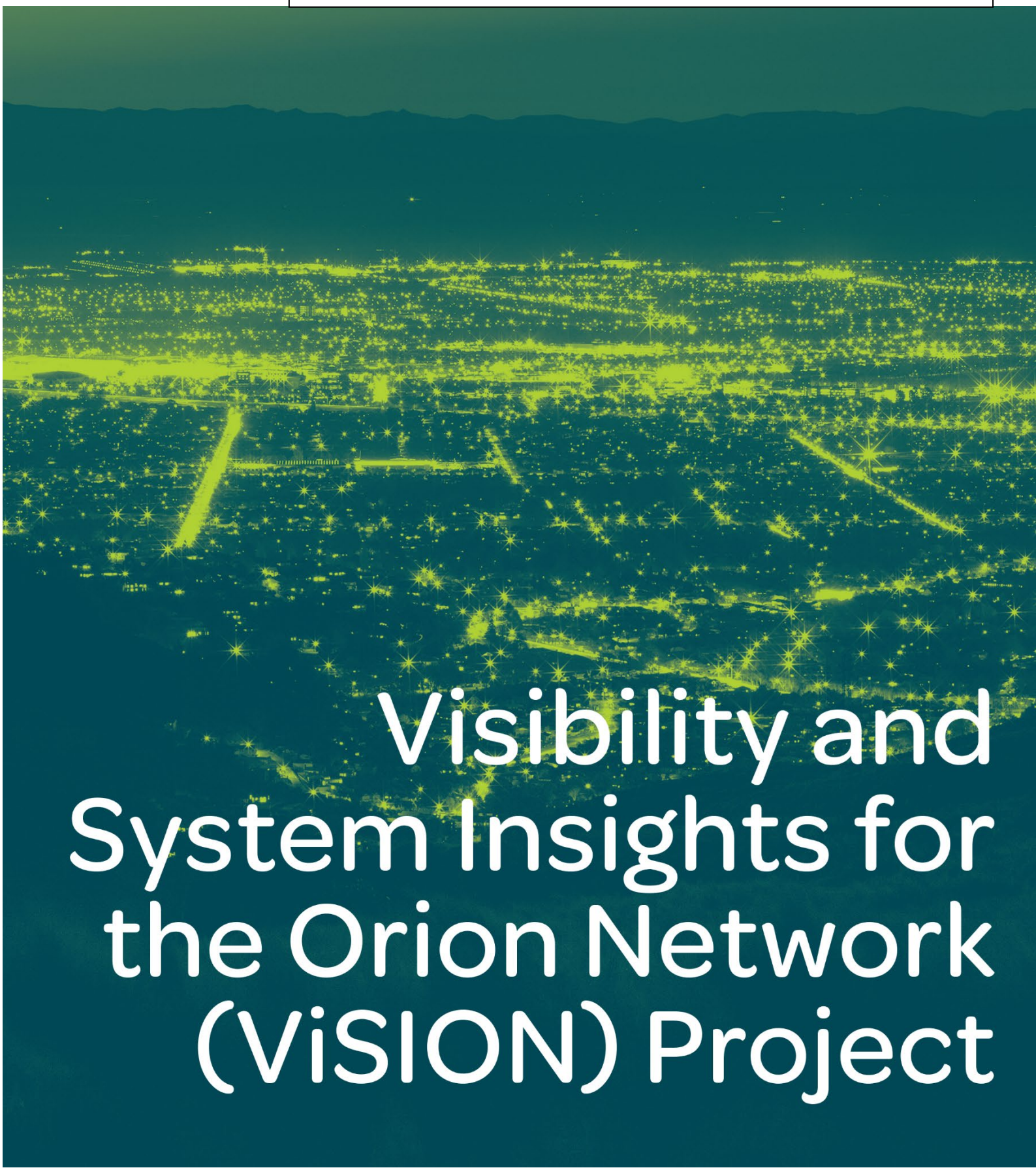
Orion

Innovation Project Allowance Report
Issued 16 July 2025



Visibility and System Insights for the Orion Network (ViSION) Project

Contents

1. Introduction

This is a report on the outcomes and key learnings from Orion's "Visibility and System Insights for the Orion Network" (ViSION) project. Our ViSION project targeted our ability to gain and use insights from a combination of existing and new, temporal and spatial data sources. The overall objective was to develop and trial a new process that delivers lower costs and increased quality of electricity service to customers.

