InterOPERA

Introduction

PUBLIC

ABOUT INTEROPERA

The InterOPERA project will define technical frameworks and standards for electricity transmission and accelerate the integration of renewable energy. Ensuring that HVDC systems, HVDC transmission systems or HVDC components from different suppliers can work together – making them "interoperable"- is a top priority to accelerate Europe's energy transition.

Co-funded by the European Union

DISCLAIMER:

PROJECT DETAILS:

Duration: 1 January 2023 – 30 April 2027
Grant agreement: 101095874

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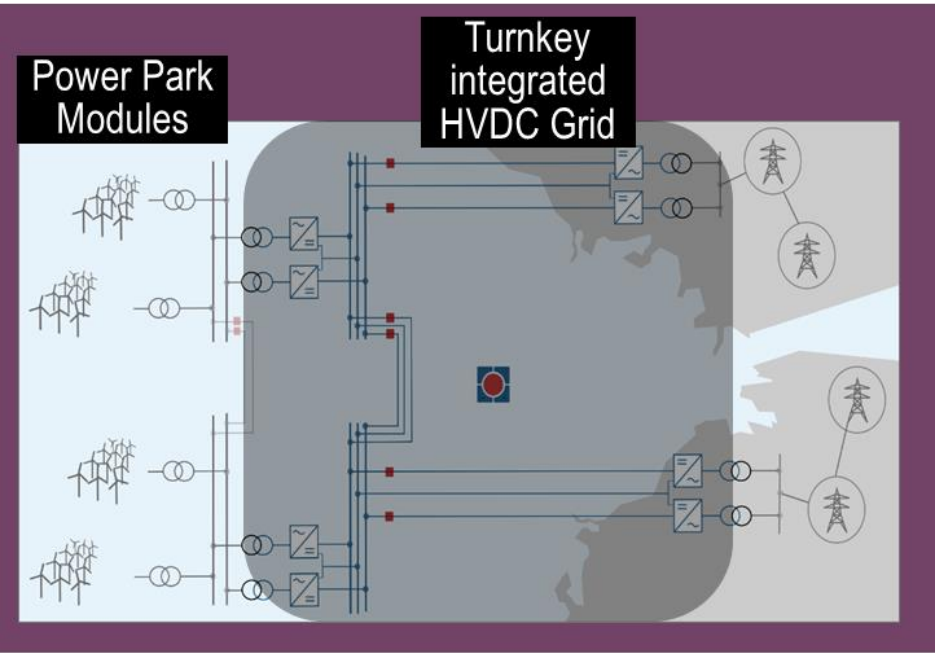
From proprietary integrated systems to modular building blocks

