



EUROGIA+ Marine Renewables Information Day

Leveraging public funding to develop new marine renewables technologies, some examples.

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Paris 5th March 201



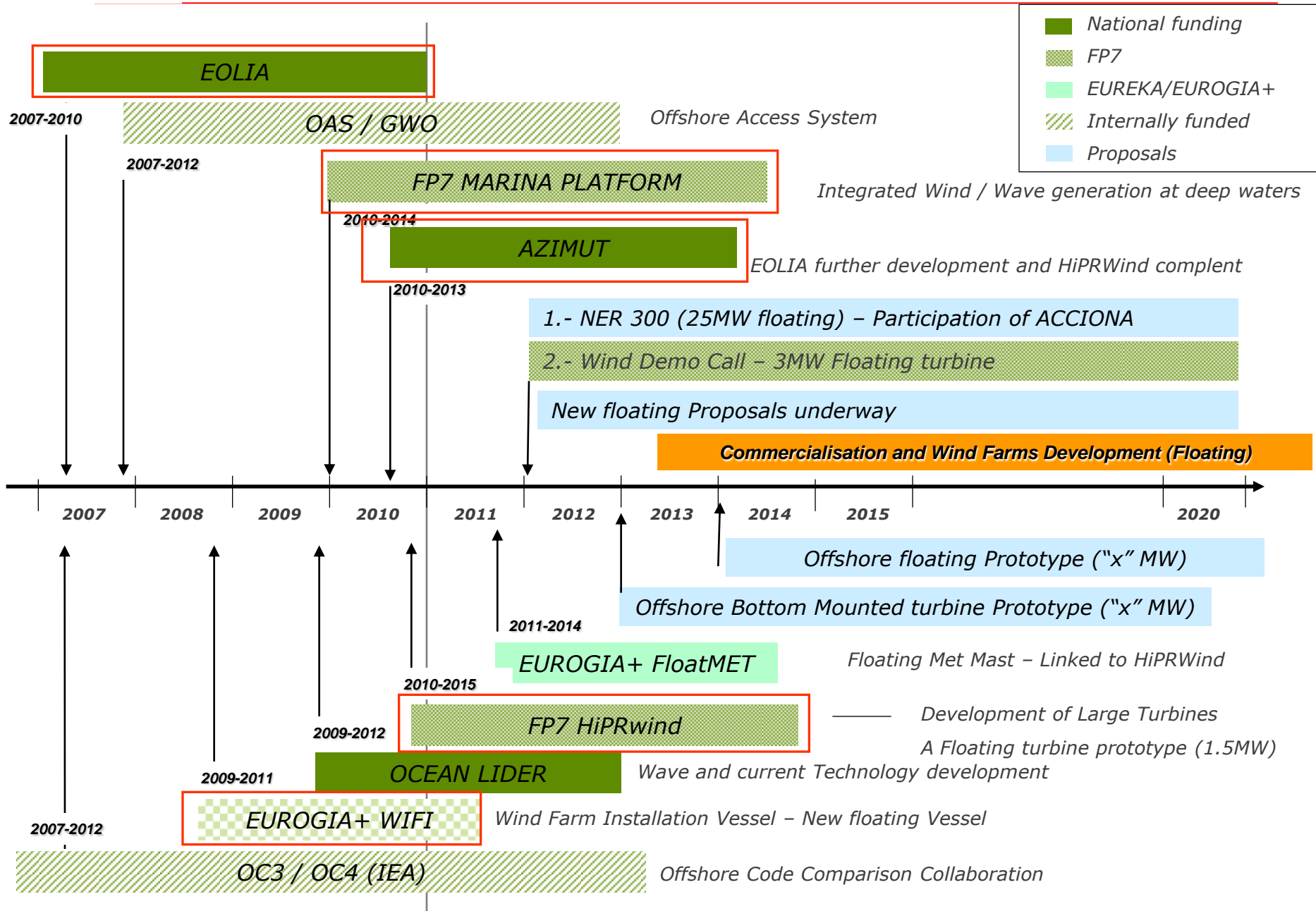
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- 2. Funding Mechanisms*
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Offshore Wind Roadmap



Final Goals:

- *Be a player at Offshore Wind and Marine Renewables*
- *Competences and well prepared Staff*
- *Develop Technologies and Tools*
- *Create Alliances and partnerships*
- *Test and Validation*
- *Implementation and Commercialization*



2

Funding Mechanisms

NATIONAL FUNDING

INTERNATIONAL FUNDING

BASIC RESEARCH

National Programs



**INDUSTRIAL RESEARCH
AND DEMONSTRATION**

CENIT

INNPACTO / INNPRONTA

INTERCONNECTA

INDIVIDUAL PROGRAMS

COLLABORATIVE



- **7th Framework Program:** A major industrial player in terms of numbers of projects and funding.