The ViSION project formed a foundational part of Orion's Network Transformation Roadmap, focused on two workstreams:

- System visibility and network data integration, and
- Power systems insight enablement.

The project was phased over several years, concluding on 5 May 2025 when the selected LV Network Analytics solution was implemented at Orion.

Phase 1: Data Gathering and Integration	(April 2020 – April 2024)
Phase 2: Power System Insights - Analytics Trials	(Jan 2023 – June 2024)
Phase 3: Select and Implement LV Network Analytics Platform	(July 2024 – 5 May 2025)

Orion applied for (June 2024) and received approval (July 2024) from the Commerce Commission for an Innovation Project Allowance of up to 50% of the costs of the first two phases of this project, under the Electricity Distribution Services Default Price-Quality Path Determination 2020 (DPP3) for non-exempt Electricity Distribution Businesses (EDBs). The total costs of the first two phases of the project from 1 April 2020 to 30 April 2024 were $4,797,000, and Orion was approved an allowance of $774,825[1].

The ViSION project application[2] outlines the context, purpose, proposed benefits and details the first two phases up to April 2024.

This report focuses on the extent to which the project's purpose, outcomes and expected benefits were achieved, and key findings and lessons learned. This will support implementation of similar projects by other EDBs or third parties.

[1] Orion-innovation-project-allowance-ViSION-Project-approval-letter-12-July-2024.pdf

[2] https://www.oriongroup.co.nz/assets/Your-energy-future/Orion-ViSION-innovation-allowance-application-Jun-2024.pdf

This report fulfils Orion's requirement under Schedule 5.3(5) of DPP3, to submit this report to the Commerce Commission within 50 working days of the project being completed, and will be published on Orion's website. The report does not contain any confidential information therefore it can be published unamended on the Commission's website.

Further information, published papers and presentations on the ViSION project can also be found on Orion's website.

A copy of the RFP for the LV Network Analytics Platform and associated contract, or any further information about the project can be provided by request to Stephen Godfrey: Stephen.godfrey@oriongroup.co.nz.

