



EUROPEAN TECHNOLOGY & INNOVATION
PLATFORM ON WIND ENERGY

ETIPWind a meeting of minds

EERA DeepWind'18, Trondheim, 17 - 19 January 2018

etipwind.eu

What are ETIPs?

European Technology and Innovation Platforms are industry-led stakeholder fora recognised by the European Commission

Goals

- Drive innovation, knowledge transfer and European competitiveness
- Develop research and innovation agendas and roadmaps for action at EU and national levels

Many companies are in Norway because of its R&D support schemes – EU needs to emulate this success

Why is ETIP needed ?

- Give EU direction in what R&I areas should be supported
- A forum where industry, research bodies and academia can meet and forge a common vision of the future
- Advisory group of CTO's now have a forum to discuss what should be done together
- Steering Committee is the workhorse that gets stuff done.
- The key raw material for the continued success of the EU Wind industry is well trained scientists and engineers – ETIPWind can help ensure this !

Turbine Manufacturers

Vestas

Wind. It means the world to us.



MHI VESTAS OFFSHORE WIND

SIEMENS Gamesa
RENEWABLE ENERGY

SENVION
wind energy solutions

ENERCON

NORDEX

Universities, research institutes and consultants



DTU Wind Energy
Department of Wind Energy

ECN
Your energy. Our passion.



Fraunhofer

SINTEF

ETIP Wind

Utilities and developers



edp renewables

edf
energies nouvelles

DONG
energy

e-on

res
powering change

enel
Green Power

Statoil

VATTENFALL

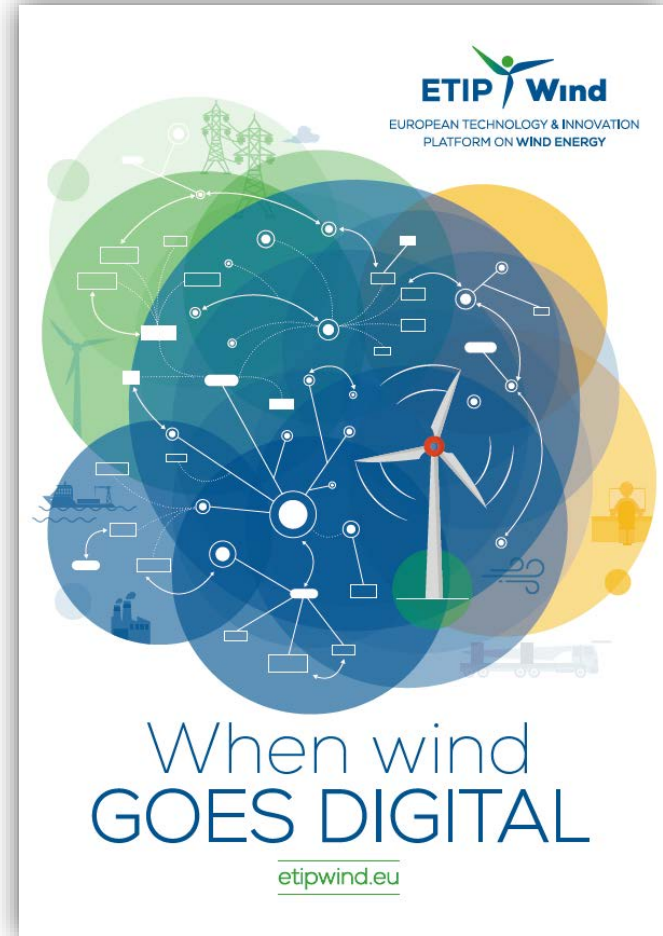
Others

ABB

LM WIND POWER

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ETIPWind publications



Objectives of the SRIA – update in 2018



Reduce costs



Facilitate system
integration




Reinforce European
technological
leadership



Ensure first-class
human resources


5 Pillars of research and innovation for wind energy

Grids systems,
integration and
infrastructure




Developing wind energy capabilities to fit in a grid with significant shares of renewable energy.

Operation and
maintenance



More and further enhanced sensors enabling more reliable and efficient operation and maintenance of turbines, improving yields and optimising lifetime.

Industrialisation



Developing the value chain and facilitating the interaction between stakeholders notably through standardisation to achieve economies of scale and faster production.

Offshore
balance of plant



Exploring new areas for offshore wind and making it competitive with conventional generation through the improvement of substructures and foundations, site access, offshore grid infrastructure, assembly and installation.

