

Taking charge of your grid connection

Expert high voltage engineering & consulting for your power plants



WHO WE ARE

Founded in 2019 by experienced industry professionals, Enersynt has grown to become a trusted partner for clients seeking reliable and innovative high voltage grid connection solutions. Our passion lies in optimising projects that harness the power of renewable energy, ensuring they meet the highest standards of performance, safety and sustainability.

WHAT WE DO

At every phase of a project, Enersynt provides specialist engineering and package management, leveraging lessons learned to enhance design and delivery. From long-term power system consulting to specialised support for transmission systems, our services cover the full range of needs for high voltage renewable energy projects.

OUR KEY SERVICES

- 1 Project Design & Execution**
From initial concept design and techno-economic optimisation through detailed engineering and commissioning.
- 2 Grid Compliance & Integration**
Power system studies and compliance assessments for a stable and robust integration into the high voltage grid.
- 3 Control & Protection**
Protection coordination & selectivity studies, certified Zenon SCADA engineering and control systems.
- 4 Specialist Support**
Power system consulting and full project life-cycle support by expert engineers and electrical package managers.

EXPERTS IN OFFSHORE WIND

Offshore wind projects are at the heart of our operations. We deliver tailored solutions for complex offshore environments, from initial concept design to commissioning. Our in-depth knowledge of the regulatory landscape and our commitment to innovation make us a leading partner in the grid connection of offshore wind.

Unique capabilities in offshore wind:



Enersynt's cutting-edge software, Rezo, optimises offshore high voltage grid connections and cable layouts. It reduces project grid infrastructure life-cycle costs through the most efficient substation location and advanced cable layout design algorithms.



For off-grid green hydrogen plants powered by offshore wind, we provide electrical system design and transient stability simulations. Stability in all operational and fault conditions is ensured through grid-forming battery storage systems.

ACTIVE IN KEY INDUSTRIES

While offshore wind is a core focus, Enersynt also supports various other renewable energy and infrastructure projects:

- Onshore Wind Energy
- Solar Energy
- Battery Energy Storage
- Green Hydrogen
- HVDC Interconnectors
- Hybrid Offshore Assets
- Electrification of industry

CONTACT US HOW WE CAN HELP?

PHONE +32 16 17 09 81
EMAIL info@enersynt.com
WEB www.enersynt.com

OFFICE Geldenaaksevest 2
3000 Leuven, Belgium



enersynt

Grid connection optimisation software

Engineered by field-tested experts, built to power offshore electrical engineers.



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WHAT IS REZO

Following a multi-year research project with academia on the optimisation of offshore renewables and hybrid assets, Rezo, Enersynt's in-house optimisation software was born. With Rezo, electrical engineers can design and optimise wind farm grid connections using advanced mathematical algorithms.

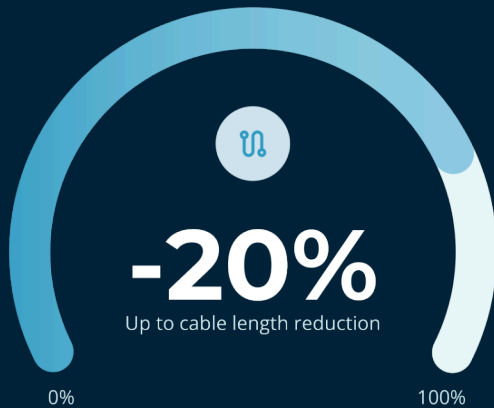
KEY FEATURES

- 1 Make Cost Efficient Grid Designs**
Rapidly analyse multiple design options including radial, branched, and looped configurations.
- 2 Optimise Substation Locations**
Co-optimize the collection & export cable systems and generate heat maps showing the most effective substation locations.
- 3 Analyse Latest Technologies**
Stay ahead of the curve by optimising 132 kV collection circuits, HVDC export systems and floating wind & solar farms.
- 4 Integrate Complex Constraints**
Consider exclusion zones, infrastructure crossings, define cable corridors and accommodate for ad hoc constraints.

A TYPICAL PROJECT EXPERIENCE

Optimising the collection circuit design can unlock substantial project savings. Our engineers not only bring extensive design experience but also support clients through offshore construction, commissioning and operations. These valuable insights are applied throughout the design process.

For a 1.5 GW wind farm, the Rezo optimised design reduced submarine cable length by over 13 km and enhanced cable type and cross section selection, resulting in total life-cycle **cost savings of €40 million** compared to the manually designed solution used in a competitive auction.



KEY BENEFITS WHY CHOOSE REZO?

Cost Reductions

Save big by optimising your substation locations, cable types and layout design.

Save Design Time

Significantly reduce manual engineering efforts and quickly react to evolving inputs.

Data-driven decisions

Eliminate uncertainty in project decision making by utilising data-driven design insights.

Fosters Collaboration

Enhance multidisciplinary teamwork by quantifying the impact of design decisions on other disciplines.

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