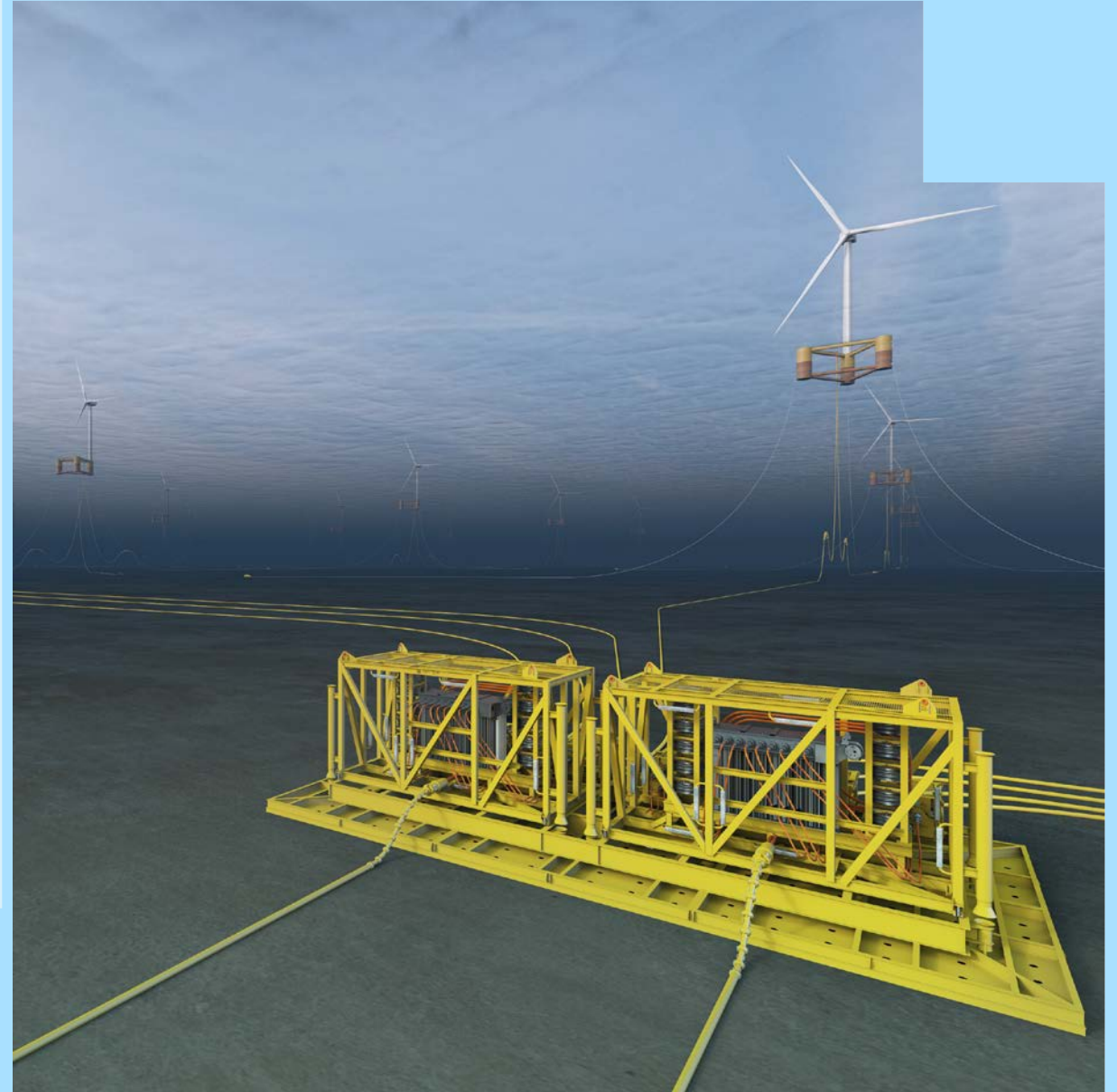


Subsea Substation and Power Collector for Floating Offshore Wind

Share Fair 2025, 19/03/25

Neil Wilkinson, Snr BD Manager, Offshore Wind



Unique expertise, capabilities and solutions to enable production and use of energy with low or zero emissions



