NEWSLETTER

February 2024

covering updates from Sept - Dec 2023

Co-funded by the European Commission's Horizon Europe programme, "Enabling interoperability of multi-vendor high-voltage direct current (HVDC) grids" (InterOPERA) brings 21 European partners together to unlock the potential of HVDC grids and to enable the large-scale transition of the European energy sector.

InterOPERA STAKEHOLDER COMMITTEE

It's official! InterOPERA partners have confirmed the members of the project's Stakeholder Committee. The selected experts represent 26 organisations from all over the world with a vested interest in the project's results. The Stakeholder Committee will receive regular project updates, and will share feedback on and help to shape InterOPERA deliverables.

The Stakeholder Committee will meet five times across the project lifetime in technical workshops exclusively for Committee members. The first workshop will be organised online early this year.

Check out the full list of the organisations represented in the Stakeholder Committee here.

UPDATES FROM InterOPERA WORK PACKAGES

Work Package 1 "Development of standardised interaction study processes and interfaces"

During the final months of 2023, Work Package 1 has focused on finalising the preliminary, internal version of the report on modeling and replica requirements. Vendors are currently using this report to prepare their initial models and replicas that will be delivered this summer for dry-run tests.
Also, Work Package 1 experts will set the minimum requirements for the simulation platforms which will host the resulting models and replicas and compute the complex simulations. They drafted the first single-vendor test sheets that will be used by the labs in initial tests. These sheets are important because they ensure that the models and replicas meet the minimum requirements, and can be used for interaction tests before they start.
Work Package 1 began work on the interaction studies, starting with energisation studies. The goal is to ensure that the energisation of any component (e.g. an offshore HVDC converter station, or an onshore HVDC converter station, etc.) doesn't cause any problem on the AC and/or DC grid. For each component that can be energised Work Package 1 experts will explore, among other things, the optimal process to perform as few simulations as possible while de-risking the occurrence of interactions to a maximum. From that perspective, defining the most constraining conditions is key.

Work Package 2 "Requirements and assessment of interoperability for multi-vendor multi-terminal HVDC systems"

Work Package 2 experts finalised the report on developing the functional requirements on grid forming capability, with a focus of HVDC systems and DC connected power park modules. This report presents the project stakeholders' view on these requirements. It will be used as a basis for the demonstration design (performed by Work Package 3) and for selecting the test protocol and verification process. The report will be published soon, so stay tuned!

At the same time Work Package 2 experts continue to work on developing the basic functional requirements for multi-vendor HVDC grid systems and subsystems with a focus on the DC side. On that aspect, Work Package 2 is carrying out internal studies to investigate the right approach to two key topics: the DC fault ride-through profile at the DC connection point, and the DC voltage droop and balancing control approach for the neutral DC cable.

Work Package 3 "Multi-vendor multi-terminal demonstrator project"

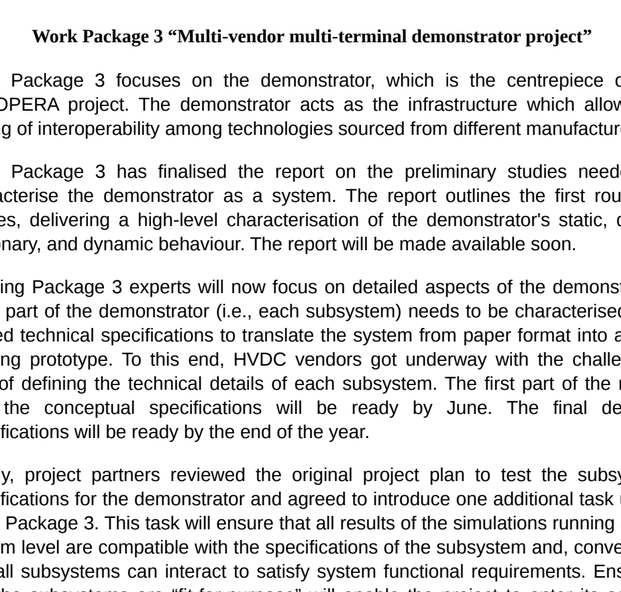
Work Package 3 focuses on the demonstrator, which is the centrepiece of the InterOPERA project. The demonstrator acts as the infrastructure which allows for testing of interoperability among technologies sourced from different manufacturers.

Work Package 3 has finalised the report on the preliminary studies needed to characterise the demonstrator as a system. The report outlines the first round of studies, delivering a high-level characterisation of the demonstrator's static, quasi-stationary, and dynamic behaviour. The report will be made available soon.

Working Package 3 experts will now focus on detailed aspects of the demonstrator. Each part of the demonstrator (i.e., each subsystem) needs to be characterised with refined technical specifications to translate the system from paper format into a real, working prototype. To this end, HVDC vendors got underway with the challenging task of defining the technical details of each subsystem. The first part of the report with the conceptual specifications will be ready by June. The final detailed specifications will be ready by the end of the year.

Finally, project partners reviewed the original project plan to test the subsystem specifications for the demonstrator and agreed to introduce one additional task under Work Package 3. This task will ensure that all results of the simulations running at the system level are compatible with the specifications of the subsystem and, conversely, that all subsystems can interact to satisfy system functional requirements. Ensuring that the subsystems are "fit-for-purpose" will enable the project to enter its second phase. This is where the equipment will be tested in the field.

Work Package 4 "Cooperation framework and governance"



In the final quarter of 2023, Work Package 4 made significant progress with the **Generalised Multi-Party Cooperation Framework**. This document will drive cooperation in future multi-vendor multi-terminal HVDC projects. It clearly defines the roles, duties, and responsibilities of the different parties. This framework will facilitate cooperation by outlining key considerations for future expansion, dynamic system studies at early planning stages and detailed control and protection development.

Statnett and Ørsted, with the support of a team of 35 contributors representing all of the InterOPERA partners, have been leading the work on this generic framework in collaboration with the University of Groningen, the leading legal expert for this area.

The Generalised Multi-Party Cooperation Framework is now published – you can read it here.

Work Package 5 "Procurement Strategy and Future Projects Preparation"

Work Package 5 focused on shaping procurement strategies and preparing the procurement processes needed for the interoperability of multi-terminal multi-vendor HVDC projects owned and tendered by different entities.

During the final quarter of 2023, Work Package 5 experts focused on risk assessment and procurement strategy. The goal is to provide a generic and universally applicable risk assessment and procurement strategy for the main electrical components for future multi-terminal multi-vendor HVDC projects. Drawing on the insights shared during the kick-off workshop in September, the experts adjusted the scope of the Work Package – ensuring that the objectives align with the collective vision of the project stakeholders.

So what comes next? Work Package 5 will carry out a comprehensive risk assessment, evaluate market readiness, define tendering procedures, and address the change of responsibilities and liabilities in multi-vendor HVDC grids throughout 2024.

GET IN TOUCH

Do you want to learn more about InterOPERA or have questions on our work?
Get in touch at info@interopera.eu

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