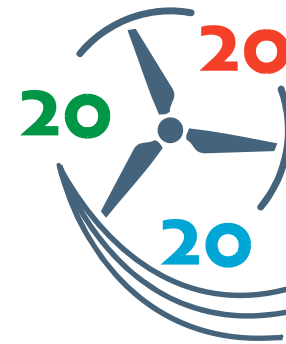




INESCPORTO
LABORATÓRIO ASSOCIADO



Twenties
Transmitting wind

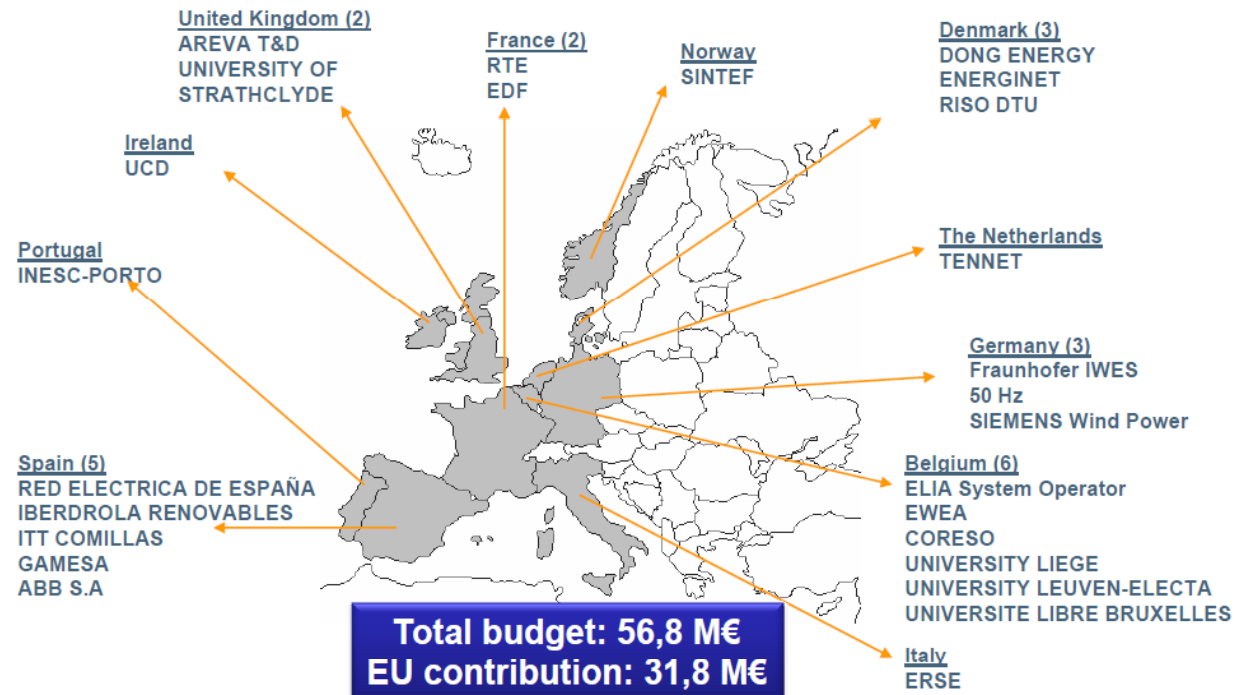
Transmission system operation with large penetration
of **W**ind and other renewable **E**lectricity sources in
Networks by means of innovative **T**ools and **I**ntegrated
Energy **S**olutions



The TWENTIES project aims at: *demonstrating by early 2014 through real life, large scale demonstrations, the benefits and impacts of several critical technologies required to improve the pan-European transmission network, thus giving Europe a capability of responding to the increasing share of renewable energy mix by 2020 and beyond, while keeping its present level of reliability and performance.*