World-class project execution and operations



Integrator of energy transition solutions

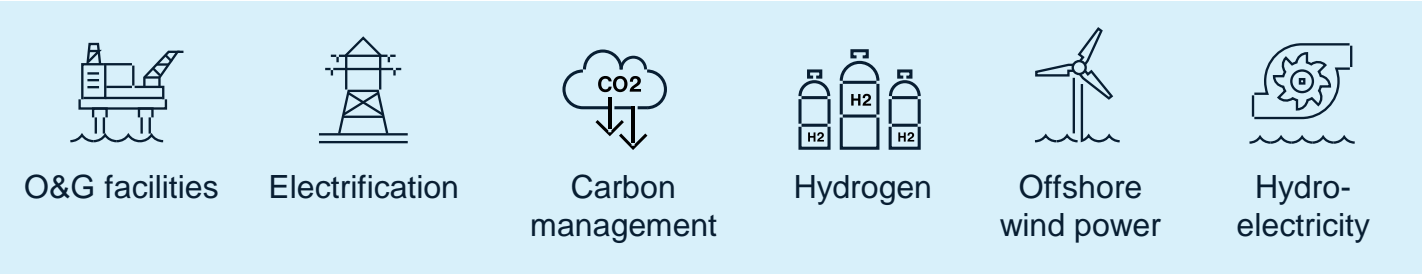


Digitally-enabled engineering and energy consulting

Expertise on: Integration and rapid project execution



Expertise on: Solutions and technologies



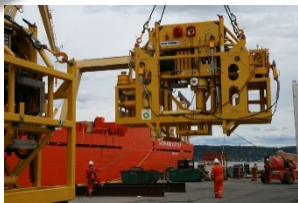
Drawing upon decades of North Sea expertise
to deliver offshore wind solutions



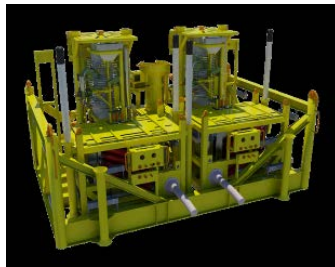
Subsea Power – Extensive experience from O&G

Aker Solutions and ABB has extensive experience from subsea projects, delivering reliable HV-Power systems supporting Oil & Gas developments

