



# NOWITECH / Offshore Wind Opportunities

Presentation at Teknologisk Møteplass

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# Agenda

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- Nowitech
- Committee for Innovation and Commercialisation
- Opportunities and Challenges
- Conclusion

# Nowitech

# NOWITECH in brief

## ► Objective:

Pre-competitive research laying a foundation for industrial value creation and cost-effective offshore wind farms. Emphasis on deep sea (+30 m).

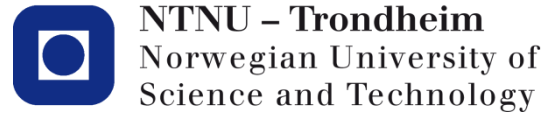
## ► Work packages:

1. Numerical design tools (including wind and hydrodynamics)
2. Energy conversion system  
(new materials for lightweight blades & generators)
3. Novel substructures (bottom-fixed and floaters)
4. Grid connection and system integration
5. Operation and maintenance
6. Concept validation, experiments and demonstration

## ► Total budget (2009-2017):

+NOK 320 millions including 25 PhD/post docs

# R&D partners



# Associate R&D partners

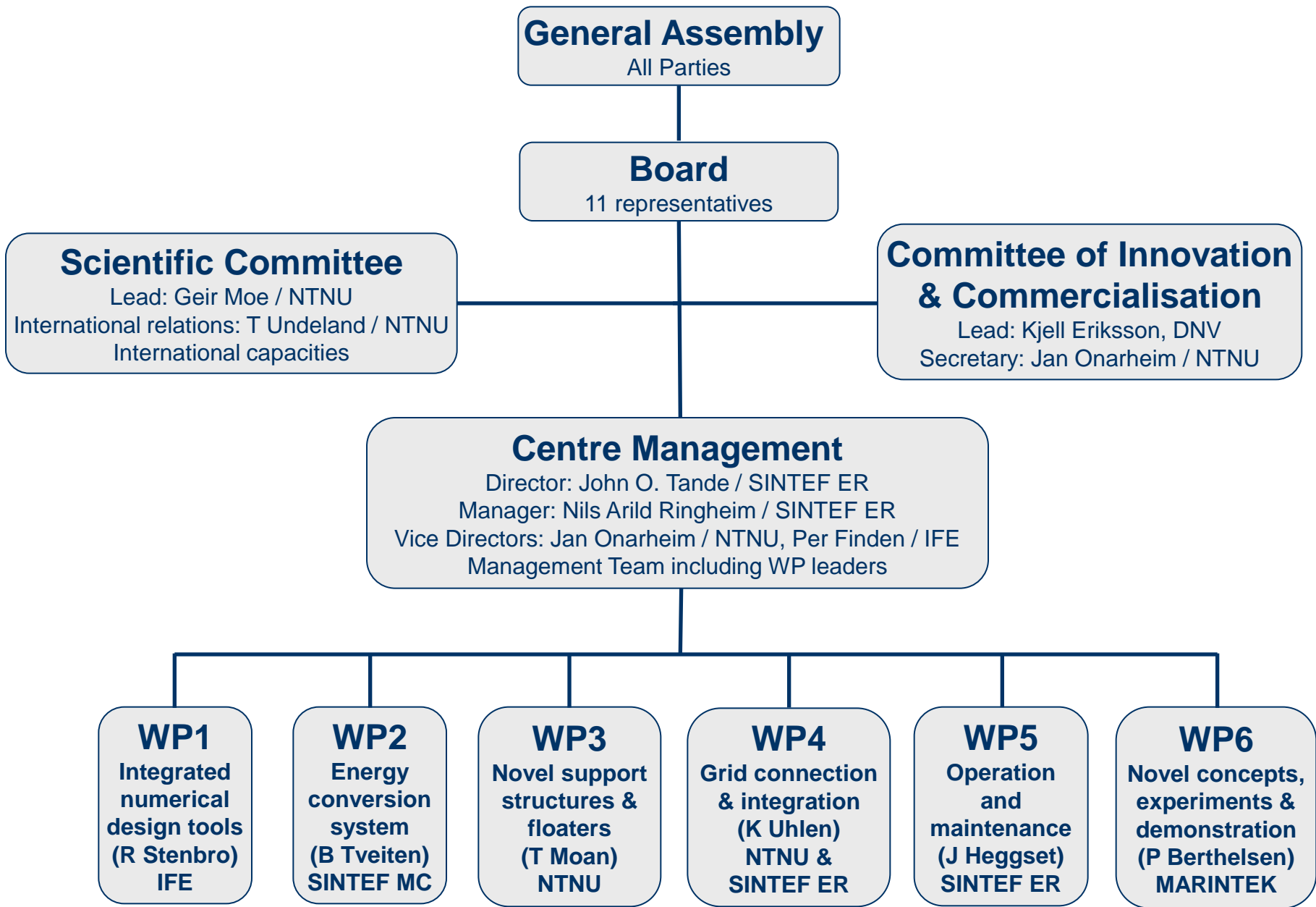