Where we are now



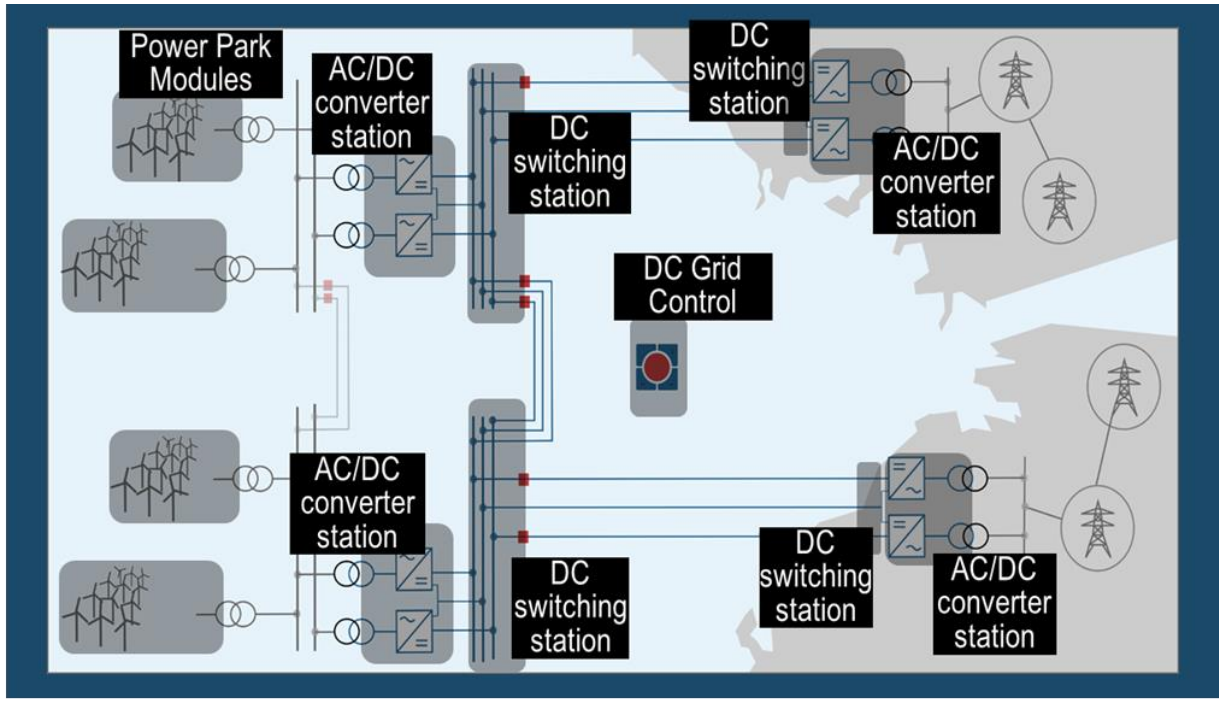
Gap

Multi-vendor HVDC interoperability

Standalone functional requirements

Procurement framework

Where we need to be



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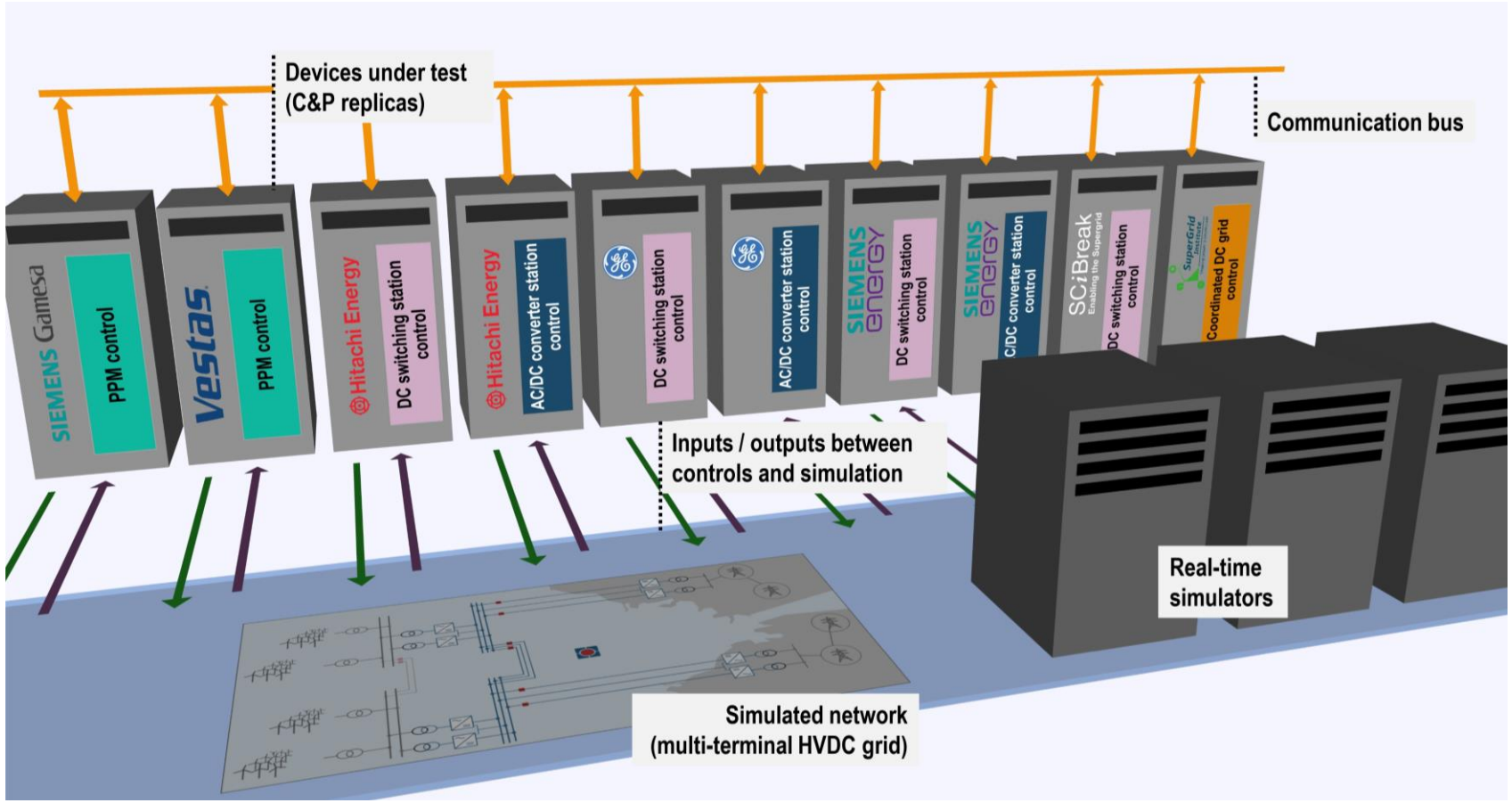
Enabling multi-vendor HVDC grids