2007
BP King



2007-2009
Tyrihans SSWI



2004-2013
Ormen Lange
Compression Pilot



2010-2015 Åsgard Subsea
Compression System



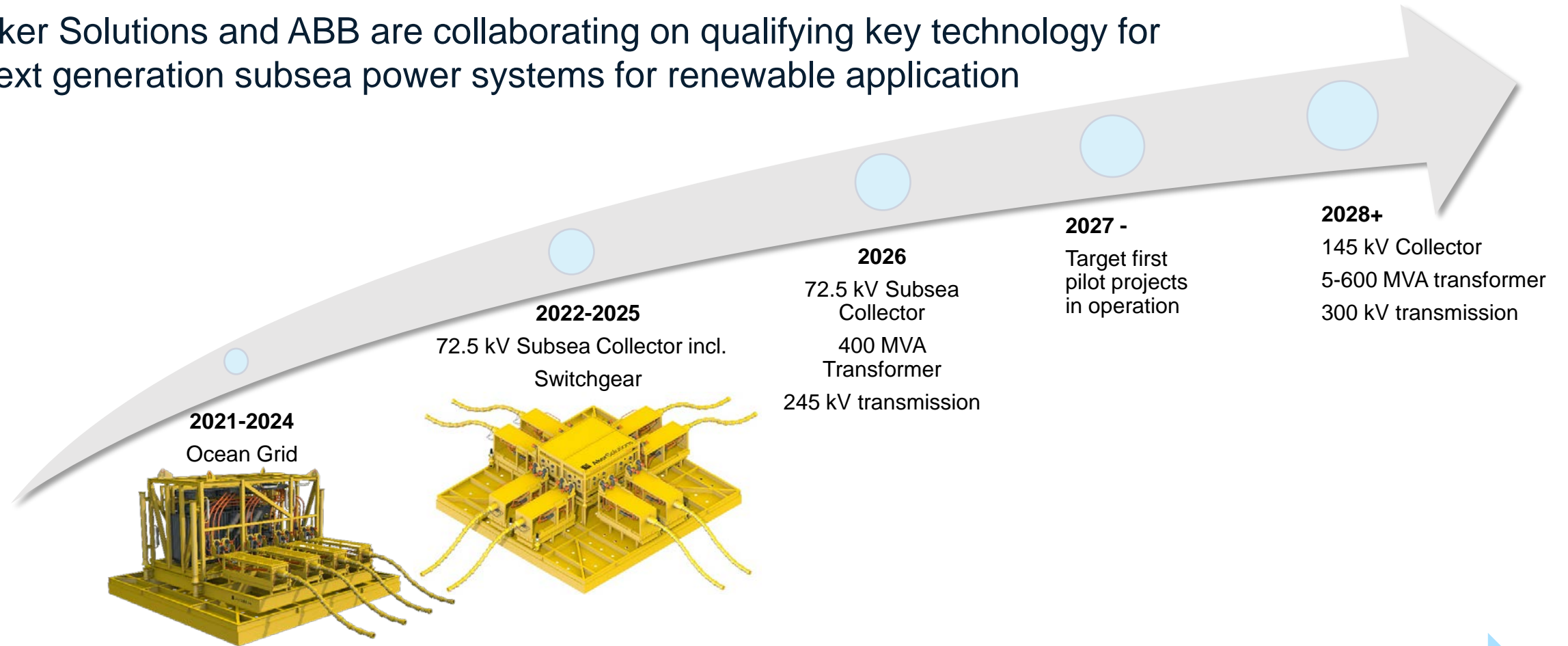
2021-2025 Jansz Io
Compression System



Continuous development of equipment and system capabilities evolving together with industry

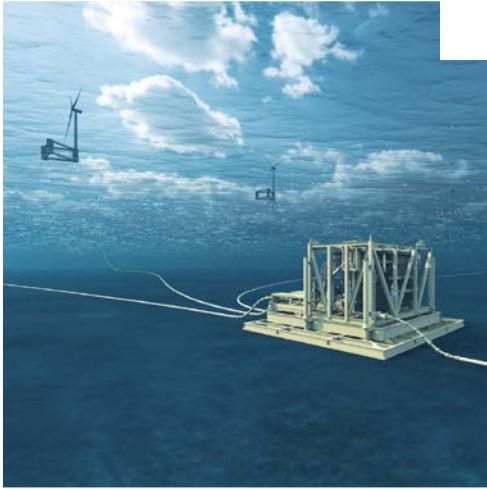
Subsea Power Development – Way Forward

Aker Solutions and ABB are collaborating on qualifying key technology for next generation subsea power systems for renewable application



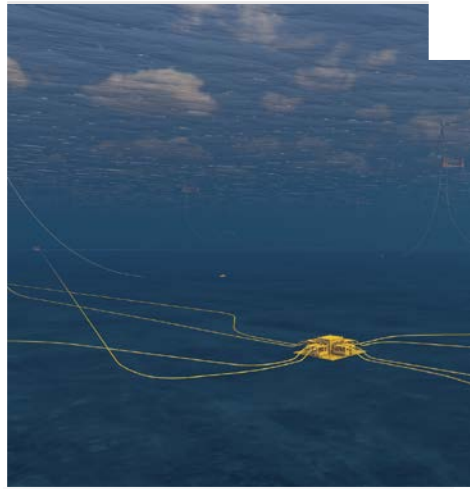
Continuous development of equipment and system capabilities evolving together with industry

Selected recent and ongoing projects



Ocean Grid Project

- 300 MVA Subsea Transformer
- Test requirements for 72,5 kV connection systems
- Qualification of Benestad 72,5 kV power string
- Partners: Equinor, MRP, ABB, Benestad, Sintef