Several active FP7 projects on different domains, most being coordinated by Acciona:

FP7 Eco-Diesel (C): 5 partners, 3 countries, 9M€ Budget/5M€ Grant.

FP7 MARINA Platform (C): 17 partners, 12 countries, 12.8M€ Budget/8.7M€ Grant.

FP7 ENERCORN (C): 6 partners, 4 countries, 10.8M€ Budget/5.9M€ Grant.

FP7 HiPRWind (MGT – 2 Acc. Orgs): 19.8M€ Budget/11M€ Grant. 19 partners, 8 countries.



- **Spanish Framework:** higher number of CENIT projects amongst the industrial companies in Spain (CENIT: Strategic Consortiums – Large Projects >20M€ each).



- **USA DOE:** technology to develop CSP technology and Thermal Storage.



- **EIB:** 185M€ loan signed with the European Investment Bank to fund 50% of the R&D investment for the period (2009-2013).



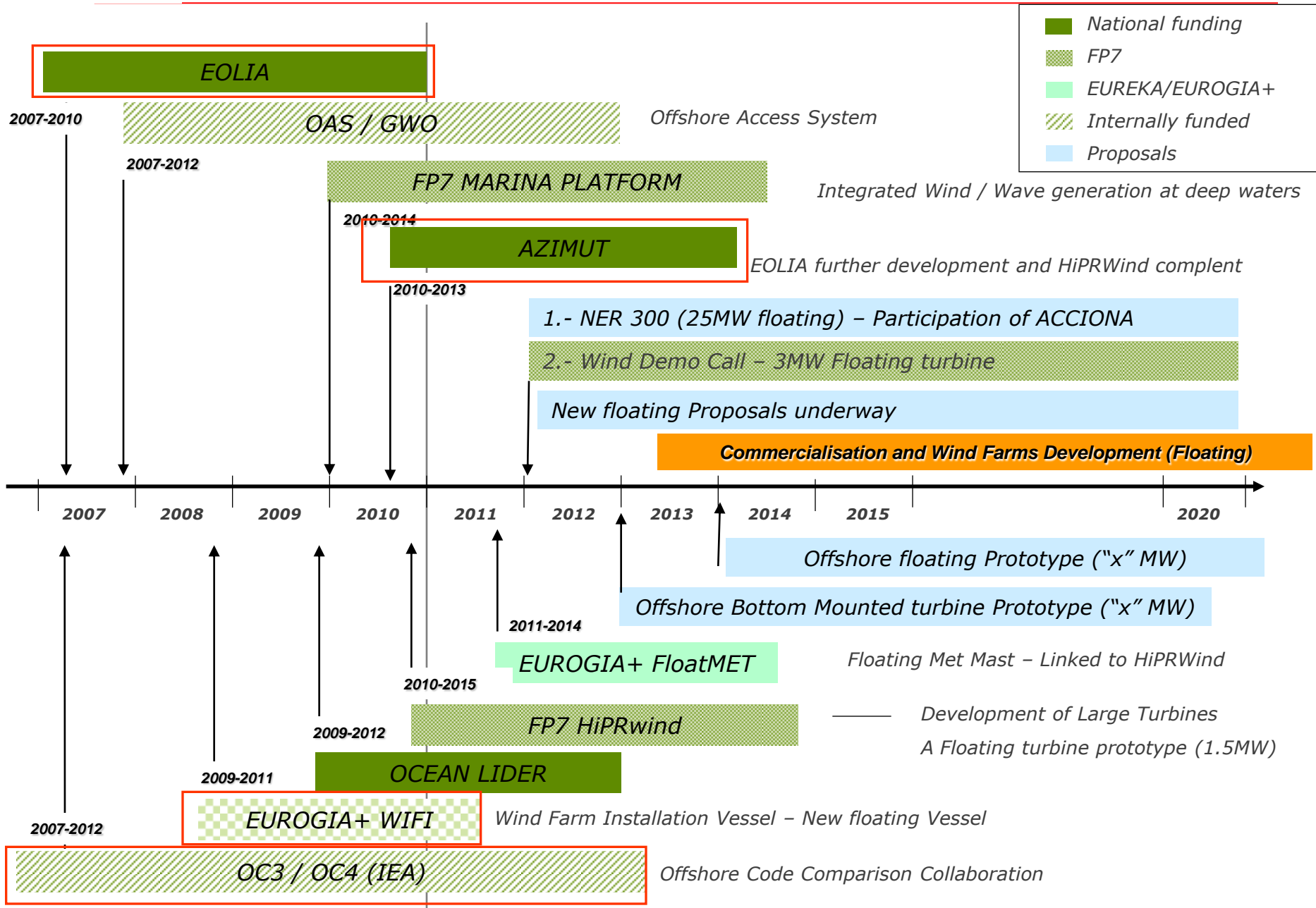


3

Case Examples

Mixing National and International Programs: Wind Farm Installation Vessel (WIFI)**Goals:**

- *See a player at the Offshore wind sector*
- *Understand risks and challenges of marine operations and implications*
