



NETWORK DC

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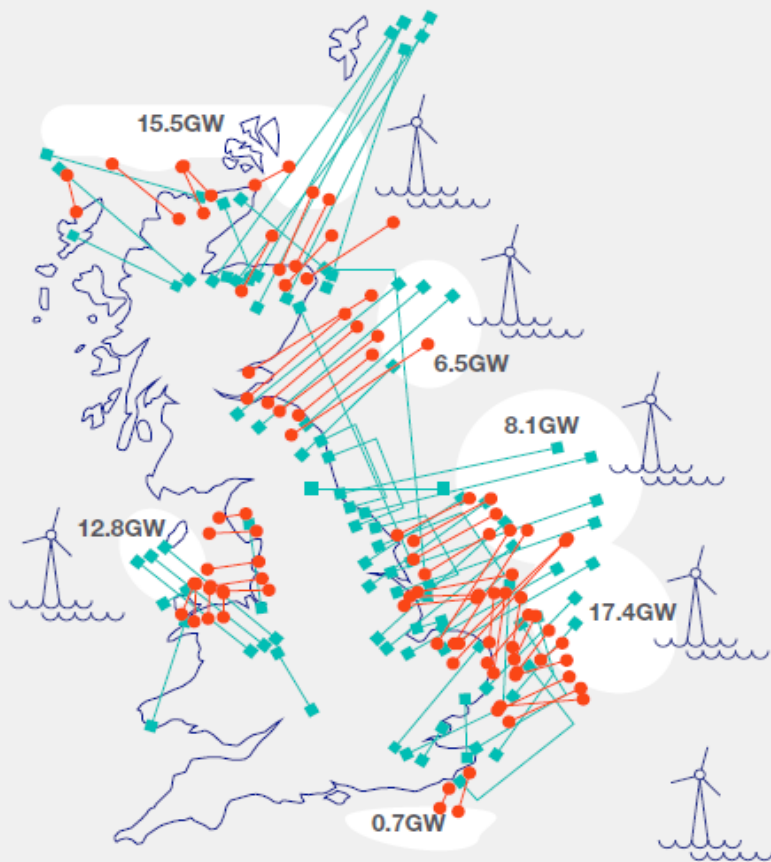
# AGENDA

- Network DC - SIF Funded Project
- Objectives
- Project Partners
- Project Phases
- Use Case
- Future works

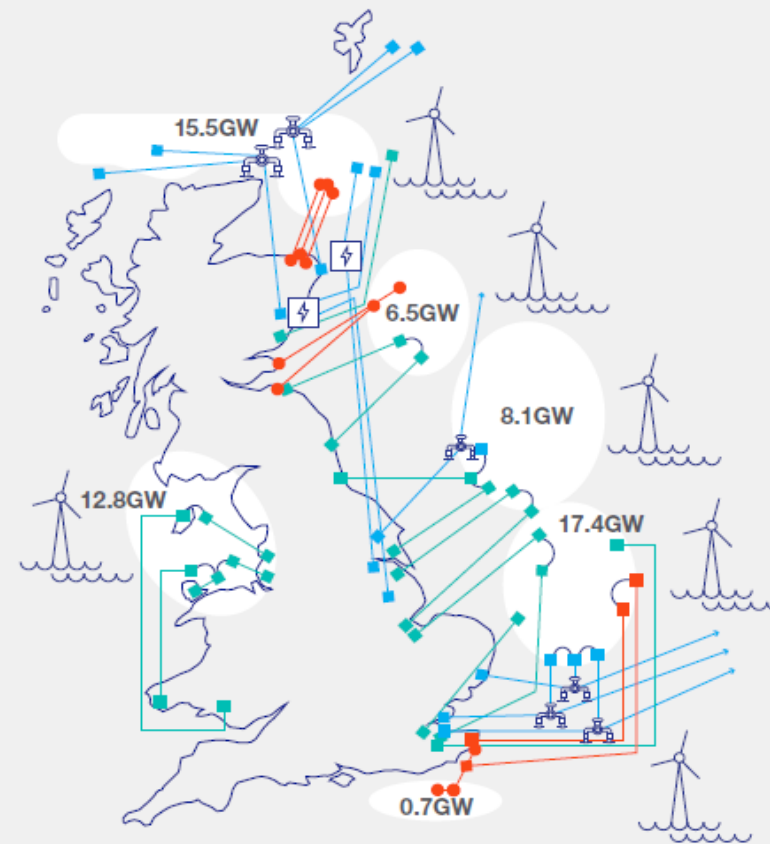
# FUTURE 2050 GRID :

