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SSEN / Faculty AI - FastTrack Show & Tell

20.06.2025

Scottish & Southern Electricity Networks

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HOUSEKEEPING

- Today's session will be recorded
- Slides and the session recording will be made available next week.

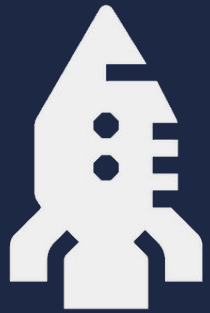
Video/webcams off

Mics on mute

- Please feel free to ask questions throughout the presentation via the Teams chat– we will cover as many as we can at the end of the presentation

Objectives for this session

Introduce and showcase the FastTrack project: the problem statement and the solution



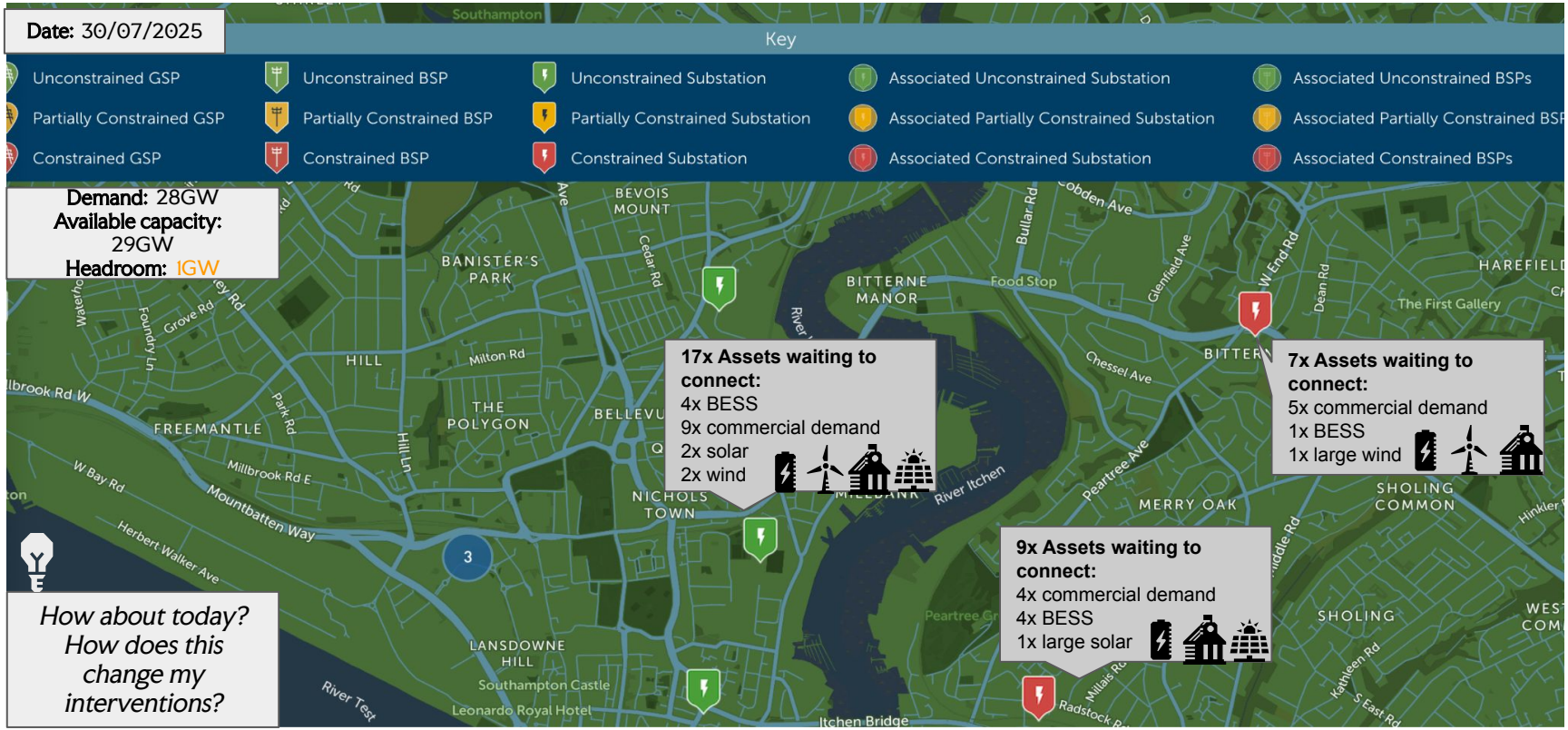
Present the vision for FastTrack - for Alpha and what the route to BAU might look like - and the main benefits of it for DNOs

Gain feedback regarding whether the solution resonates with the attendees

01 Overview of the FastTrack project

DNOs face an increasingly complex environment when planning their networks...