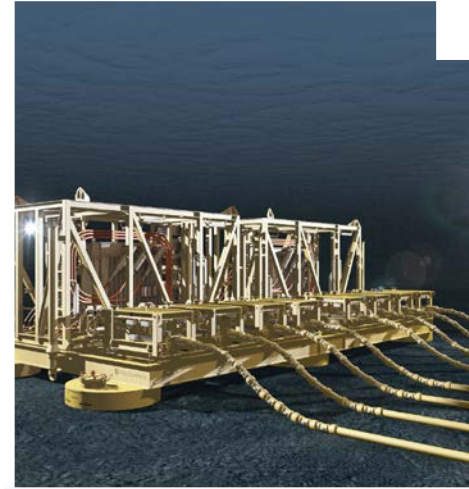
Subsea Collector TQP

- Up to 8 OWT inputs
- Fast track program, completion in 2025
- Fully integrated solution Configurable in 4 versions
- JIP with ABB and partners



METCentre FEED (EPCI)

- 72,5 kV Subsea Collector pilot
- 7 inputs to system
- Benestad Wet Mate Connectors with ABB HV Equipment
- 12km to shore
- Installation by Windstaller



Med Wind Subsea Substation FEED (EPCI)

- Offshore wind
- 400 MVA Subsea transformers
- 4 off 72,5kV Switchgear
- 220 kV export voltage

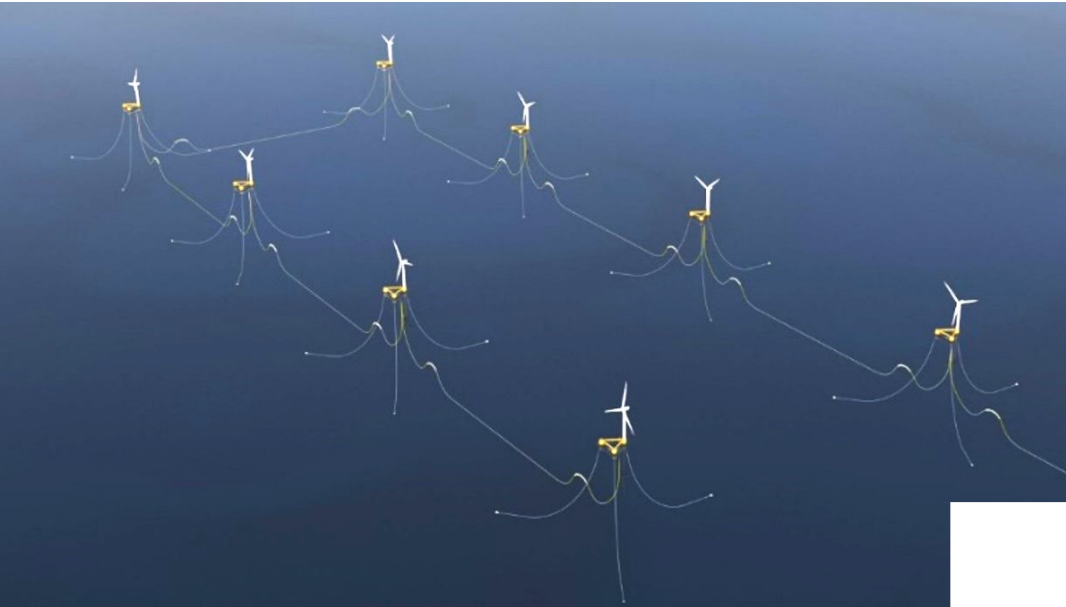


Subsea transformer Pre-FEED (EPCI)

