Cadent

Your Gas Network

Atypical EJP

Data Sharing Infrastructure (INV-37)

Cadent
Your Gas Network

Contents

Summary Table

Title Section	AEJP 3 for Digitalisation Investment: Interoperability Theme – Data Sharing Infrastructure
Name of Scheme	Data Sharing Infrastructure (INV-37)
Investment Driver	The goal is to make three Data Assets available in the Data Preparation Node (DPN) and to develop the internal processes and governance required to connect future use cases to the Digital Sharing Infrastructure (DSI). The proposed delivery consists of making three Data Assets available through Data Sharing Infrastructure. The success measure of the investment is defined as: received confirmation from Data Users that 3 Data Assets shared via DSI by Cadent can be accessed and used by Data Users through DSI. As the delivery of the investment is going to be executed in three iterations (each iteration for a Data Asset defined for a given use case), we are anticipating that to demonstrate successful delivery of the investment we will receive three separate confirmations, as the set to the stakeholders involved in each use case might be unique. This investment is a response to a direct Ofgem request to signpost the expectations of a level of spending that will be required to connect to Data Sharing Infrastructure
BPDT/Scheme Reference Number	M8.19
Outputs	The following deliverables are proposed for this investment: • Data Preparation Node solution design; • Delivery of the first use case (first Data Asset treated as the first iteration); • Collection of the learnings from the first iteration; • Application of these learnings for the second and third use cases (or consequent iteration of the first use case); and • Outline of Digital Governance processes required to be adopted by Cadent to ensure appropriate oversight of the management of the Data Preparation Node.
Cost	[cost-sensitive data]
Delivery Year	FY 28/29
Applicable Reporting Tables	N/A
Historic Funding interactions	No historic funding
Interactive Projects	INV-38 Common Information Model for Gas Data

We expect the Spend Apportionment table below to be merged with the summary table above but have included separately for accessibility purposes.

Spend Apportionment (£m)	(£m – 2023/24 prices)
RIIO-2	[cost-sensitive data]
RIIO-3	[cost-sensitive data]
RIIO-4	[cost-sensitive data]

1. Introduction

This investment is being proposed as a result of the consultation on the governance of the DSI issued by Ofgem that contained a proposed timeline for DSI development. It is also based on the revised National energy system operator (NESO) plans for DSI Minimum Viable Product (MVP) use cases and the proposed future development of DSI. Cadent anticipates the need to establish a feasible connection and to test its ability to expose chosen Data Assets through the DPN of the DSI before 2028, which is a provisional date communicated by NESO and Ofgem for mandating the use of the solution for energy sector licensees.

2. Background

This investment has been formulated as a direct response to the request from Ofgem to signpost the expectations of a level of spending that will be required to connect to the DSI. The ambition to connect to DSI will be dependent on the direction chosen by NESO for the definition of the use cases and confirmation of the timelines to realise the delivery.

We are in regular conversations with NESO through the ENA Data & Digitalisation Steering Group and through the Gas Data & Digitalisation Collaboration Group meetings. Through this we understand the progress on the current pilot use case for DSI and contribute to the definition of future use cases for DSI development.

Cadent held a dedicated workshop with the Ofgem DSI Project Team in summer 2024, in preparation for development of the investments for Cadent RIIO-3 Business Plan. This has ensured that the high-level data architecture of DSI DPN is understood by us in a level of detail to allow estimates of the anticipated cost of realising the use cases as part of DSI development.

3. Optioneering

As the high-level architecture of the DSI has been already made openly available, there is no need for in-depth technical option analysis.

The option analysis has been therefore focused on consideration about the appropriate scope of the effort and method of delivery (in-source vs outsource model). The following options were taken into account:

Option 1: Estimate the effort of setting up a connection to DSI as a one-time effort only and assume that there are no use cases requiring Gas data before 2028.