- *Develop new ways of making things*
- *Create Alliances and partnerships*
- *Focussing on installation*
- *Implications on Turbine design and Foundations designs*





E+ Label on the 16th of March 2009

*New concept of barge for the installation of offshore in-one-piece wind turbine
 → catamaran barge / float over method*

PARTNERSHIP		
Leader French Partner (Subcontractor for Technip) Norwegian Partner Spanish Partner	Technip France Oceanide DNV Acciona	Project Management and Engineering Basin tests Rules, regulation and validation Wind Turbine

BUDGET k€	Total Cost	Self funded	National Funding
Technip France	844.512 (150 for subcontracting)	633.384	211.128
ACCIONA	350	260	90
DNV	150	75	75
TOTAL	1 344.512		
Duration	<i>June 2009 till March 2011</i>		

Based on project development, initial concept has develop:

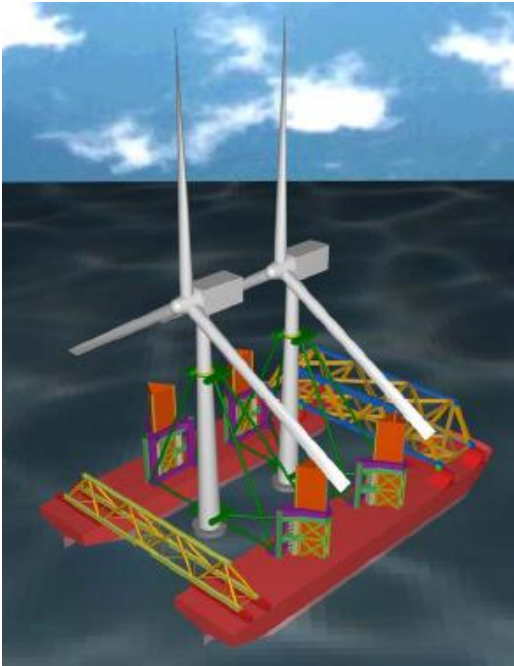
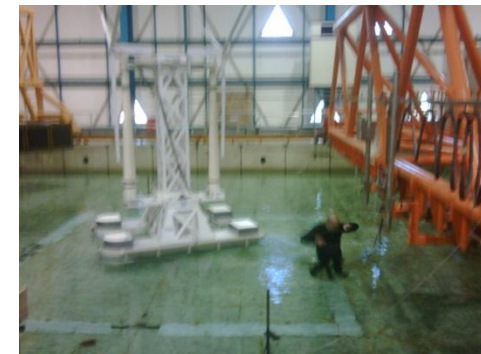
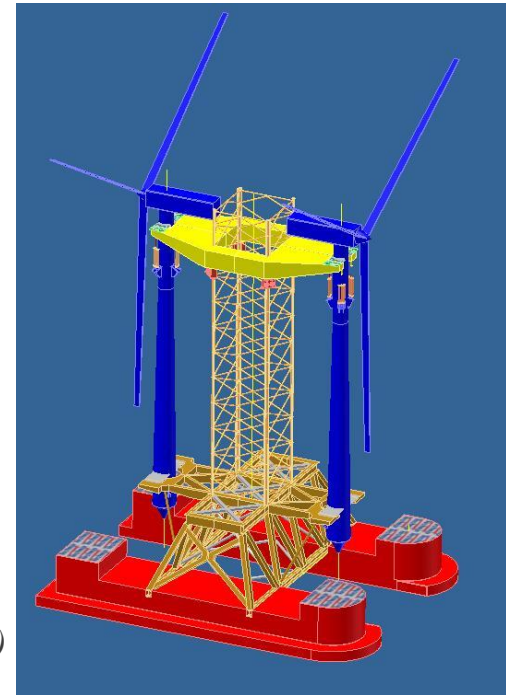
Initial Concept