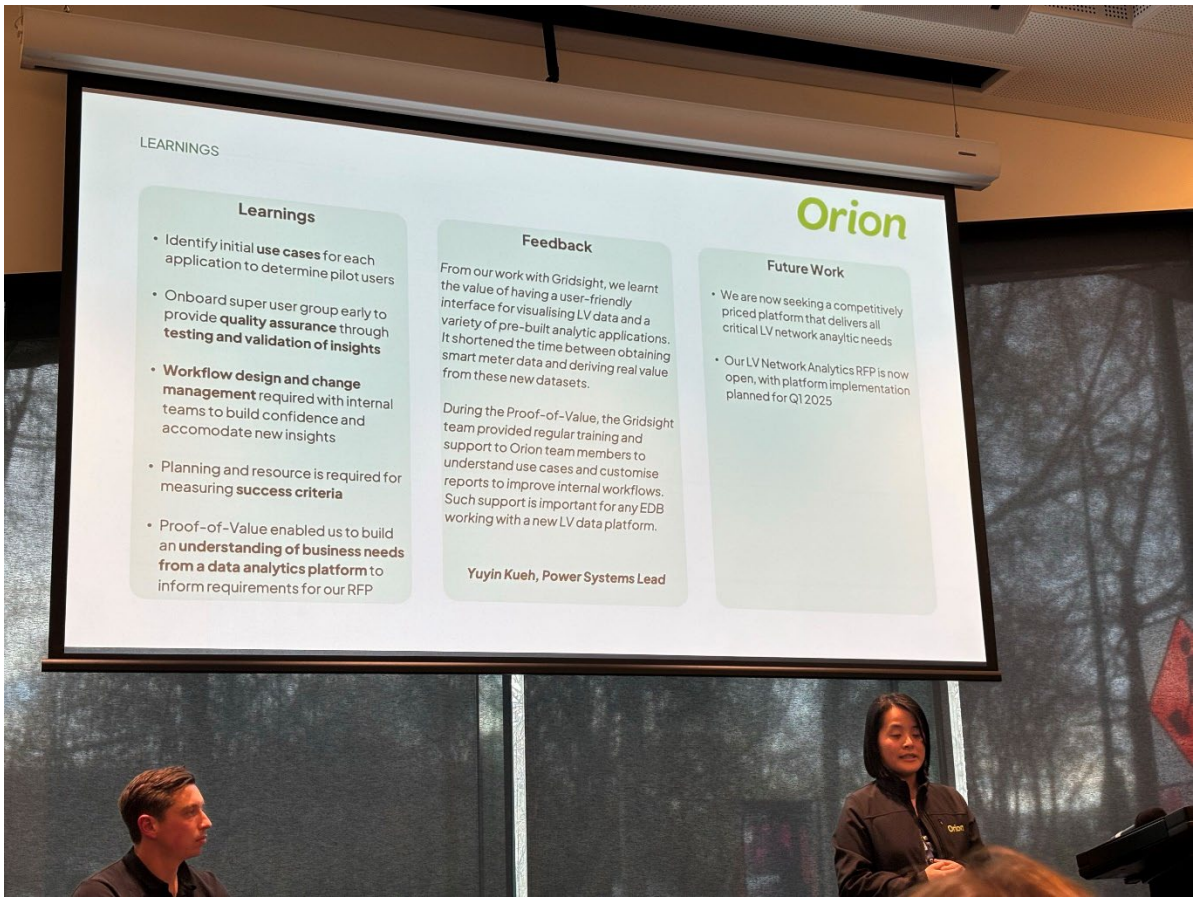


Figure 1: Yuyin Keuh presents ViSION learnings at the Ara Ake EDB Challenge

> *"Our approach to leveraging datasets is transforming how we manage the network, ensuring we meet the evolving needs of our consumers," says Yuyin.*
>
> *"By sharing our findings and methodologies, we aim to foster a collaborative environment where all EDBs can benefit from our learnings and innovations."*
>
> **Yuyin Kueh, Orion Power Systems Manager**

2. ViSION project purpose, outcomes and expected benefits

Typically, an EDB's street-level low voltage network supplies more than 99% of its customers. Despite this high percentage, EDBs have traditionally not had good visibility of the condition and behaviour of their low voltage networks, which were planned for reasonably stable passive household loads with one-way power flow. However, as more customers adopt technologies such as EVs, and solar systems and batteries create two-way power flows, developing visibility of and capability in the low voltage area is essential to efficient electricity network management, and facilitating customer choice and participation in demand response.

There are various differing approaches that EDBs can take to securely gather low voltage data and then utilise it to help optimise their networks. Orion extensively considered various visibility and insight options before settling on our ViSION project.

Our ViSION project targeted our ability to gain and use insights from a combination of existing and new, temporal and spatial data sources to help unlock latent capacity in Orion's LV network, thereby reducing the need for future network investment, lower costs to our customers, and deliver numerous other efficiency, quality and safety improvements.

The overall objective was to develop and trial a new LV network data, analytics and insights process, through a multi-phased approach, that delivers lower costs and increased quality of electricity service to customers.

Ultimately, Orion wants the network data to provide valuable insights and information to:

- support decision-making by improving understanding of network performance,
- test future scenarios,
- identify trade-offs and quantify risks,
- provide a visual representation of complex network configurations.

Our ViSION project achieved its purpose in terms of developing and trialling a range of new processes and creating insights. We answered a range of questions about what insights were possible, most desirable, and the pros and cons of developing an in-house platform vs using a third-party platform.

Phase 1 and 2 of this project informed Phase 3, which resulted in Orion selecting an LV Network Analytics Platform that can use existing and available data to identify system constraints, network performance improvements and efficiency for optimal investment.

Key outputs and outcomes from each of the project phases are outlined below.

<table>
<tr><th colspan="2">Phase 1: Data Gathering and Integration (April 2020 – April 2024)</th></tr>
<tr><td>Data acquisition
Established a new process with Bluecurrent to obtain 5-minute operational smart meter data for nearly 90% of our ICPs.
Used LV monitor data to validate early prototyping results from smart meter analytics.
Built a more accurate network topology primarily through phase identification predictive analytics capabilities (augmented by strategic physical field visits).</td><td>Data integration
Data receipt, storage and protection:
established detailed data governance frameworks, policies, and guidelines for our network visibility data and IoT devices.
developed systems and processes to reduce third-party data issues, such as duplication and security issues.
undertook work with overseas third-party data platform providers around system security requirements to meet New Zealand privacy law.
Data quality:
learned how to manage quality and cyber risks associated with a large quantum of data
‘cleaning up the data’ so that duplicates and inaccurate recordings were filtered out
established and trialled a modern data platform (including Artificial Intelligence trials).</td></tr>
<tr><th colspan="2">Phase 2: Power System Insights (Jan 2023 – June 2024)</th></tr>
<tr><td>Analytics trials
Gridsight and Future Grid - Tested analytics tools of two different Australian-based ‘platform-as-a-service’ companies, who triangulated the three data sources and provided us with a suite of use cases.
ANSA trial - Orion assessed and determined in-house which use cases were most beneficial.</td><td>Internal user group testing
demonstrating that we could make better decisions based on more data or earlier decisions (e.g. speed up connections process by knowing thermal and voltage constrained and non-constrained areas).</td></tr>
<tr><th colspan="2">Phase 3: Select and Implement LV Network Analytics Platform (July 2024 – 5 May 2025)</th></tr>
<tr><td>Analysed learnings from Phase 1 and 2 and from other EDBs’ approaches to utilising LV data to improve utilisation of network.
Developed and issued RFP for LV Network Analytics Platform (August – Sept 2024).</td><td>Appointed Future Grid as successful Platform vendor (December 2024).
Trials completed and project evaluated (March 2025).
Future Grid Compass platform tested and live in production environment (March – 5 May 2025).</td></tr>
</table>