While the consultation issued by Ofgem on governance for the DSI does not indicate any firm plans for use-cases requiring gas data in the set of use cases for DSI development, NESO has confirmed that their intention is to progress with a MVP use case that would include gas data. The further definition of the use cases is intended not to be limited to the electricity sector, to ensure the benefits of DSI development are available for the whole energy sector. The development of the DSI will be a use-case-based development. Ability to connect to DSI can be deemed successful if we obtain evidence that Data Users can access and use the Data Asset received from Cadent via DSI, therefore while option 1 is technically feasible and focuses on setting up required digital infrastructure, without valid use cases and confirmation from Data Users it is going to be difficult to prove that the technical delivery is indeed correct and successful.

Considerations regarding setting up a DPN without testing it on a specific use case is not a feasible approach for ensuring the successful connection to DSI. The early feedback from the pilot phase indicated that there is a significant effort not only in the technical connection to the DSI and development of DPN, but also in ensuring the appropriate preparation of the Data Asset for the use case. Based on the above, Option 1 has been discounted as unfeasible considering feedback from NESO and participants of the pilot phase.

Option 2 (Preferred): Estimate a realistic number of use cases that would require Gas data and be feasible to progress before 2028 and scope the delivery based on assumed number of use cases.

Based on the high-level roadmap of DSI development and from the discussions with NESO, we have estimated that development of the DPN and testing the connection of the first use cases is likely to take around 12 months, including review the experience of the first use cases and the lessons learnt. Conservatively, we have therefore assumed that before 2028 projected mandating the use of DSI within energy sector, Cadent would be in position to realise up to three use cases for the medium complexity of Data Asset (with the second and third use cases involving a shorter delivery time of around 6-7 months, as a result of the opportunity to leverage the learnings gained during realisation of the first use case). This would also give Cadent enough practical experience and evidence to appropriately address any changes in internal processes and governance that should be adopted before the use of DSI is mandated across the sector. Another benefit of this option is that a gas Common Information Model (CIM) standard planned to be developed as part of INV-38 CIM for Gas data, could be tested as part of this investment.

Option 3: Do nothing and defer any request for funding till 2028 or until a re-opener window to be announced by Ofgem for Data and Digitalisation when DSI development will be more matured.

While this option might be attractive from the cost perspective, it has been discounted as it increases the risk that Cadent will be expected to comply with requirement without any opportunity to test and learn to ensure effective operation of the DPN. The feedback from NESO strongly suggests that the opportunities to collaborate before 2028 on DSI are going to be created and encouraged, and Cadent should seek any opportunity to interact with DSI as early as possible to allow time to discover any challenges, risks and issues that will contribute to collective sector learning on DSI and might benefit DSI development project directly for Cadent to feed their experiences and learnings back to NESO.

4. Cost

The cost of the investment is driven by:

- Gross Staff Cost to support the delivery of the investment.
- Platform and Integration resources to architect and design the DPN.
- Data Governance resources to develop appropriate business process and governance for the solution.
- Third Party Contactor Cost to increase capacity of the team to deliver three use cases; and
- License and maintenance support cost for the solution throughout RIIO-3 period.

Cost driver	Cost (£m – 2023/24 prices)
Gross Staff Cost	[cost-sensitive data]
Contractor Cost	[cost-sensitive data]
Licence Cost	[cost-sensitive data]
Maintenance and support cost	[cost-sensitive data]

Table 1: Investment cost

The diagram below illustrates the conceptual design that has been used to derive the cost estimates for the investment.