- Use of DSIV
- Elevating capacity = 20,000 t (96 pinions)
- Hulls = 142.5m x 25m x 12m
- Displacement = 28,000 t
- Rear door to operate
- **Not really fit for purpose !**



Current Concept development

- Barge = 87 m x 18 m x 9 m, Draft = 4.60 m
- One central linking beam : 66 m x 30/16 m x 20 m
- Dynamic Positioning during installation
- Vertical handling of WTGs (heave compensation)
- Square Leg 16 m x 16 m x 84 m
- Lateral quick release shimming at top and bottom of the turbines mast
- Roll & pitch cancellation system: slo-roll (passive)
- **Really fit for purpose !**

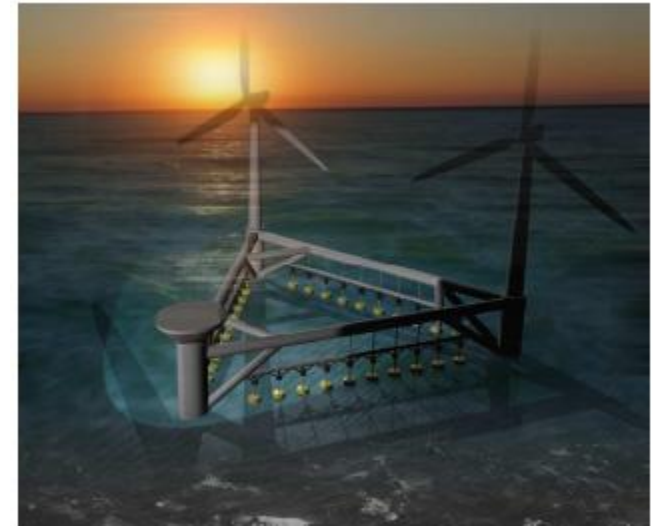


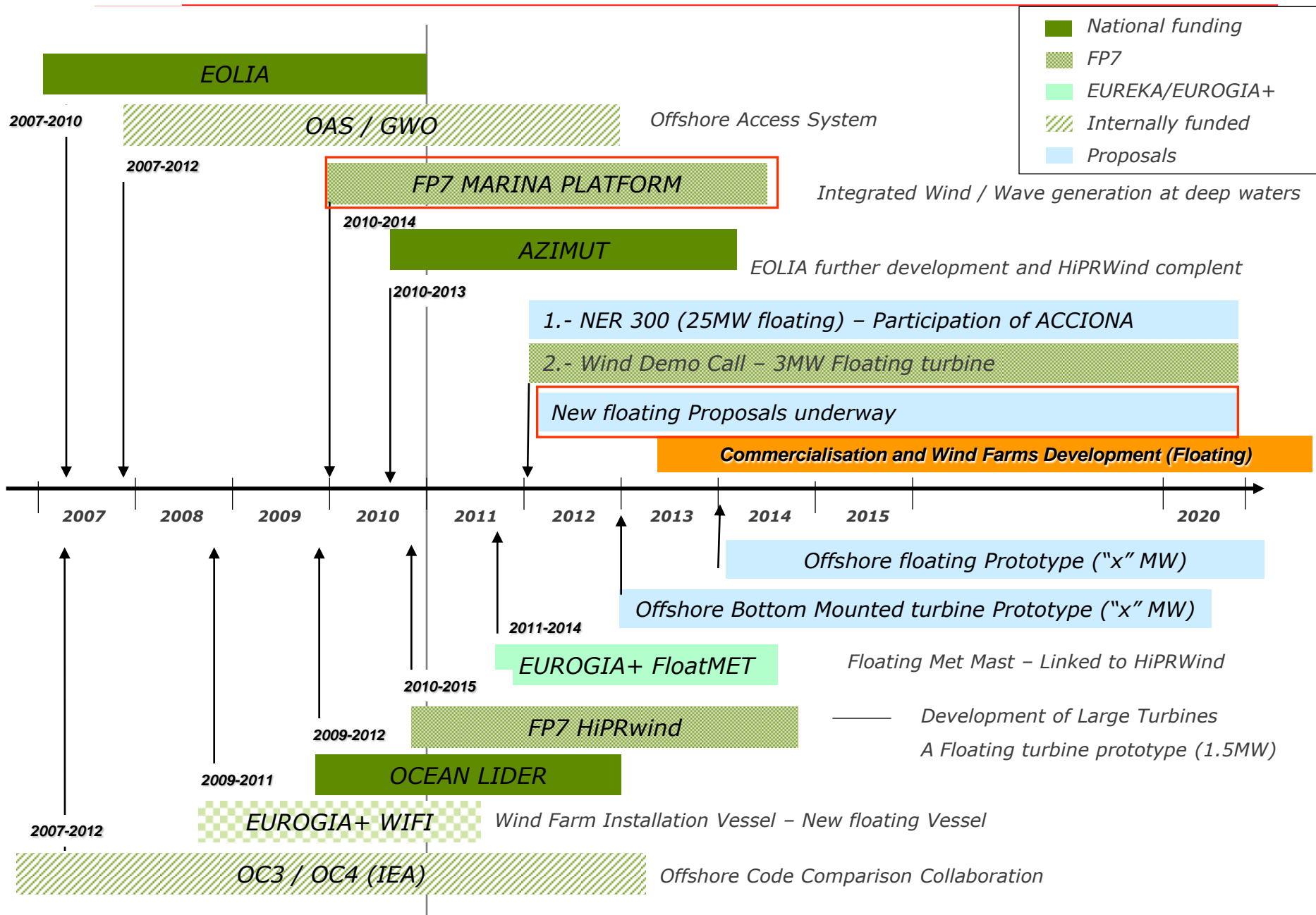
Mixing International Programs: W2power



Goals:

- *Develop new integrated solutions: Wind and Wave*
- *Understand risks and challenges of such designs*
- *Develop new ways of making things*
- *Create Alliances and partnerships*
- *Focussing on validation of technology*
- *Implications on Turbine design and Floating Foundation designs*