Expected benefits

The Future Grid Compass platform went live in its production environment at Orion on 5 May 2025. In our ViSION application (June 2024) Orion outlined several proposed benefits from this project, once fully implemented[3].

"*These include, but are not limited to:*

- *developing a better understanding of existing areas of network constraint to inform targeted network investment.*
- *identification and release of latent capacity from the network to optimise the utilisation of an existing feeder. That released network capacity can then be used to assist wider electrification and decarbonisation initiatives, without building new network.*
- *an ability to host an increased amount of renewable generation while maintaining network safety, stability, and resilience, by seamlessly maximising the two-way throughput of energy across our network.*
- *the capacity to identify unregistered low carbon technologies associated with segments of LV feeders for further safety investigation and validation.*
- *improve outage, customer and safety outcomes. For instance, identify poor voltage conditions before a customer does[4].*
- *improved ability to issue cost-effective and more timely connection quotes.*
- *further reduction in fault levels through smart switching in the network as constraints on the network are identified before faults occur, and where faults do occur restore load to customers quicker and undertake timelier repair of faults.*
- *provision of network information to our customers and third parties in an open and accessible manner. This will better enable market participation in flexibility and other services.*
- *increase asset life and improve condition-based asset management through maintenance targeted to assets with increased loading.*
- *reduce electrical losses, as well as improve our ability to calculate and report losses more accurately. Most losses on an EDB's network occur on the low voltage network and measured data will enable better understanding of where these losses are occurring and hence enable targeted maintenance.*

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[3] Orion ViSION innovation allowance application - June 2024 pg. 23

[4] *Voltage levels observed on the network will change and potentially move beyond the regulatory limits of 230V±6%* [fluctuate outside regulatory limits] *as new technology is connected. When electrical equipment in a house/business uses power from the grid, the voltage to that property and other properties on the line decreases. Conversely, if a solar panel on a home exports electricity back into the grid, the voltage to other houses on the line rises. With many devices, of differing types, voltage is constantly changing particularly where there is a high concentration of variable generation e.g. PV, wind.*

These benefits will ultimately lead to increased customer satisfaction, a higher quality of supply to customers and lower cost."

The outcomes of the new LV network data, analytics and insights process developed and trialled through our ViSION project, give us confidence that this new process will result in some of the longer-term benefits outlined above.

3. Key findings and learnings

There have been significant key findings and learnings from our ViSION project. This section outlines these for each phase of the project, so that other EDBs may learn from our experiences.

Orion has shared learnings with other EDBs and industry participants during the project through presentations and papers. Many of these are referenced and excerpted below and are also published on Orion's ViSION website page - ViSION | The Orion Group.

3.1. Phase 1: Data Gathering and Integration

Key learnings from this phase include:

- The value of acquiring and triangulating multiple data sources into network analytics and power flow models.
- It can take significant time and cost to acquire smart meter data.
- Data governance requires constant attention and effort, but it pays off in the long run. It also needs strong support from senior leadership.
- Setting up a modern data platform is a big project that needs proper resourcing. It is vital to design and build the platform well, but also to optimise the data modelling after the platform is working. Do not just lift and shift the existing data into the new platform.
- Cloud-based platforms may not always be the cheapest option to implement, but they offer more functionality and less maintenance.
- Investments in data governance and a modern data platform enables faster development of AI and analytical projects.

3.1.1. Data acquisition

One of the key findings from the ViSION project was the value of using **three key data sources and the triangulation of these into network analytics and power flow modelling tools**, to achieve the initial low voltage visibility and learnings we sought.

