QUEST Industry Steering Group Number: 02

22 November 2021

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Agenda

Submission of first deliverable	Progress update on current deliverable	Project challenges to date
Customer literature	Learning outcomes to date	Upcoming works and deliverables

Objective of this presentation

To ensure the potential of QUEST is maximised, ENWL have assembled an ISG, as per Appendix I QUEST Full Submission Proposal (FSP), which will provide an opportunity for input from external stakeholders at the Project's early stages to help shape the use cases. The ISG will then convene on a quarterly basis thereafter for the duration of the Project, to inform the Project direction, review trial designs and conclusions, and help to construct a plan to transfer the Solution to BaU.

QUEST explained

*In November 2020 Ofgem announced its decision to award ENWL's full funding request of **£7.95 million** for QUEST.*

QUEST is an overarching system that will be designed to provide a holistic voltage control methodology to co-ordinate discrete voltage management techniques, to optimise their use and facilitate the increased use of LCTs (Low Carbon Technologies).

Why is QUEST needed?

To cater for the increased uptake of LCTs and subsequent increase in demand on the network, ENWL has deployed a number of discrete voltage management techniques on the network in recent years. These techniques have been successful in helping ENWL to manage the network, but have some limitations as they are not currently co-ordinated.

Purpose of the QUEST project

QUEST will identify and trial novel methods to holistically integrate multiple, concurrent system voltage control and optimisation techniques across the whole distribution system. The Method will be integrated into the NMS, thus providing the full co-ordination needed to unlock the available benefits.
In addition, the new holistic voltage control methodology will:

Ensure the network operates as efficiently as possible, optimising the system voltage to connected customers and minimising losses.	Further boost the benefits available from existing voltage management techniques.	Facilitate the increased connection and use of LCTs.	Maximise benefits to all customers through demand reduction at High Voltage (HV) and Low Voltage (LV).

Submission of first deliverable: “Initial Project Report - Use Cases”

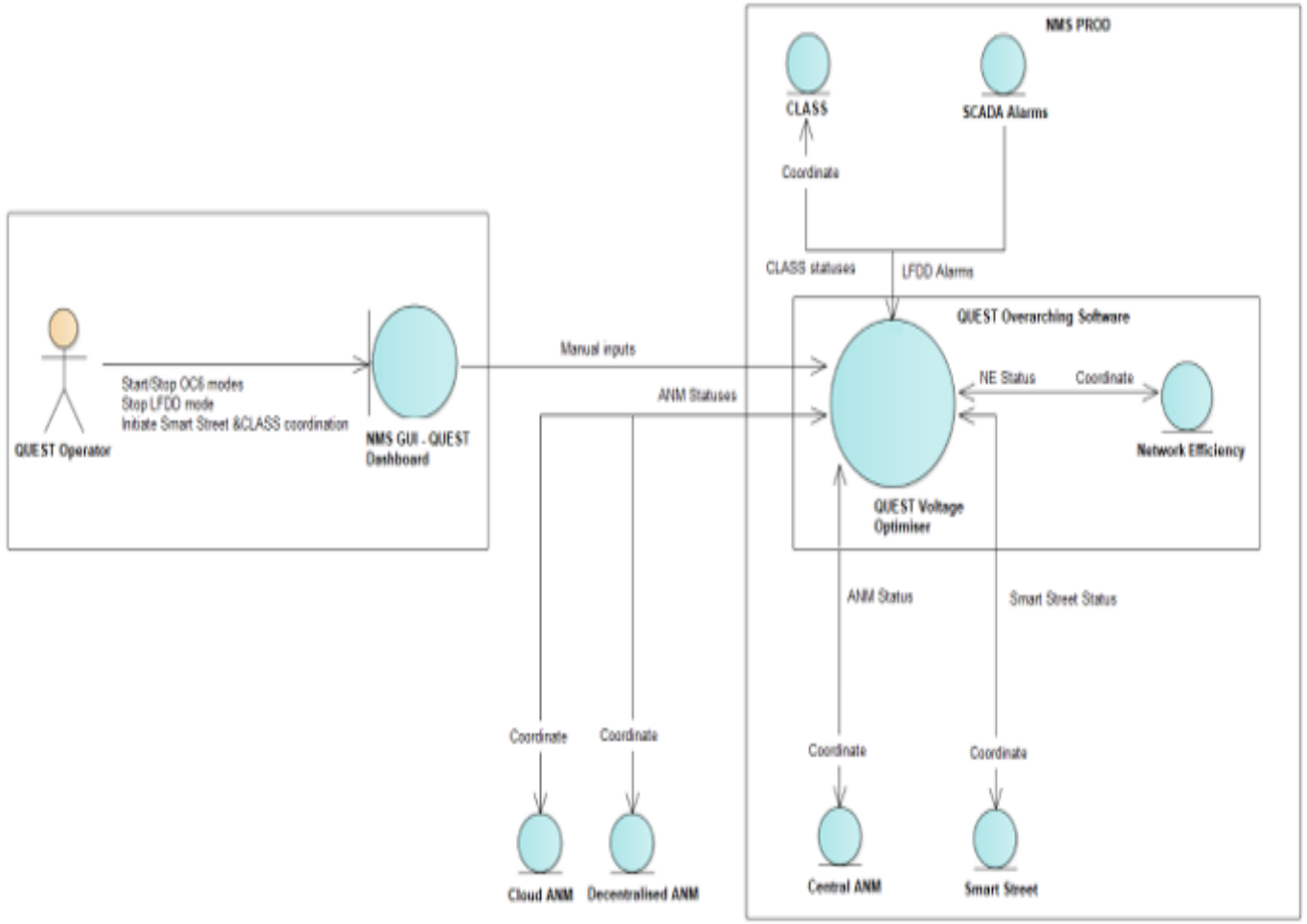
The first deliverable, submitted on the 31st of July 2021, introduces the QUEST project and documents the selected use cases prepared to allow for the QUEST system design and architecture options to be considered in the next phase of the project.

