of costs. In addition, we will give further consideration to how the project will be deployed and governed throughout its duration and link into existing governance such as CoMC, and project management structures. The Project Board and Steering Committee will be integral to progressing Project Trident with integrity and at pace, whilst managing the project risks.

We will invest in stakeholder engagement to seek input and consensus throughout the business case journey to ensure affected stakeholders are informed and consulted on Project Trident developments and decision points as we continue to progress.

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