De-risking and learning process

→ Perform integration tests with a real-time physical demonstration of a multi-vendor control and protection system including grid forming



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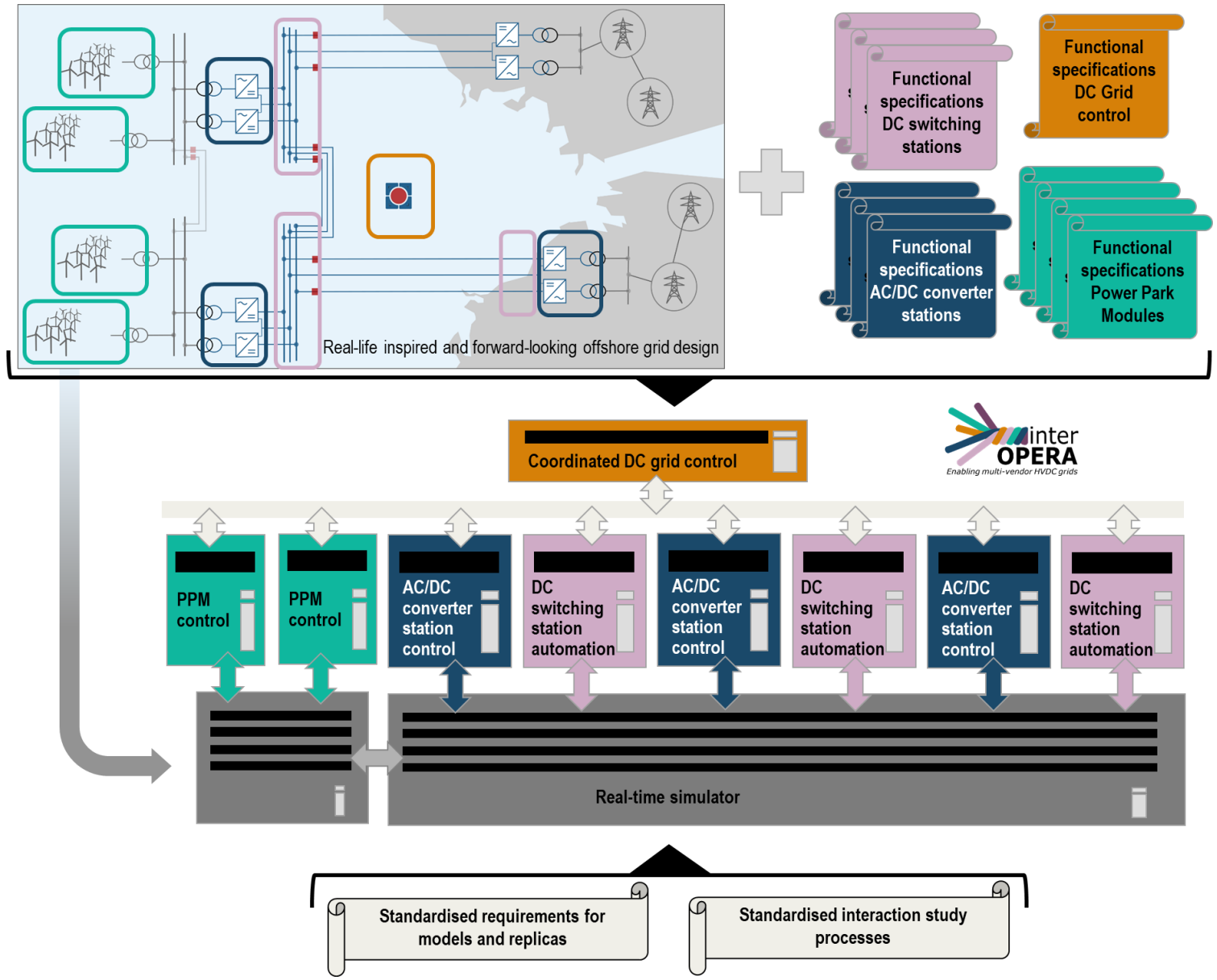
Methodology