...frequently needing to adjust as the connections queue evolves



FastTrack meets the *SIF Round 4 Challenge 1* by developing a novel method to support faster and more efficient connections

Challenges:

Energy Secretary Ed Miliband (2025): "We have enough energy projects in the connection queue to deliver clean power by 2030, but **many projects are stuck behind speculative schemes** , leading to delays"

IEA (2025): "**Grid congestion poses a growing risk to energy security** and energy transitions."

Ofgem (2025): "**Projects have been held up** by the volume ahead in the queue and by wider reinforcements..."

What is the problem?

System Planners **require improved visibility over the queue to better design and prioritise interventions**

The queue changes frequently; new requests emerge and existing ones drop out - replanning works/costs is challenging in this environment.

What is the solution?

Simulate the impact of connection requests by providing a finer view of overall demand and available capacity on the distribution grid

Output: Inform design of interventions and prioritisation of works, speeding up connection times.

02 Proposed solution

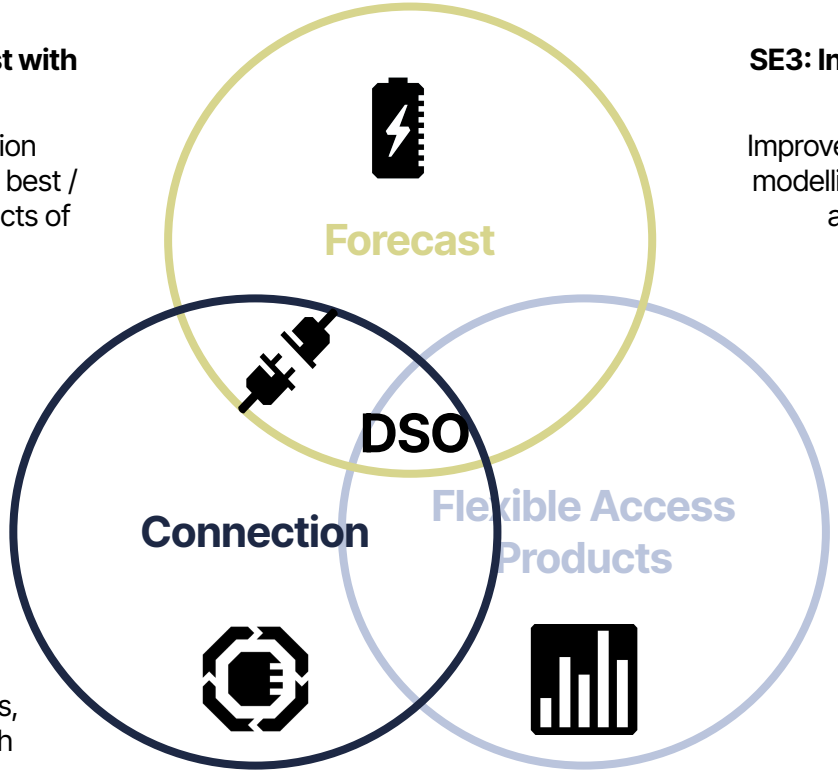
The solution design incorporates 4 solution elements that are modular and can be combined into a single unified solution

SE1: Probabilistic load forecast with attrition

Taking into account connection behaviour at HV/EHV to provide best / average / worst case load impacts of requests

SE3: Incorporate storage into load forecast

Improve short term load forecasts by modelling batteries to arrive at more accurate load estimates



SE1+: Roll-up from HV to BSP/GSP

Understand how load propagates, considering load forecast at each voltage level

SE2: Design of Access Products

Understand capability of access products to enable assets to connect faster, with subset of capacity

03 Benefits of FastTrack

FastTrack will drive forward DNO transition into DSO via two key benefit channels

Intervention efficiencies: Connections-related reinforcement at HV and above

Expedited revenues / wider GVA from accelerating connection requests

04 Plan for building out the solution at Alpha

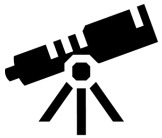
Scope of the Alpha phase

Develop technical capability

Build out a PoC solution of the core feature, SE1, and create user-friendly front-end wireframes, both tested and refined with DNOs.