## Integrated Approach

2050 – under current radial connections



2050 – with an integrated approach



Source: "A Connected Future" report by National Grid



Scottish & Southern  
Electricity Networks

# NETWORK-DC

# NETWORK DC

## Objective:

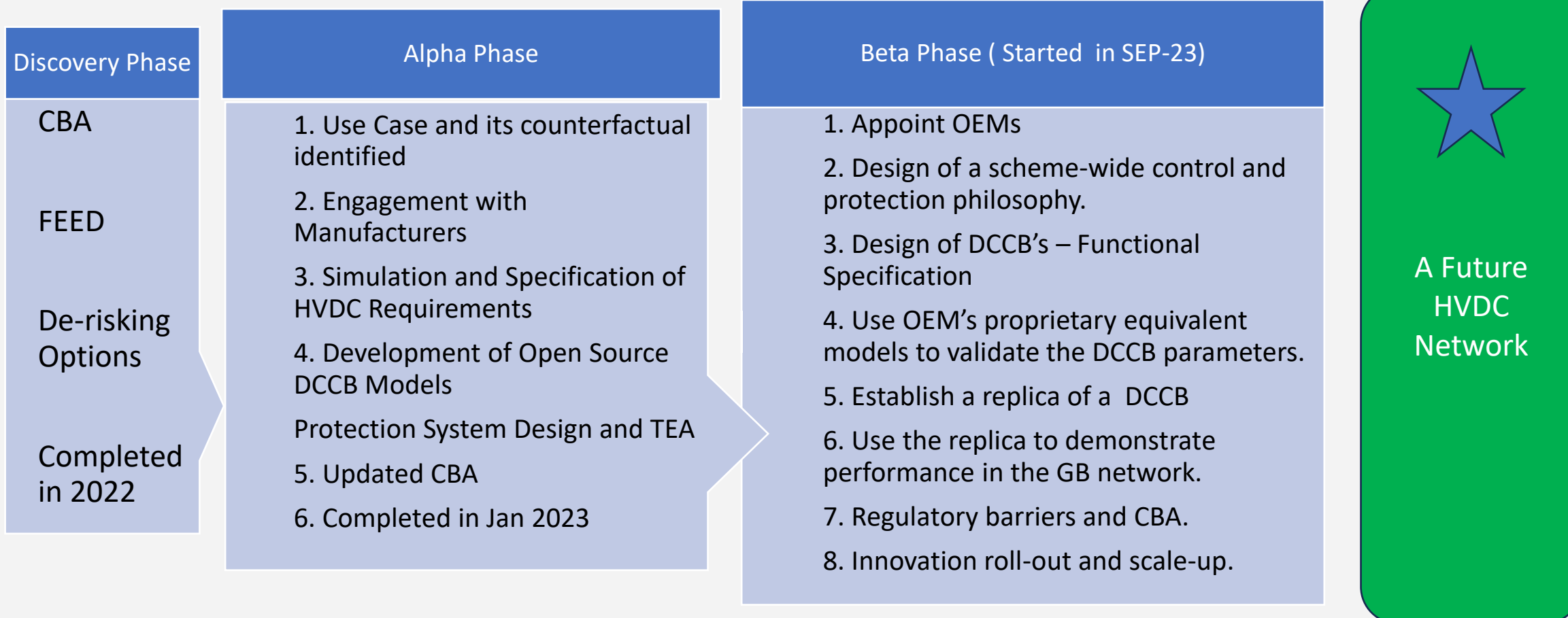
De-risking the first implementation of HVDC Circuit Breakers (DCCB), focusing on GB HVDC Grid development and paving the way for future expansion of HVDC interconnections.