- Electrification of O&G asset
- 132kV/11kV
- Circuit breakers 36kV

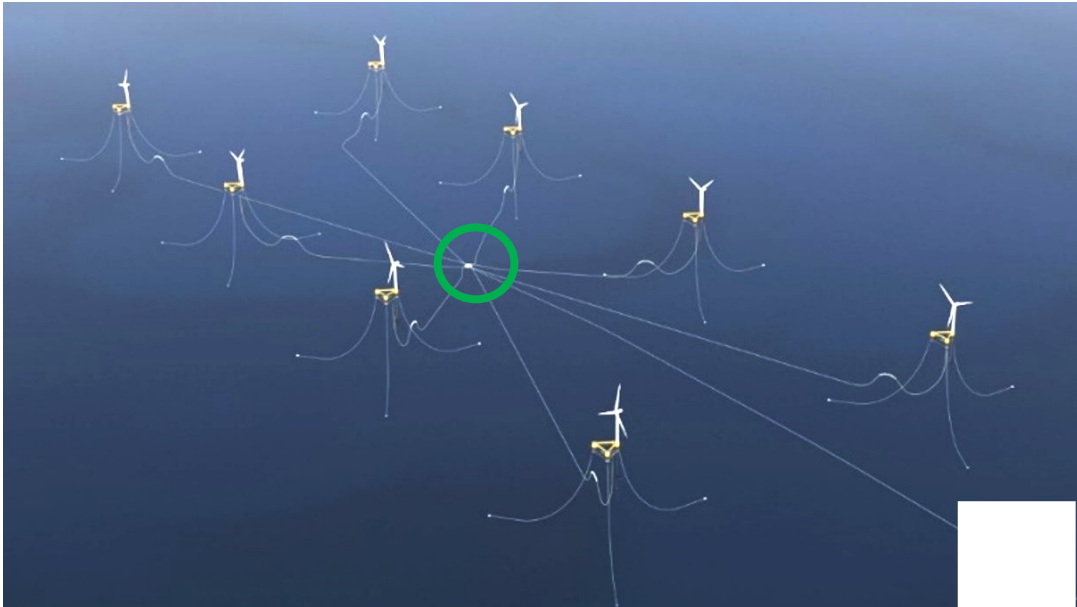
Subsea Collector - Enabling star topology for offshore wind

- Subsea Collector enable a safe, sustainable, and cost-effective alternative to daisy chain configurations
- Qualification program covering vital components in 2024 - 2025
- Construction, assembly, and testing of a collector prototype with remote operation ready for deployment offshore and pilot testing in 2027



Daisy Chain Configuration

- Challenging to standardize
- Complex installation with a lot of dependencies
- Several dynamic cable sizes required

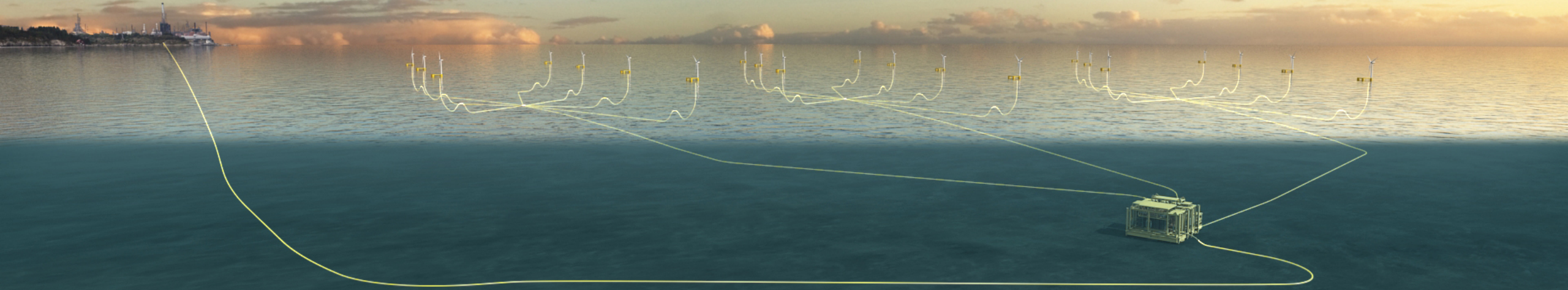


Star Configuration

- Allows to use single simplified dynamic cable
- Reduction in offshore installation cost / lower risk
- Standardization and simplification




Subsea Power technologies offers unique benefits for offshore wind



Subsea Power Technologies offer a simple way to connect offshore wind turbines:

- One standardized dynamic cable to each wind turbine
- Less vessel time and installation cost
- The transmission system can be pre-installed and turbines installed in any sequence
- Standardization of turbine towers and floaters
- Limited impact of dynamic cable failure – Less operational risk
- Significantly less materials and no visible parts

 **AkerSolutions** 

Alliance for Subsea Power & Automation