

ARRAY OPTIMISATION

France Energies Marines
S&T Tribune Webinars

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Which methods and tools should be chosen to achieve the optimum cost/production?

At the scale of a farm, new optimisation problems appear: machine layout, subsea cable stability, substation design, etc. The development of new software or modules interfaced with existing products is a major need expressed by all the players in the sector. Such a digital toolbox must allow innovative optimisation methods, while integrating a set of criteria including overall costs, maintenance and environmental integration.

Several initiatives are working to develop such tools and methods. For example, the IEA Wind Task 37, an international technical cooperation programme, aims to

coordinate research activities on the holistic approach to wind farms. The current major trends in the field illustrate particularly well the future of other, less mature ORE technologies. In contrast, the ocean energy sector is in dire need of digital farm optimisation tools. Several collaborative R&D projects have been initiated in recent years on this subject. Focus on VALARRAY, which made it possible to establish a specification of new tools for tidal and offshore floating wind turbines farms, and then on DTOceanPlus, which aims to develop an open source software suite for wave and tidal farms.

CHAIRMAN : Yann-Hervé DE ROECK, France Energies Marines

- Wind power plant optimisation
Katherine DYKES, Head of loads and control section
DTU Wind Energy / IEA Wind Task 37
- Farm-level design tools at France Energies Marines: current state of art of classical design approach and perspective for new functionalities
Nicolas GERMAIN, R&D Programme Manager in Farm Optimisation
France Energies Marines
- Electrotechnical architecture of wind farms - Design based on CAPEX and reliability KPIs
Salvy BOURGUET, Senior Lecturer in Electrical Energy
Université de Nantes
- DTOceanPlus Environmental & Social Acceptance module: a tool to optimize arrays with a reduced environmental impact and an increased social acceptance of ocean energy
Georges SAFI, Researcher in Marine Environment
France Energies Marines



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