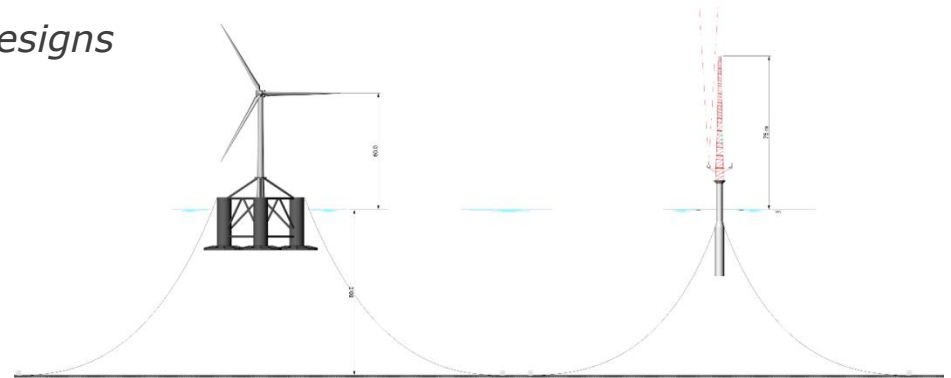


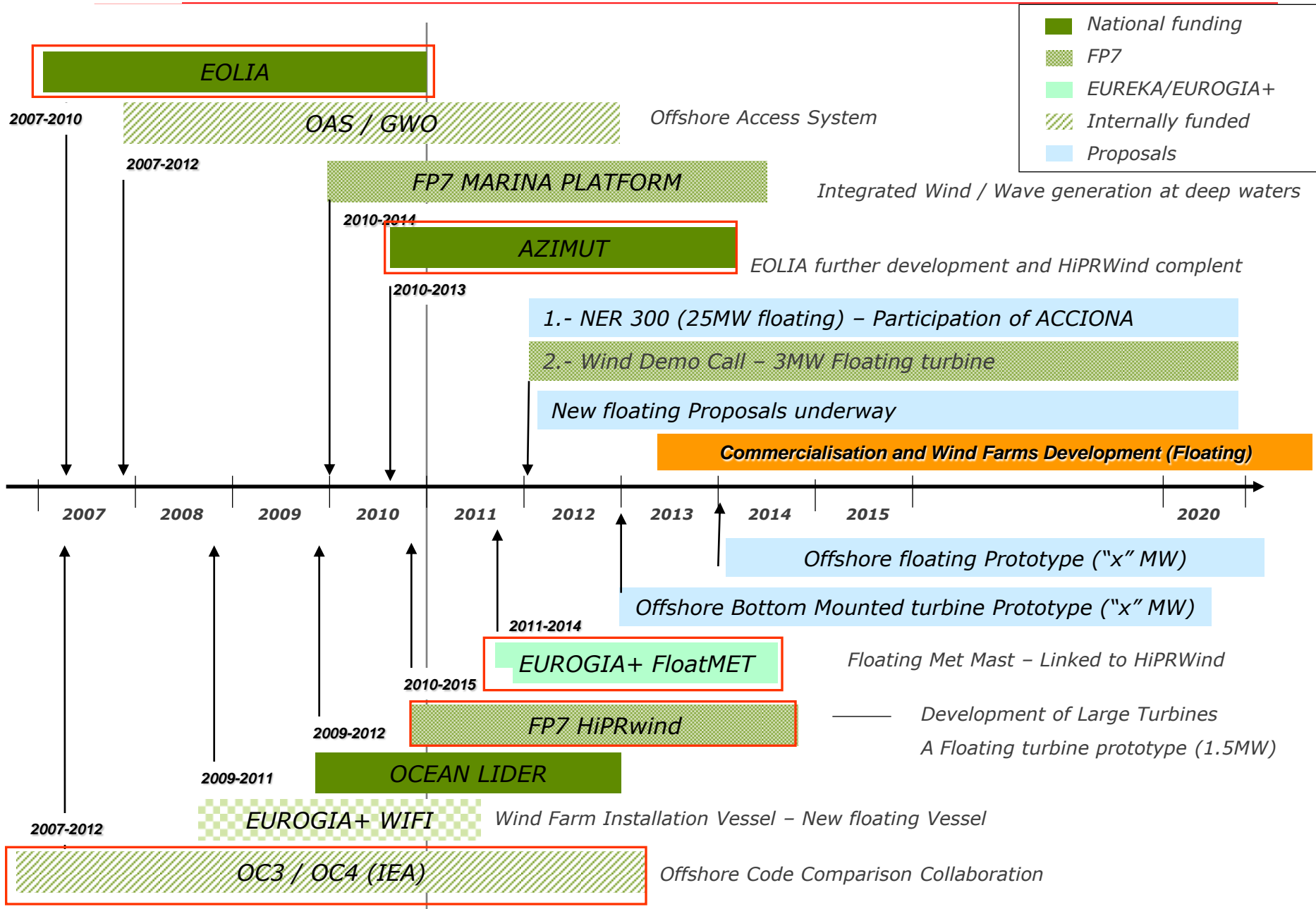
Mixing National and International Programs: Offshore Bimep (HiPRWind + FloatMET)

Goals:



- *Develop a new Testing Research Platform for Floating Turbines*
- *Understand risks and challenges of such designs*
- *Test at a relevant scale*
- *Include Met Ocean analysis*
- *Validation of technology and potential optimization*
- *Implications on Turbine design and Floating Foundation designs*





NATIONAL FUNDING

INTERNATIONAL FUNDING

BASIC RESEARCH

National Programs



FP7 HiPRWind

INDUSTRIAL RESEARCH AND DEMONSTRATION

INTEGRADO (FP7 SUPP)

INNPACTO (2)

COLLABORATIVE



eurogia⁺



**Eurogia+ FloatMET
New Proposals**



FP7 + NER300





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THANK YOU!

Leveraging public funding to develop new marine renewables technologies, some examples.

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