The three sources of data being:

1) Smart meter operational data
2) Low voltage distribution transformer monitors
3) Network topology

Each of these three data sources is required. Each data source can be thought of as a leg on a three-legged stool – remove one leg and the result is significantly less effective.

As noted in our Innovation Project Application Network Operational Data (NOD), "*as opposed to more easily obtainable 30-minute kWh consumption data, greatly increases the analysis*

that can be undertaken by an EDB particularly in the areas associated with customer safety, connectivity, and topology.

As part of ViSION, in October 2023 Orion became the first EDB in New Zealand to sign a contract with New Zealand's largest smart metering provider, Bluecurrent[5] (formerly Vector Metering), for the ongoing supply of 5-minute operational data from smart meters on our low voltage network.

Given Bluecurrent hold around 90% market share of smart meters in the Orion network area, the receipt of Bluecurrent's 5-minute operational data, when combined with LV transformer monitoring data and network topological data, enables Orion to achieve many new efficiencies.

It also means that as we learn ways to process and analyse this specific data, and as Bluecurrent hold over 30% of the smart meters in 21 of New Zealand's 29 EDB areas, we can assist many other networks as they too, over time, sign agreements with Bluecurrent."[6]

It can take significant time and cost to acquire smart meter data

Another key learning was that it can take significant time and cost to acquire operational 5-minute smart meter data for those EDBs that do not already have access.

As noted in the Ara Ake EDB Challenge Learnings Report, there were difficulties and delays in accessing smart meter data for the Gridsight pilot.

"*A major challenge throughout the Gridsight pilot was gaining access to smart meter data. Orion had planned to expand the 1,000 Network Operational Data (NOD) sample data set to include all 14,000 meters in the Milton Substation zone by March-June 2023. However, due to difficulties and delays in accessing this data (this was still not available at the close of the pilot), it was decided to proceed with a sample set of 1,000 ICPs (≈7% of the meters downstream of Milton Zone Substation and ≈0.5% of Orion's entire network)."*[7]

Bluecurrent provided an addendum to the Ara Ake EDB Challenge Learnings report which provides a response to some of the smart meter data related learnings noted.[8]

In June 2024, 5-minute operational data was being provided through daily download. Bluecurrent is currently developing an intra-day service to increase the frequency that this

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[5] Bluecurrent have a greater than 60% market share of the NZ smart meter market. (https://www.ea.govt.nz/documents/961/Vector-Metering-IPAG-presentation_4ZOMEBQ.pdf
[6] Orion ViSION innovation allowance application - June 2024 Pg 3
[7] 6736b99218ce332e1b0ffd4a_EDB Challenge_Learnings and insights report_Final.pdf pg 18
[8] 68102ea9c72da8af72f2225f_Addendum for Ara Ake consideration.pdf

data can be delivered, in addition to other services such as push meter alerts and meter ping functionality. This may provide more insights into the network in future but the outcomes of using such a service would need to be tested for benefits.

3.1.2. Ingestion, cleansing, storage and security

Our ViSION project targets our ability to gain and use insights from a combination of existing and new, temporal and spatial data sources. This requires significant increases in the accuracy, volume and timeliness of data ingestion and a transition from human manipulation of data in spreadsheets to a heavier reliance on automated systems that will include aspects of artificial intelligence and machine learning.

Orion shared several key findings and learnings on investing in data quality, governance and appropriate IT infrastructure at the Electrical Engineers' Association conference in September 2024.

The paper "Unlocking Efficiency and Innovation: The Crucial Role of Data Governance and a Modern Data Platform in Orion's AI adoption" shows how Orion has used its data governance and modern data platform to improve its efficiency, innovation, and integration and shares key learnings, some excerpted below.

"*To become AI ready, organisations need to invest in both the quality of their data, good data governance and the appropriate IT infrastructure, in our case a modern data platform.*

Some of the key lessons we learned from Orion's journey towards AI readiness include:

- Data governance requires constant attention and effort, but it pays off in the long run. It also needs strong support from senior leadership.

- Setting up a modern data platform is a big project that needs proper resourcing. It is vital to design and build the platform well, but also to optimise the data modelling after the platform is working. Do not just lift and shift the existing data into the new platform.

- Cloud-based platforms may not always save costs, but they offer more functionality and less maintenance. Many AI and machine learning models these days are ready to use out-of-the box. Instead, the main challenges for developing AI tools and machine learning models are ensuring high-quality and well-governed data and having scalable computing power.