# NETWORK DC – SIF FUNDED

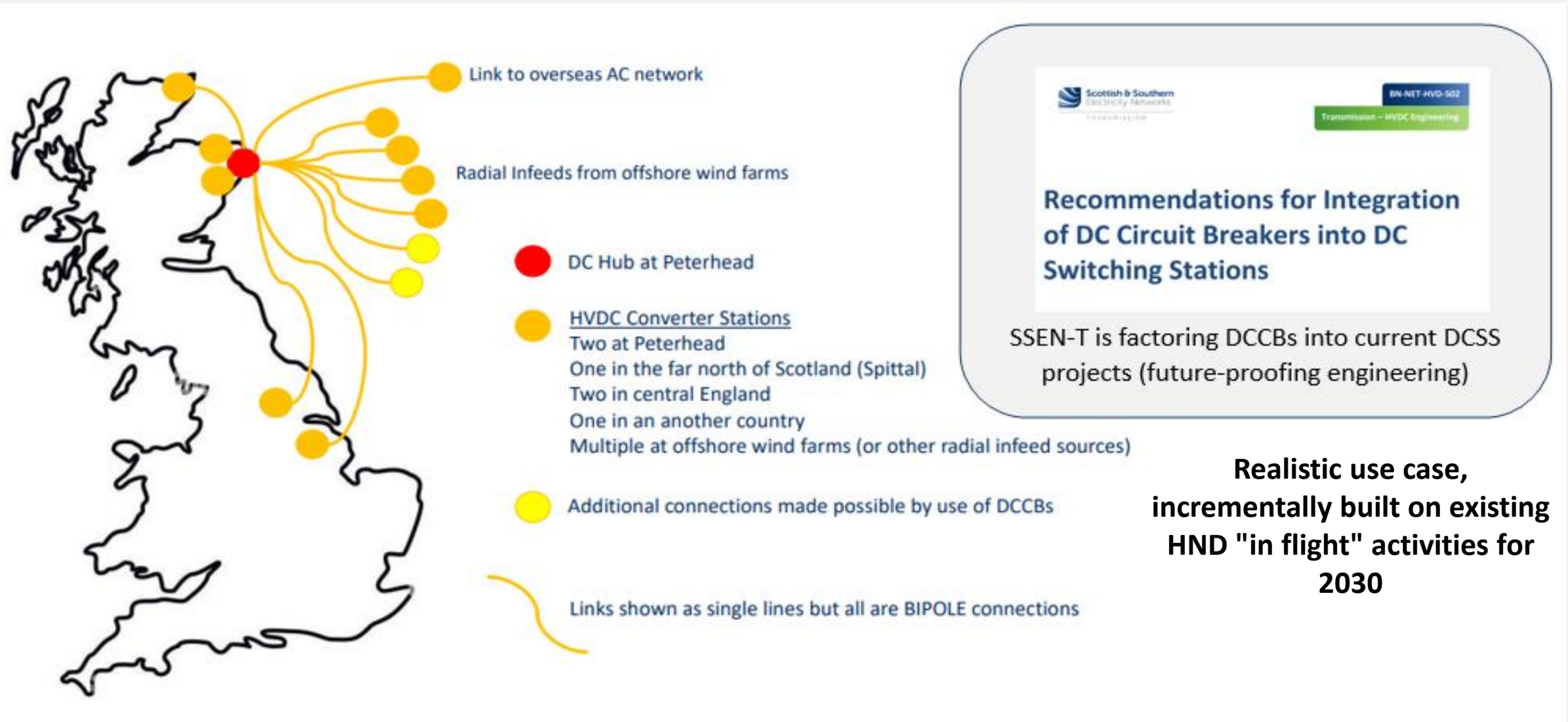
## Project Partners



# PROJECT PLAN



# THE PETERHEAD USE CASE



Scottish & Southern Electricity Networks  
TRANSMISSION

BN-NET-HVD-502  
Transmission - HVDC Engineering