# Industry partners



# Associate industry partners





# Achievements of Norwegian R&D

- ▶ **Research activity on offshore wind energy has developed from marginal to very substantial**
  - **Collaboration between NORCOWE and NOWITECH**
  - **Strong research alliance SINTEF, IFE & NTNU**
  - **Vision: an internationally leading research community on offshore wind technology**
- ▶ **An attractive partner on the international scene**
  - **Partner in EU-projects, active in IEA and IEC**
- ▶ **Research gives basis for industrial development**
  - **HyWind, SWAY, ChapDrive, SmartMotor, Nexans, ..**

# Committee for Innovation and Commercialisation (CIC)

# Members and Objective

- NTNU
- DNV
- Statoil
- NTE
- Fugro OCEANOR
- Statkraft
- Dong Energy
- Vestavind Kraft
- GE
- *Innovasjon Norge*
- *Norges Forskningsråd*

- Relevance
- Commercial impact at industrial partners
- Commercialization of ideas
- Commercialization with SMEs

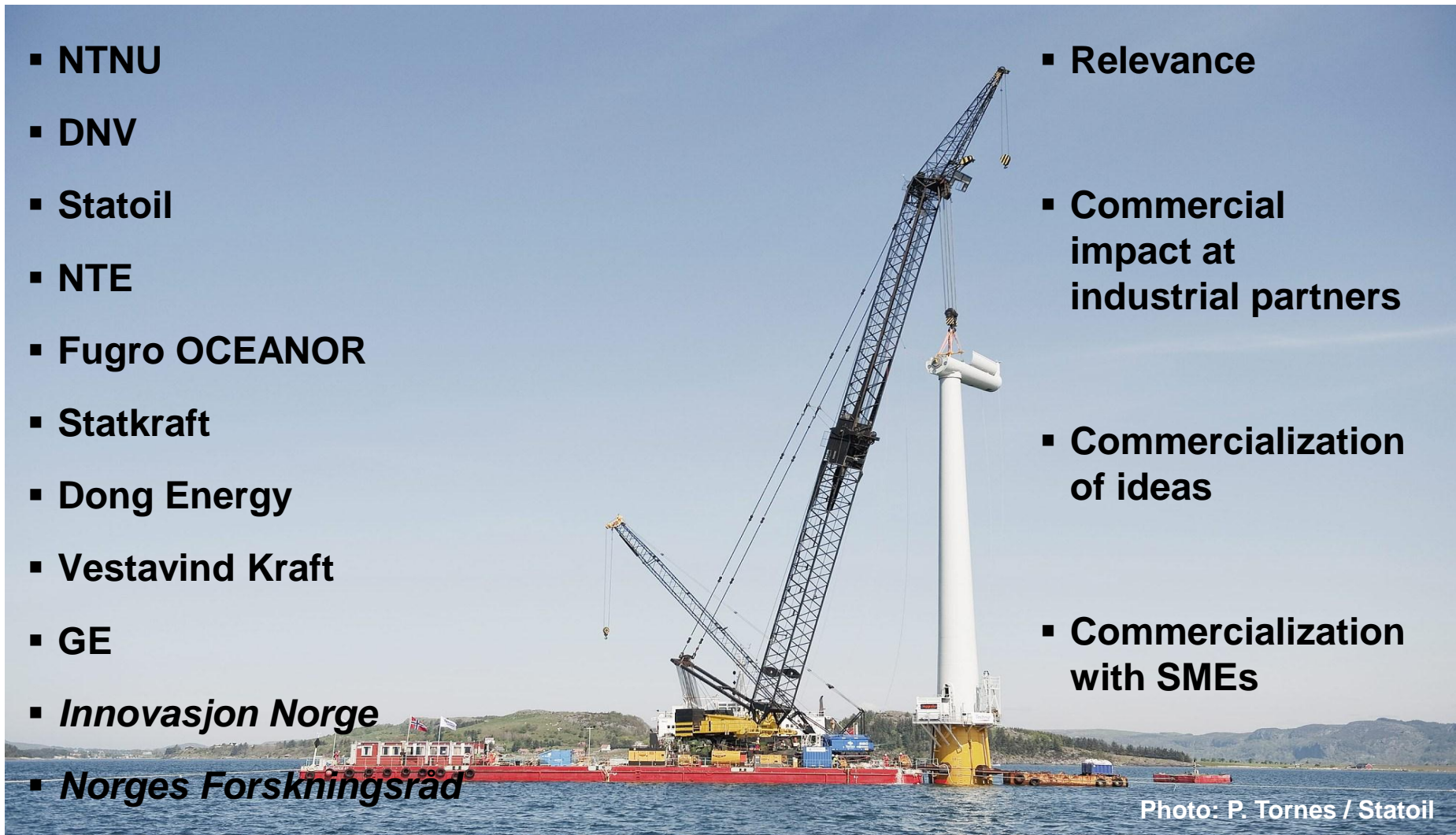
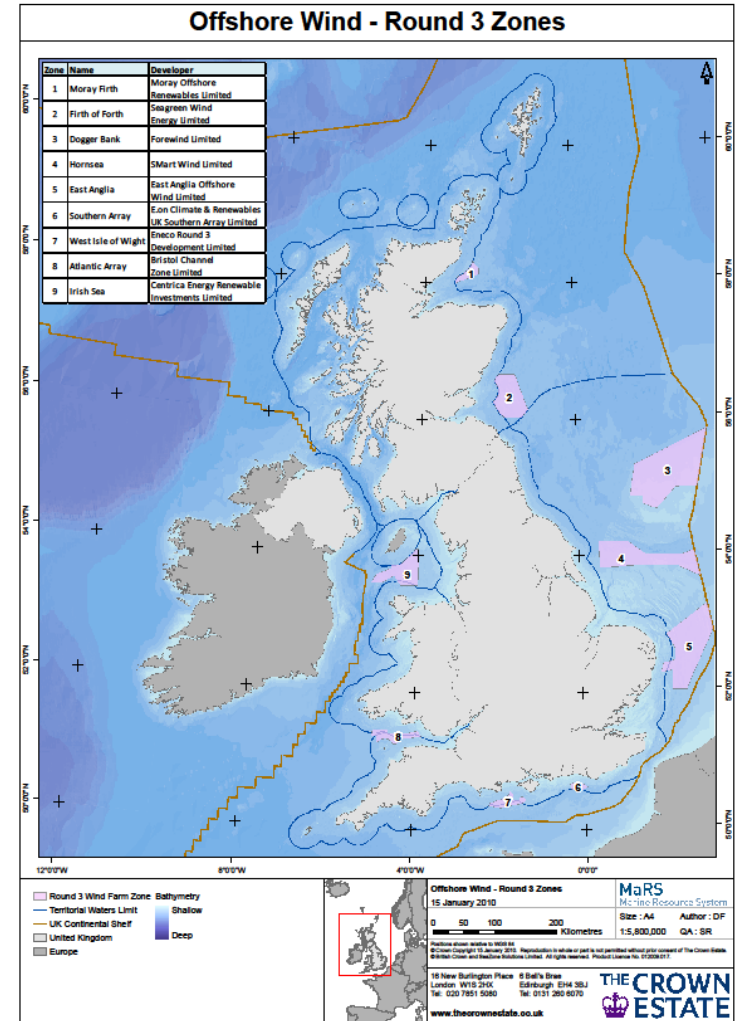