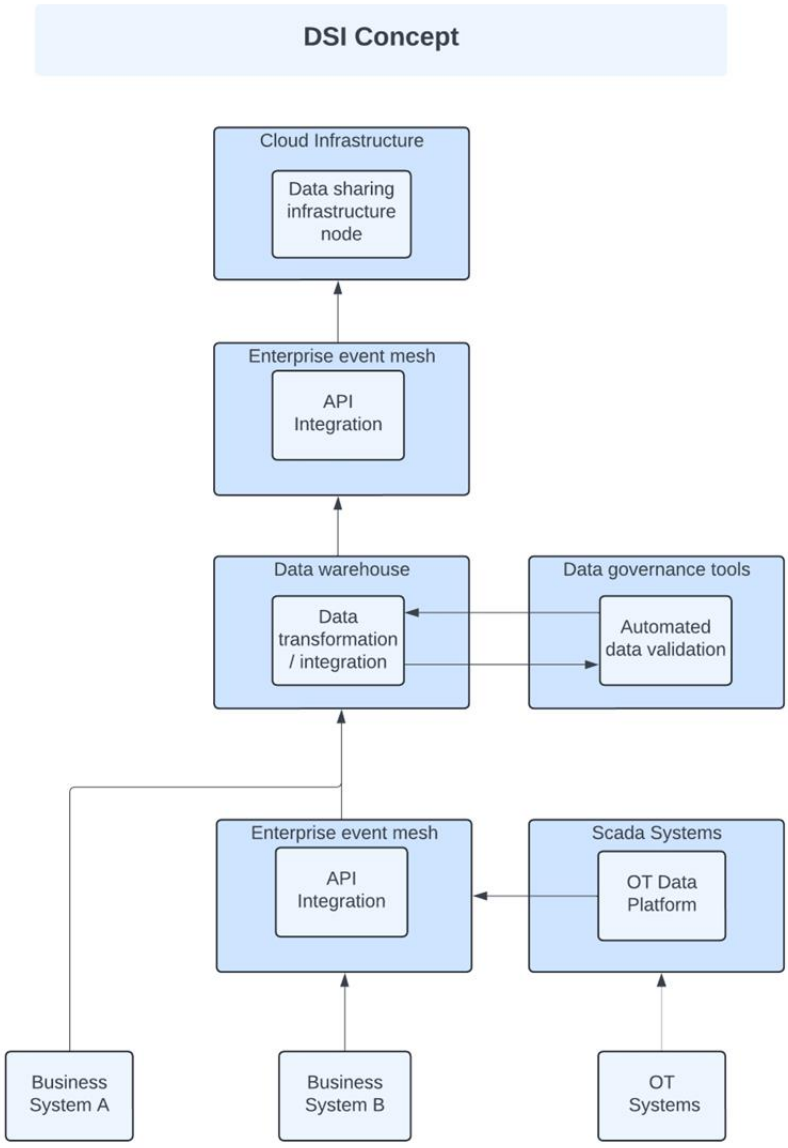

Figure 1: DSI concept

5. Scope overview

The scope of this investment is defined as:

- making three Data Assets available in the DPN of DSI; and
- the development of appropriate internal processes and governance required to connect future use cases to DSI.

The illustration below indicates how this investment contributes to RIIO-3 Target Data Architecture landscape at Cadent.