### Recommendations for Integration of DC Circuit Breakers into DC Switching Stations

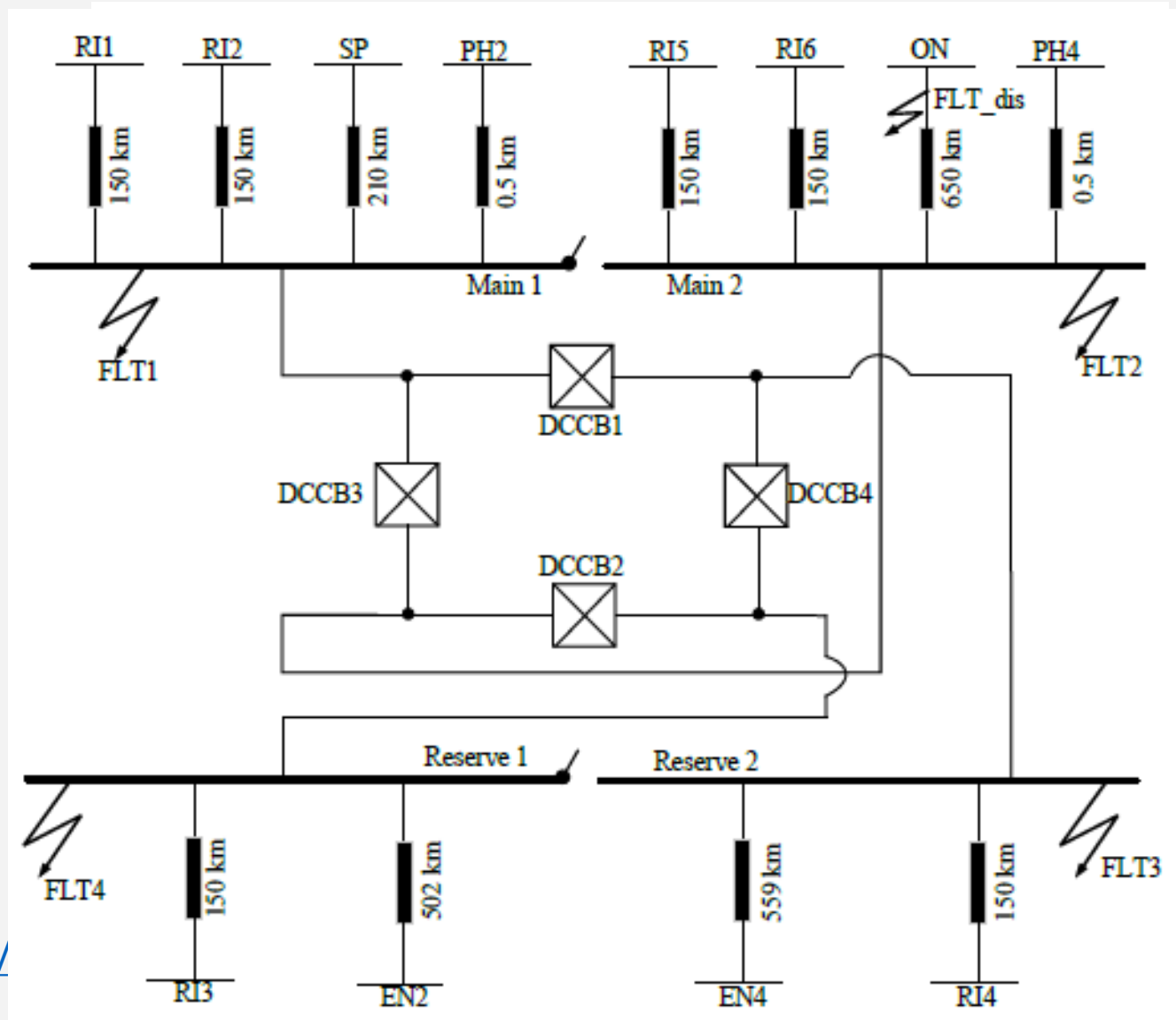
SSEN-T is factoring DCCBs into current DCSS projects (future-proofing engineering)