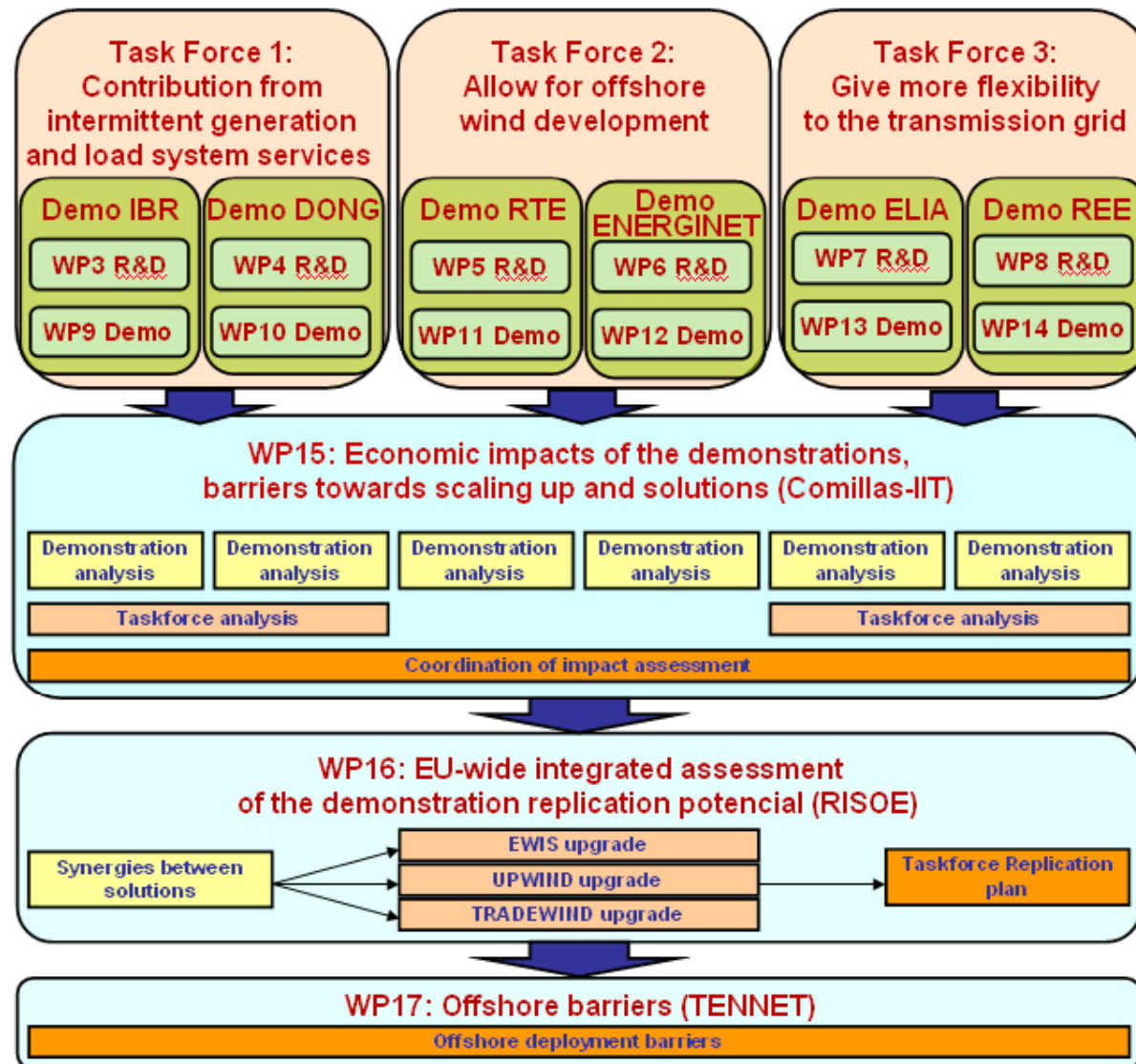
Consortium and budget

- ✓ 10 European Member States
- ✓ 1 Associated Country





TWENTIES WORK PLAN





DEMO 3 DC GRID (Leader: RTE)

Main objective

- Assess main drivers for the development of off-shore HVDC networks

Approach

- Optimal planning and operation of AC/DC interconnected power systems
- Local control of HVDC networks
- Operation under normal and emergency conditions
- Design and quantify experimental DC networks (N-1, faults)
- Design and test control functions, protection systems...
- Benchmark several network topologies

Knowledge and components for connecting offshore resources: multi-terminal DC networks and interaction with on-shore AC system