The use cases discuss possible challenges in co-ordination of the voltage optimization systems and also outline possible solutions to overcome these challenges.

Progress on current deliverable

Since completion of the first deliverable on use cases in July 2021, we have progressed on to the next deliverable – the "QUEST System Design and Architecture Lessons Learned" report.

This deliverable contains two separate workstreams running in parallel – architecture development, led by SE, and modelling regime analysis based on the use cases, led by SGS.



Project challenges to date

To date, the project has progressed well, with a lot of engagement and commitment from all partners involved. Looking back on the challenges identified so far, there have been only three:

- Development of ANM centralised system – still being defined and developed, meaning this could change within the QUEST architecture at later stage.
- Integration of the decentralized ANM system within QUEST – may cause cyber security issues as this is an external application that needs to be embedded within QUEST trial software.
- Increased cost of materials due to effects of pandemic – this has produced a 20% uplift on materials compared to previous costings.

Customer literature

The customer surveys planned for the QUEST tests and trials are not due to take place until Q3 of 2024. However, it has been identified that QUEST and the systems it will holistically control are supporting a change in network characteristics. This means that in order to cater for a zero carbon network transition, the network will need to change to support the adoption of LCTs, which may have effect on HV-sensitive customers.

Because of this transition, ENWL feel it is important to create literature for HV-sensitive customers to make them aware of the development and support being provided to accommodate LCTs on our network. It will also help to ensure their own private networks are suitability configured to avoid potential impact as a result of the introduction of QUEST and other voltage optimization systems.

Learning outcomes to date

As this is Electricity North West's sixth large-scale innovation project, the project team has been able to review and apply lessons learnt from our previous projects to ensure that any improvements to our approach are applied.

During this reporting period, much of the work has evolved around project mobilisation, governance, ensuring the correct financial controls are in place, and delivery of the first Ofgem deliverable: "Initial Project Report – Use Cases".

In the next reporting period, it is expected that further learning will be generated after the submission of the "QUEST System Design and Architecture Lessons Learned" and "QUEST Trials, Design and Specification" reports.

Upcoming works and deliverables

The third deliverable, due in June 2022, is the QUEST Trials, Design and Specification Report. This will a provide project progress update including the following outputs:

- Functional specification for chosen architecture.
- Functional specification for voltage control methodology.
- Trial design.
- Detailed site design.

QUEST Project plan and deliverables

Workstream	Tasks	2020	2021	2022	2023	2024	2025
Project Mobilisation	Project Readiness						
	Mobilisation						
	Financial & Contractual						
Technology	Phase 1: System Design						
	Phase 2: Implementation						
	Deliverables						
Trials & Analysis	Trials						
	Refinement & Simulation						
	Trials Report						
	Deliverables						
Transition to BaU	Closedown						
	BaU Transition						
	Deliverables						
Customer	Customer Engagement						
	Report of Findings						
	Deliverables						
Learning & Dissemination	Dissemination activities						
	Deliverables						

Deliverables

1	Initial report: use cases
2	System design and architecture lessons learned
3	Trials, design and specification report
4	Interim report: system design & technology build lessons learned
5	System integration lessons learned report
6	Customer research findings report
7	Trials & analysis report
8	Final report
9	Knowledge transfer requirements of governance document

QUESTIONS & ANSWERS

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Please contact us if you have any further questions related to the QUEST project.