**Realistic use case, incrementally built on existing HND "in flight" activities for 2030**



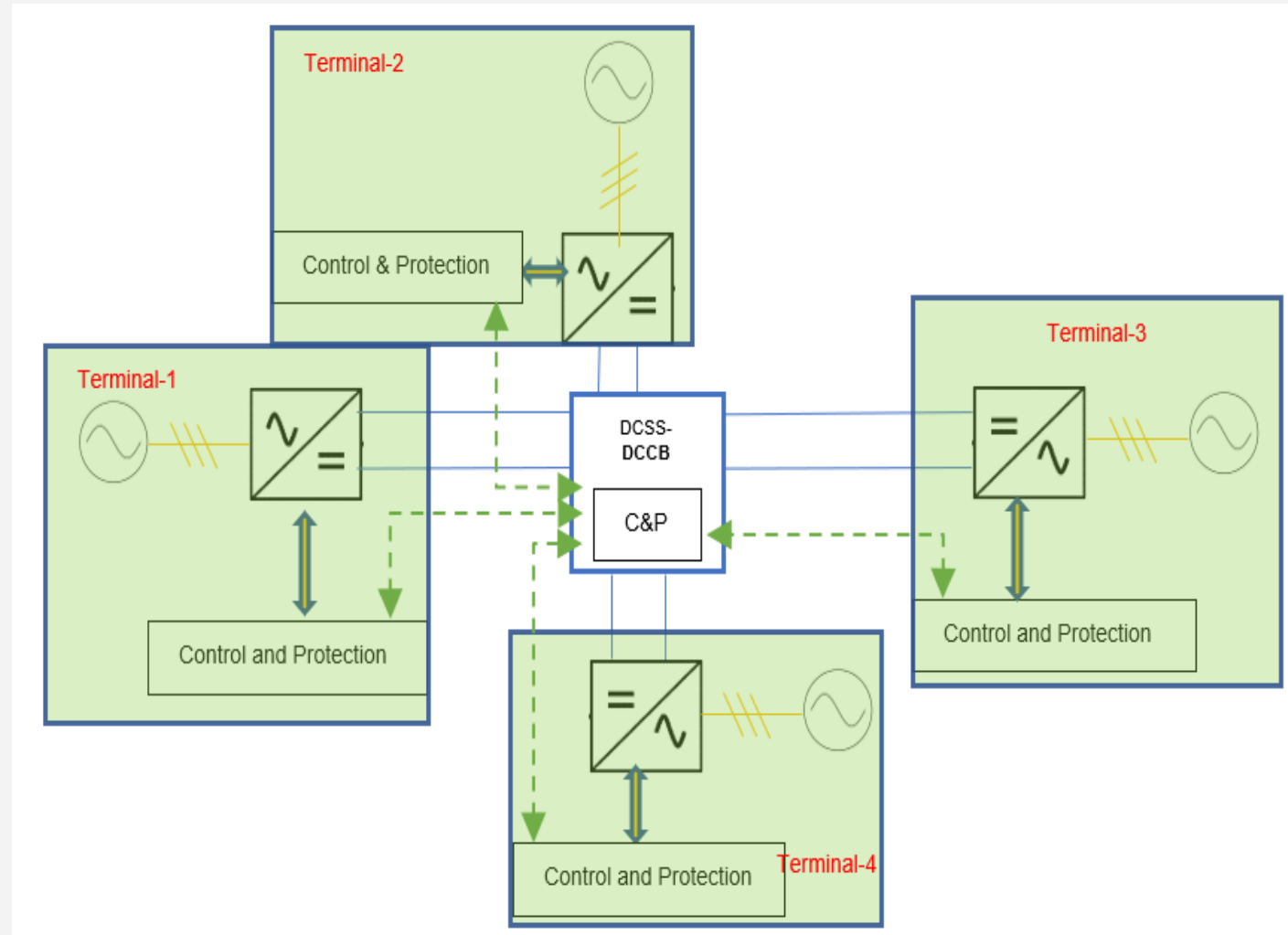
# ALPHA PHASE

- RTDS – for Preliminary studies
- DCCB's implementation in point-to-point HVDC Transmission system
- Modelling and testing
  - Hybrid DCCB
  - Mechanical DCCB
- DC reactor
- Use Case
- <https://smarter.energynetworks.org/projects/10036946/>



# BETA PHASE PLAN:

- Started early SEP-2023
- Multiterminal – Replica
- Detailed implementation of Use case and Testing
- Functional Specification of DCCB
- Performance of the DCCB in GB Network.
- NovaCor 2.0 – Non-Real-Time Simulation / GTSOC and PSCAD-RSCAD Co-simulation
- Hybrid / Mechanical / VARC



# Thanks for listening.

❑ For further information, please visit [www.hvdccentre.com](http://www.hvdccentre.com) ; OR email : [info@hvdccentre.com](mailto:info@hvdccentre.com) / [Suresh.Rangasamy@sse.com](mailto:Suresh.Rangasamy@sse.com)



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