

# Cost reduction for subsea electrical connections: KONEKTA2

ETIP Ocean 2020 05 11



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KONEKTA2 electrical connector

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#### Ditrel, since 1983





# **KONEKTA2:** Current solutions

SMARTEAR) SEALAD

t fan





# **KONEKTA2:** Description



Subsea electrical connector:

- New connection concept:
  - Male connector **preinstalled** on dynamic cable (peeled, terminated and tested **onshore**)
  - Housing, preinstalled on floating converter (above or below sea level) provided with elevation winch
  - Manoeuvre performed from sea level, allows wide weather windows (Hs 2m) and avoids big vessels
- Power, optical fibers, auxiliar supply
- Specific design for MRE, suitable for other CPS
- Voltage level from 1kV to 66 kV
- Patented, validated in BiMEP, AIP certificated and ongoing TAC







Male connector

Housing

### **KONEKTA2:** Description

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# **KONEKTA2:** reliability



#### Watertight tests

#### **Mechanical tests**

#### Survival tests (BiMEP)













#### 2015-2018: RECODE (OCEAN ERANET)

Development, manufacturing and testing in open sea conditions for KONEKTA2 20kV. Seven organisations to develop cost effective devices such as the connector Itself, one wave measurement buoy, safety monitoring device and dynamic cable monitoring system.

#### 2020: SEMC (QCS Wave Energy Scotland)

Development of a combined Subsea Electrical and Mooring Connector, starting from the KONEKTA2.





SEMC concept and partners



#### 2017-2021: Triton-C WEC (from OSCILLA POWER)

Connector downscaling, manufacturing and support to the grid connection (1kV). Connection in Hawaii in 2021.

- Total transparency and information exchange
- · Flexibility to client's needs (time, cost, support)
- · Suitable for different technical configurations (dynamic cables, CPS, different angles)



Triton-C WEC

Client requirement

Housing installed



#### 2018-2021: THE BLUE GROWTH FARM (H2020)

Design and validation for the connection to the grid of one floating multipurpose platform (Offshore Wind, Wave Energy and Offshore aquaculture). Connection in NOEL (Reggio Calabria) in May, 2021.

- Integration with concrete structures
- Prototype 1kV, full scale platform up to 66kV



#### ditrel Industrial S.L.

#### 2019-2021: X1 Wind

Design, manufacture and supply of one 20kV connector for FOW platform. Connection in PLOCAN in May, 2021.

- Proactivity with the client
- Suitable for aerial connections
- Suitable for "on deck" installation



X1 Wind platform

3D model

20kV FOW connector

Cable clamp











# Thank you for your attention

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