→ Develop relevant frameworks and perform full scope test activities to develop a real time physical demonstrator



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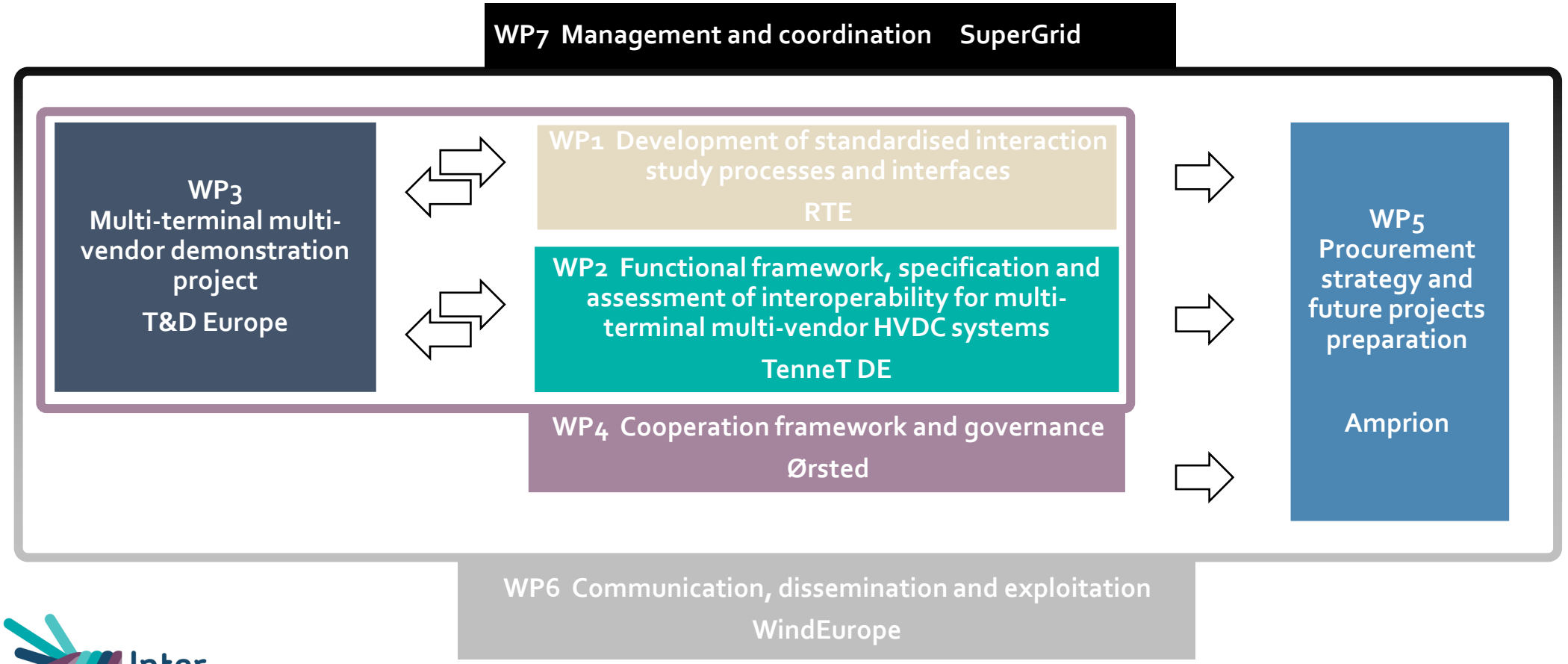
Project concept and objectives