Special consideration should be given to the fact that AI applications are not magic solutions that can solve any problem without human input. They require careful design, testing, and validation to ensure they are fit for purpose and do not cause unintended consequences. Human oversight is essential to monitor the performance, accuracy, and ethics of AI tools and

machine learning models, and to intervene when necessary. AI should augment human capabilities, not replace them." Pg 9[9]

Two **data governance** endeavours had a noticeable impact to our ways of working at Orion:

1. PowerBI data governance to increase trust and security.
2. Network data visibility
    a. "*Orion did not have a clear picture of how much data it had access to and how complete and reliable it was. By improving the data quality and cataloguing of different data assets, Orion has been able to integrate and analyse all the data sources in a unified platform and enhance its understanding of its current network visibility rate. It has also been able to identify where there are gaps in data coverage and prioritise areas for improvement*."

Investments in data governance and a modern data platform enables faster development of AI and analytical projects. The paper outlines two proof-of-concept case studies of developing AI solutions in less than a month (customer segmentation and automated pole inspection).[10]

[9] Orion-unlocking-efficiency-and-innovation-September-2024.pdf *Pg 9*

[10] Orion-unlocking-efficiency-and-innovation-September-2024.pdf *Pg 8*

3.2. Phase 2: Power System Insights

Key learnings during this phase included:

- The value of trialling several different options and approaches to get power system insights such as:
    - in-house development using modern data platform and PowerBI dashboards
    - purchase of off-the-shelf pre-built network analytics tools (e.g. Gridsight, ANSA, Future Grid)
    - augmentation of power flow models using a hybrid top-down/bottom-up approach
- The ability to use smart meter data from nearly 90% of our network, triangulated with other data, provided a high level of LV visibility across our network area and supercharged our ability to plan and operate at the LV level.
- Refinement of our approach to rolling out new analytic tools within the business by building up the capability of a small 'super user' group before propagating to other teams.
- Identification of network data requirements, key use cases and functionality required by the business now and in the future. This set us up well to prepare a comprehensive RFP for our required solution.

Orion participated in the Ara Ake EDB Challenge in 2022 which provided an opportunity to hear pitches from solution providers with technologies that could enhance the visibility of the LV. Through this challenge, we signed up to trials with Gridsight and ANSA.

In September 2024, Orion presented its learnings from these trials at the Ara Ake EDB Challenge learning event, which Ara Ake also captured in the EDB Challenge Learnings and Insights Report [11]. Some of the key learnings are excerpted below.

After gaining some smart meter data we also set up a trial with another analytics provider, Future Grid, to compare differences in the platform and insights to those provided by the Gridsight platform and our own in-house capabilities. The culmination of these trials and in-house development was a comprehensive understanding of our use cases and required functionality, enabling us to develop a robust RFP to procure a LV network analytics tool.

3.2.1. Gridsight trial

"*Orion and Gridsight partnered to conduct a Proof-of-Value (POV) pilot to understand the insights and value available through LV visibility and analytics. Orion was provided with the*

[11] 6736b99218ce332e1b0ffd4a_EDB Challenge_Learnings and insights report_Final.pdf

Gridsight platform, analysing one of their major urban zone substations consisting of 14,000 ICPs.

The nine-month trial aimed to:

- *Leverage LV analytics to transform meter and monitor data into actionable insights.*
- *Steer strategic investments with increased network constraint visibility.*
- *Target uplifting safety and operational decision-making.*

Gridsight and Orion were able to identify six key use cases and four associated value streams for Orion using the Gridsight platform. These use cases are applicable to multiple teams including Network Development, Connections, Power Quality and Release Planning.

The key value streams identified were:

- *Prioritisation and deferral of capital expenditure, where Orion's teams can leverage smart meter NOD to visualise their network loading without the need for additional monitoring infrastructure or complex assumption-based modelling methods. Additionally, by understanding where network capacity and constraints exist, Orion can make informed infrastructure investment decisions.*
- *Improved customer safety, where high impedance detection application enables the early detection of damaged neutrals, allowing Orion to proactively rectify issues before a safety incident and to uplift efficiency through prioritisation of issues and bulk remediation.*
- *Faster customer complaint resolution, where engineers can easily analyse ICP meter data, along with network GIS data, to investigate complaints without field visits (i.e. reducing truck rolls, accelerating resolution times and improving customer experience).*
- *Increased engineering efficiency, by combining multiple data sources into an easy-to-use platform to streamline decision-making and democratise the use of data across the business*. "[12]

The work completed throughout the trial has been foundational in allowing Orion to understand the applications available through LV analytics, data requirements and the value that these solutions can deliver.

