

# INTERNSHIP

## FOWT – CONSTRUCTABILITY AND INTERFACES



### INTRODUCTION:

PRINCIPIA has been working on offshore projects for 40 years – floating or fixed structures, risers and subsea power cables – from design stage, installation analyses up to procurement and construction engineering works. Taking advantage of this experience developed for the Oil & Gas industry, PRINCIPIA provides integrated engineering support to the main actors of the marine renewable sector to address this challenging domain at the crossroad of different cultures.

PRINCIPIA has been involved since 2010 in a large number of integrated FEED and Detailed Design for both FOWT prototypes and entire Floating Offshore Wind farm, including class certifications. Most of those projects integrated construction engineering works / constraints, installation and transportation analyses, costs estimates and were performed using state of the art simulations software and as per most recent Codes, Standards and Regulations. PRINCIPIA is also currently involved in a large number of screening/design studies for Key Operators, focused on floating platform and mooring system technologies evaluation up to wind farm LCOE assessment, construction and logistics aspects.

With Floating Offshore Wind farm soon to reach a pre-commercial status, thorough consideration of constructability & logistic aspects and interfaces becomes crucial in order to achieve a high level of industrialization and so, a low-cost mass-production of these items. Although floating wind has known a rapid increase of its technology and manufacturing readiness level, there remain key-challenges to address.

### SCOPE OF WORK:

The scope of work includes the following tasks:

1. Definition of build plan assumptions and drafting of a generic construction management plan for few types of floaters;
2. Assessment of launching/load-out methodologies for floaters and impact on construction strategy;
3. Assessment of methodologies for WTG assembly;
4. Elaboration of budgetary estimations for the construction of floaters;
5. Definition of the interfaces between packages, highlighting the most critical ones where special attention has to be paid to de-risk the project either economical, schedule or safety wise. A risk/opportunity matrix shall be defined for the below package transitions:
  - Fabrication of floaters – transportation to marshalling harbour
  - Transportation – assembly of WTG at marshalling harbour
  - Installation of mooring systems
  - FOWT transportation to site and hook-up
  - Installation – commissioning.

### DELIVERABLES:

- FOWT construction management plan
- FOWT Risk/opportunity matrix

**GENERAL:**

- Duration: 4 to 6 months
- Start date: Early 2022
- Location: PRINCIPIA offices in La Ciotat (Bouches du Rhône).
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