Photo: P. Tornes / Statoil

# Opportunities and Challenges

# The UK Continental Shelf

- EU Renewable Directive → 15% renewable energy for the UK by 2020
- 40% of the electricity from renewables in 2020
- Currently 5% of the electricity comes from renewables
- Mass-deployment of offshore wind
- Offshore wind can supply 25% of the UK's electricity by 2020



# Carbon Trust / Offshore Wind Accelerator

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## ■ Partners



## ■ Overall Objective of Offshore Wind Accelerator

- The aim is to reduce the cost of energy by 10%

## ■ Focus areas and competitions

- <http://www.carbontrust.co.uk/emerging-technologies/current-focus-areas/offshore-wind/pages/offshore-wind-access-challenge.aspx>

# How to learn more.....

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- Deep Sea Offshore Wind R&D Seminar
  - 20. - 21. January 2011, Trondheim,
  - <http://www.sintef.no/Projectweb/Nowitech/Events>
  
- Offshore wind farm technology:
  - <http://www.thecrownestate.co.uk/supply-chain-skills>
    - A guide to an offshore wind farm
    - Supply chain gap analysis
    - Offshore substations
    - An offshore wind turbine
    - Etc
    - Etc

# Conclusion

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## ■ The Setting

- UK will be the market for offshore wind energy for the next 10 years
- Several schemes to develop the UK supply industry (demo sites etc)
- Statkraft and Statoil are active developers
- Statkraft and Statoil through Carbon Trust / Offshore Wind Accelerator push technology development
- Offshore wind development has high focus on cost reductions and supply chain optimisation

## ■ Support from NOWITECH / CIC

- Relevance
- Invite SMEs to meetings to present their ideas and discuss cooperation
- Encourage new companies to join NOWITECH and participate in Work Package meetings

# Safeguarding life, property and the environment

[www.dnv.com](http://www.dnv.com)



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