Scope wider solution elements

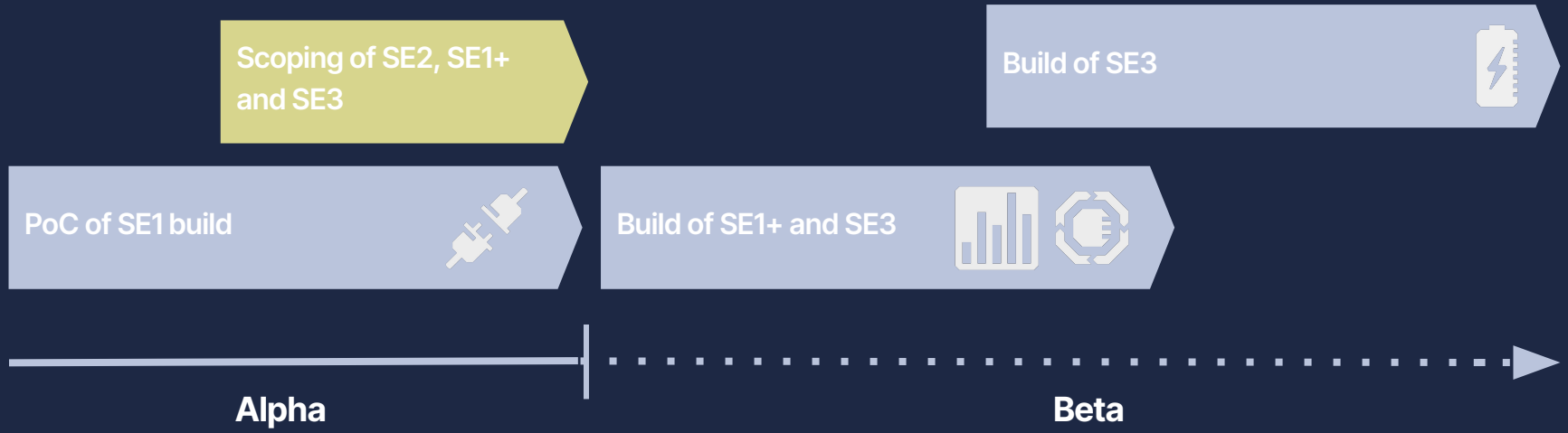
Conduct targeted discovery and data collection to scope out SE2, as well as a technical assessment to confirm approach ahead of Beta.



Plan Beta deployment

Scope and plan the build of the remaining solution elements (SE1+ and SE3), which will formulate a clear plan for Beta.

Alpha will focus on building a PoC of SE1, whilst scoping out the other solution elements for Beta



Route from Alpha to BAU

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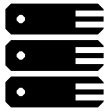

Datasets

The solution is designed to maximise impact and eliminate redundant work by using internal datasets (e.g. NeRDA) where possible.

A novel part of this involves bringing together disparate, multi-format datasets (connections requests, load, qualitative information)

Integration with existing infrastructure

We will develop the solution directly on the DNO's platform to avoid privacy and security blockers.

Requirements

To minimize delays during the design phase, we will request data, hardware, and platform access ahead of project start, as well as set clear time requirements from users and key stakeholders for their engagement.

Back-End & Front-End

The back- and front-end will be developed in parallel, enabling adoption among both technical and non-technical staff. We will leverage existing back- and front-end tools to maximise adoption and reduce delivery time.

05 Feedback and Q&A

Key discussion points

Proposed solution

Do you have any questions on the proposed solution or the benefits of the solution?

Impact

Does the problem statement and solution resonate with you?

Future plans

Would you see your company implementing this solution in the near future? If so, how could we make it easier to implement?

Contact us

Would you like some involvement during Alpha? Please feel free to reach out to us directly if you would like to have a further discussion.

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THANK YOU

faculty.ai/contact-us

AGENDA

01	Overview of the FastTrack project
02	Proposed solution
03	Benefits of FastTrack
04	Plan for building out the solution at Alpha
	Route from Alpha to BAU
05	Feedback and Q&A