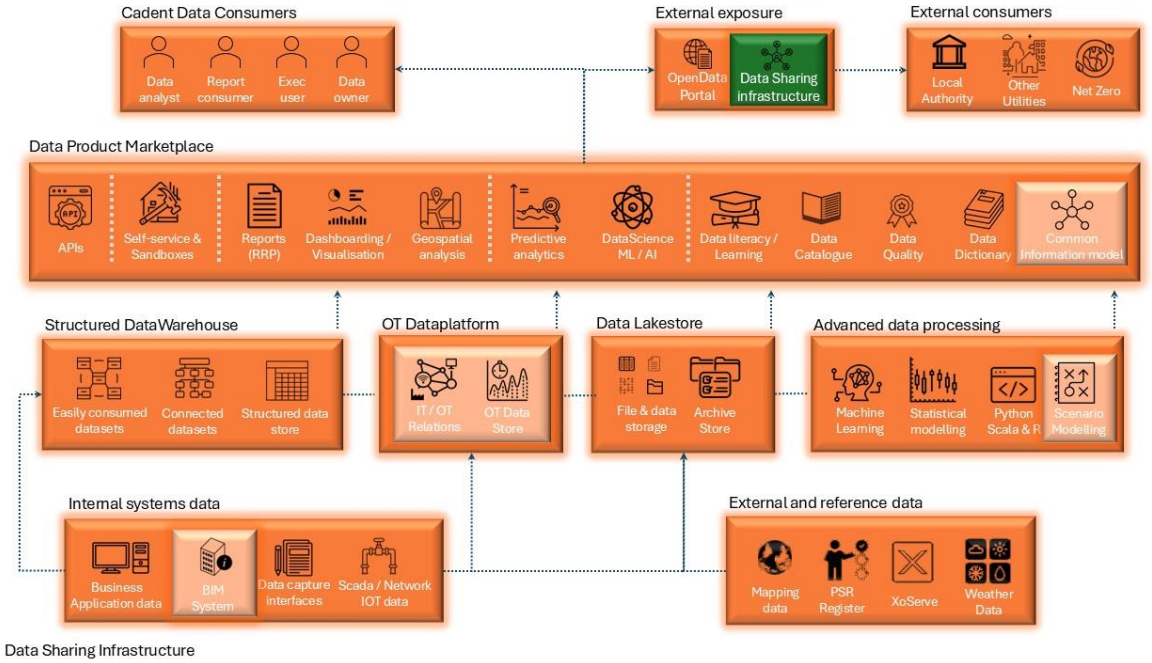

Figure 2: Cadent target data architecture

The proposed delivery consists of four phases to allow us to learn and adapt after each iteration. By keeping the delivery use case agnostic, we have created a more flexible delivery approach to ensure that we can continue conversations with NESO and other networks on the definition of the most suitable use cases to be realized through early development of DSI.

The first phase is to outline the design of the DPN and define a low-level design of the solutions, and the consecutive phases to deliver each of 3 use cases.

NESO's roadmap and timeline assumptions have been replicated by Cadent for the purpose of sizing this investment (12 months for the first use case, and 12 months for the second use case with learning from first use case applied). Given some benefits expected from the Pilot in early 2025, Cadent has translated this in a conservative manner into delivery of two iterations – each with a focused effort of 6-9 months).

The project is successfully delivered when for each of three iterations we will be able to confirm that Data Recipient(s) can access and use our Data Assets.

6. Deliverability

This investment is a response to a direct Ofgem request to signpost the expectations of a level of spending that will be required to connect to DSI. The ambition to connect to DSI will be dependent on the direction chosen by NESO for the definition of the use cases and confirmation of the timelines to realise the delivery, therefore the investment is use-case scope agnostic, pending future decisions on the definition of selected use-cases and more detailed data requirements. Gas Distribution Networks made a joint commitment to NESO to propose candidates for use-cases in areas of strategic planning in late 2024, and the for the MVP use case is planned to be agreed in Q1 of 2025.

We have assumed a typical cloud solution licence and support maintenance costs for this investment, given the open-source type of software described in high level data architecture of DSI.

We are proceeding with an assumption that use cases will be defined based on current stakeholders' needs and the data required will be similar in scope and size to medium complexity data sharing requests that Cadent has received in the past. In case of a high complexity use-case being selected as the most appropriate use case, we might limit the number of uses cases to balance the investment cost.

We propose the investment to be realised before 2028 and treated as the preparation for an anticipated roll-out date in mid-2028 as expressed in the Ofgem Consultation on the governance of DSI.

Digitalisation RIIO-3 Roadmap	FY26/27	FY27/28	FY28/29	FY29/30	FY30/31
Data Sharing Infrastructure (INV-37) in £m	[cost-sensitive data]	[cost-sensitive data]	[cost-sensitive data]	[cost-sensitive data]	[cost-sensitive data]

Table 2: Investment timeline

7. Conclusion

This investment is a direct response to Ofgem's requirement to signpost the efforts and anticipated cost for connecting to the Data Sharing Infrastructure. Cadent's ability to connect to DSI will directly mature compliance with DBP Principle 6, 8, 9 and 10.

The delivery and costs have been put together on the basis that an agile approach is taken to the delivery, with iterations that allow for learning based on case studies that have deemed of value to a range of Stakeholders.

8. Glossary

Acronym	Definition
CIM	Common Information Model
DPN	Data Preparation Node
DSI	Digital Sharing Infrastructure
MVP	Minimum Viable Product
NESO	National energy system operator