This work has informed our internal strategy on how best to operationalise these solutions, as well as identify clear workflows that LV analytics can enhance to improve customer safety and drive OPEX / CAPEX efficiencies. Based on the value derived from this trial, Orion and Gridsight extended their partnership until April 2025 to maintain Orion's ability to leverage

[12] 6736b99218ce332e1b0ffd4a_EDB Challenge_Learnings and insights report_Final.pdf Pg 13

smart meter data while the RFP process to procure a longer term LV network analytics solution was underway.

3.2.2. ANSA trial

"*Aurora Energy, Orion and The Lines Company (TLC) partnered with ANSA® to conduct a demonstration pilot to understand the value and insights gained through modelling the capacity of LV electricity distribution networks to connect electric vehicles (EVs) and small-scale inverter-based distributed generation (such as solar PV). In the pilot, the participating EDBs used ANSA®'s products and services to model a pilot area consisting of at least 50 LV networks each, covering approximately 8,000 ICPs. This area included primarily dense urban regions, with some rural and commercial ICPs.*

The year-long pilot, which holds value for all EDBs, had two key objectives for the pilot participants:

- *Carry out small-scale hosting capacity studies for each EDB Partner, including deriving network parameters and modelling PV and EV hosting capacity for the pilot area nominated by each EDB partner.*
- *Develop a dashboard application for the results (such as dynamic network planning insights as the penetration of PV and EVs increases over time) to allow easier viewing, and provision of planning information*" [13]

For Orion, the key learnings from this trial were:

"*Correction of LV network data as part of ANSA®'s LV modelling approach provides useful insights into inconsistencies and missing network parameters. Probabilistic methods account for multiple uncertainties associated with getting a view of future LV network capability. This collaboration between ANSA® and the other EDB partners has produced a results dashboard which significantly reduces the overhead required to process and understand hosting capacity and impact study results*."

Other key learnings include:

- The benefits of building towards a common understanding of hosting capacity between NZ EDBs and the approach to calculating / visualising the complex results.
- The need for repeatable and standardised formats / approach to data sharing to reduce overhead in understanding datasets. This applies to services provided by third parties as well as consistency between internal systems.

[13] 6736b99218ce332e1b0ffd4a_EDB Challenge_Learnings and insights report_Final.pdf Pg 11

3.2.3. Future Grid trial

In February 2024, Orion commenced a trial of the Future Grid Compass platform. The objective of this trial was to experiment and determine what different network and customer insights are achievable compared to functionality and results from other vendors to better understand the capability of each system and how they could serve Orion's requirements.

This trial concluded in late 2024, with findings integrated into the LV network analytics RFP.

Key learnings from this trial include:

- The importance of considering changes to network topology when using time-series data for decision making. LV network changes occur much more frequently than HV and this functionality was unique across the tested platforms.
- The benefits of enabling multiple platform environments to enable feature testing before roll-out to main user group.
- The importance of providing clear information to users on data completeness and transparency around analytic methods / detection thresholds.

3.2.4. Other power system insights developed

Orion noted in our Innovation Project Allowance application in June 2024 that "*Initial [*analytic phase ID*] results are proving very successful for single phase detection, but further work is required to improve identification of phases where a customer is on two or three phases*."[14]. Based on these findings, we have now developed an approach to accelerate the identification of absolute customer phasing using a combination of field results, smart meter event data and smart meter analytics.

We are also using data from our large LV monitoring fleet to carry out extensive accuracy testing of smart meter load aggregations, to determine the suitability of each dataset for specific use cases.

3.2.5. Understanding organisational capability requirements

In September 2024, Orion presented the paper The sea of data: Orion's approach to leveraging large datasets for enhancing network management practices which provides an overview of Orion's Network Transformation Roadmap workstreams, our approach to developing power system insights from diverse datasets, the process of prototype to production and the challenges encountered along the way. It shares challenges and lessons learned throughout Phase 2 of our ViSION project, excerpted below from page 9 of the paper:

[14] Orion ViSION innovation allowance application - June 2024 pg 16

"The shift from reactive to proactive network management has posed a number of challenges and has required a cultural shift in our data handling and decision-making practices.