A coordinated approach	• Between TSOs, wind developers, HVDC manufacturers and WTG manufacturers • 4 years part of broader roadmap • Engage with potential stakeholders and parallel activities
Demonstrated interoperability frameworks	• Operational, functional frameworks: modular build and standard interfaces • Real project organization and procurement strategies • Legal basis for complex multi-stakeholder cooperation
Enabling real offshore pilot projects	• Full scope of engineering activities • Deliver a market ready solution • Potential to facilitate tenders to be launched as early as 2027

Project structure

Work Packages address current gaps for development of multi-vendor HVDC systems



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Start date
1 January 2023

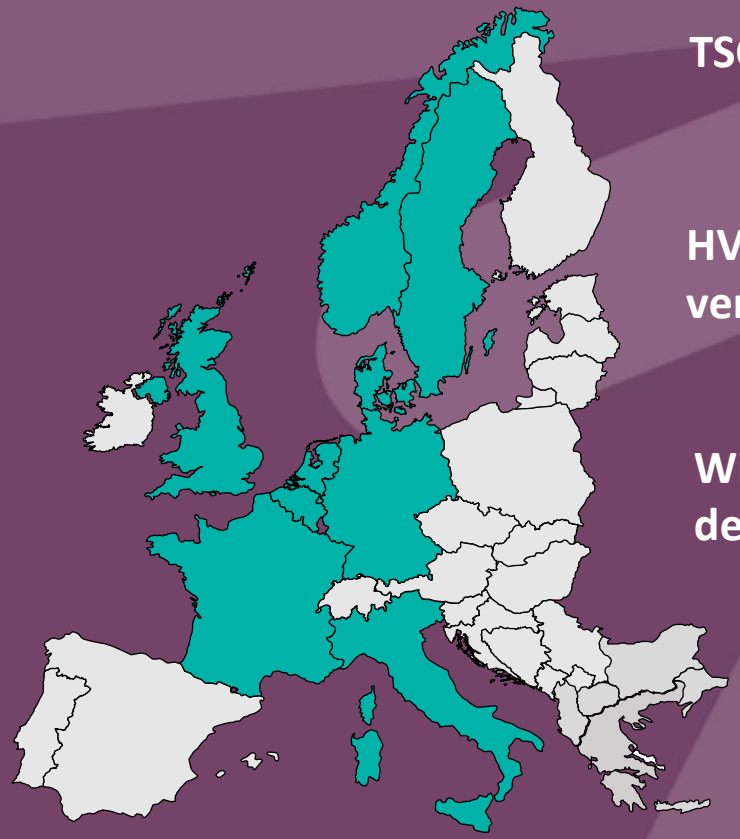
End date
30 April 2027

Enabling multi-vendor HVDC grids

Interoperability standards
Real-time physical demonstrator
Procurement framework

Total cost ~ 70 M€

EU contribution
~ 50 M€



TSOs

amprion · Rte · ENERGINET · TenneT · 50hertz · Terna Driving Energy · Statnett

HVDC vendors

SIEMENS energy · GE · Scibreak · Hitachi Energy · T&D europe

Wind developers

Wind EUROPE · Ørsted · equinor · VATTENFALL

WTG vendors

Vestas · SIEMENS Gamesa

Research & innovation

university of groningen · SuperGrid Institute Shaping power transmission · TU Delft

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Coordinated by SuperGrid Institute (France)
Grant Agreement 101095874

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THANK YOU

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