Data Quality, Governance, and Integration

A key lesson learned was the critical importance of data quality, governance, and integration capability. Initially, our LV monitoring programme did not account for the integration of data back into Orion systems, instead relying on vendor-side systems for data management and visualisation. While this approach may suit diagnostic and reactive management, it quickly became impractical for handling a mix of devices and enabling efficient analysis and reporting.

Establishing the [Data Analytics Visualisation Engine] DAVE data platform and standardising monitor data across multiple providers enabled the development of automations which help to identify network and data quality issues for further investigation. This platform also facilitated easier integration of telemetry data with other sources, such as customer data and asset ratings, to support the establishment of limit-based analytics.

As networks become more complex, there will be a need to transfer data between more systems and parties than ever before. Therefore, standardisation of network data and transfer mechanisms will be vital to reduce the overheads of custom integrations.

Tools and Training

To effectively handle large datasets, availability of big data processing / visualisation tools and prioritisation of data literacy among potential users is crucial. Training should cover fundamental concepts of data analysis, visualisation techniques, and interpretation skills to ensure that employees can engage with data in an informed manner. Developing the ability to identify key insights amidst large volumes of data is also vital for creating automated analytics tailored to specific use cases.

Where relevant, training on cloud computing is also recommended so that data and engineering teams understand and manage associated costs, ensuring that data processing and storage are both efficient and cost-effective.

Culture and Processes

Integrating new data and analytics into daily operations requires time and effort. Identifying early adopters within teams who are eager to embrace these changes can demonstrate the value of new insights, test workflows and help address initial challenges to foster buy-in from the wider team. This collaborative approach of engaging with stakeholders and subject

matter experts to understand their data needs is crucial for reworking processes and incorporating new analytics effectively into business decision-making."[15]

[15] https://www.oriongroup.co.nz/assets/Your-energy-future/Orion-network-analytics-EEA-paper-September-2024.pdf Pg 9

3.3. Phase 3: Select and Implement LV Network Analytics Platform

In August 2024, Orion issued a Request for Proposals (RFP) for a LV network analytics platform (or software solution), that could accept data from a combination of smart meter, other telemetry devices and network topology/configuration information and provide LV network analytics on that data.

The learnings from the data gathering and ingestion phase, and trials during the power system insights phase of our ViSION project, were essential to us being able to understand and articulate our needs in the requirements for this RFP.

The key objectives implementing this platform / solution include:

- Leveraging access to existing, and yet to be installed, smart meter, LV monitor and third-party sourced data to create improved visibility of assets and activity on our network
- Providing power system insights through advanced analytics and enhanced capability
- Identifying system constraints, network performance improvements and efficiency for optimal investment.
- Ensuring data security in line with our obligations to Bluecurrent

The RFP closed in September 2024, and the selection process resulted in us awarding the contract to Future Grid in December 2024.

Key learnings from Phase 3 include:

- Providing a draft contract to the RFP respondents and asking them to provide comments and take that into consideration during the selection process made contract negotiations much quicker.
- Providing data and platform security questionnaires during the selection process rather than after enabled us to select a provider we were confident in prior to award.
- Variability of the contract pricing made it worthwhile doing the RFP.
- Market for these platforms is developing rapidly, and RFP provides an opportunity to understand a range of platforms and their development roadmaps
- Having internal staff use the Future Grid Compass platform after selection in a test environment before it went live in production environment (May 2025) enabled us to identify bugs and UI improvements to be addressed prior to wider roll-out.

A copy of the RFP for the LV Network Analytics Platform, and associated contract can be provided by request to Stephen Godfrey Stephen.godfrey@oriongroup.co.nz.

4. Next Steps

With the ViSION project complete and the Future Grid Compass platform having been implemented as our LV Network Analytics platform, we will continue to build on the outcomes and learnings.

We will continue to enhance the capability of our data acquisition and analytical capabilities., For example, shifting from only considering historical (day before) power quality data received overnight to considering present and future analytical capabilities. This will involve consistently testing our current functionality against new and evolving use cases to ensure we are receiving value for money and the latest in analytical capability.

The learnings from the ViSION project will shape how Orion approaches updating the current functionality and onboarding users and evaluating which new data sources will provide valuable insights to Orion. This includes how we can utilise limited data, or assess the minimum amount of data required, to achieve our visibility outcomes.

We will also continue to evaluate the extent to which the ViSION project realised its proposed benefits such as helping unlock latent capacity in Orion's LV network, thereby reducing the need for future network investment, lower costs to our customers, and deliver numerous other efficiency, quality and safety improvements.