Next generation
technologies

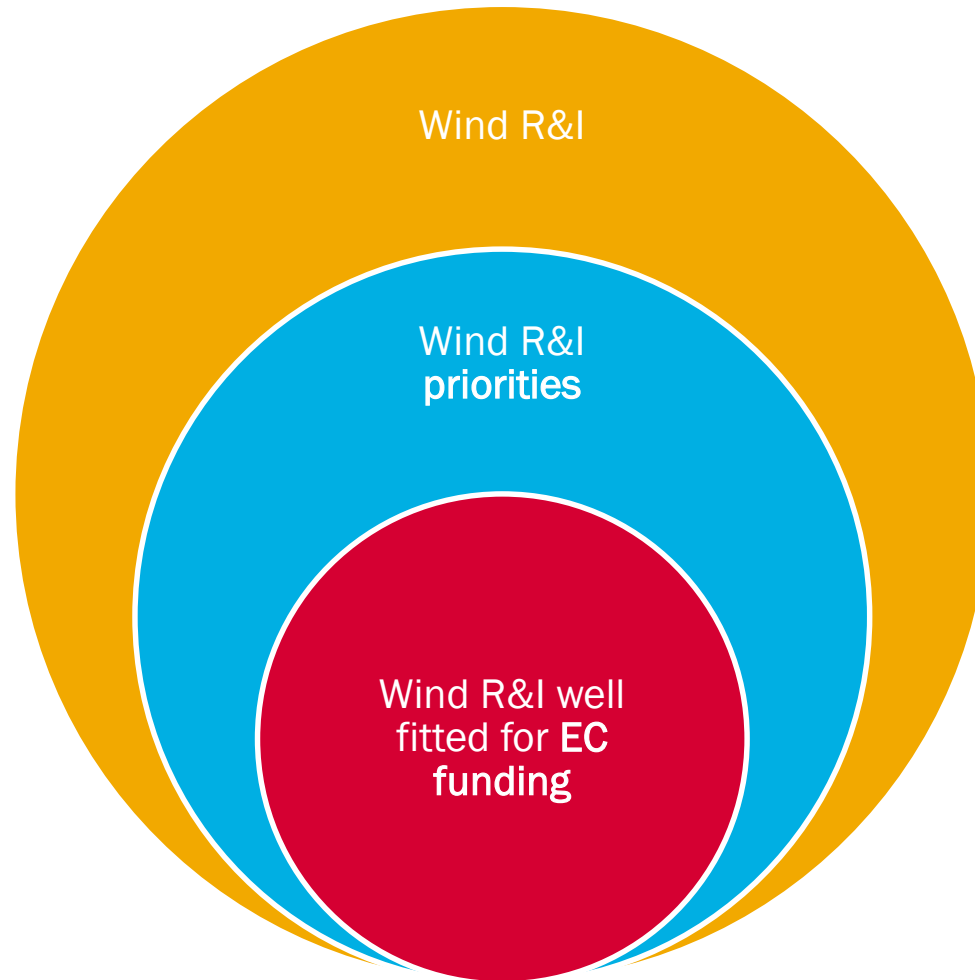


Consolidating the scientific base for wind research and enabling pioneering research to lead to breakthroughs.

From R&I to deployment

Adapting markets and policies for optimal integration of renewables, integrating wind turbines into their natural surroundings, ensuring public engagement and acceptance and deploying human resources.

Scope of the discussion





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What has and is happening in offshore wind ?

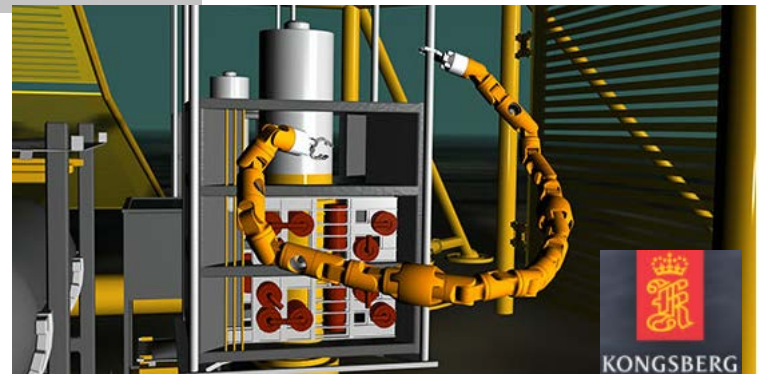
Some of what has happened

When industry meets well trained creative brains

- Vinderby 11x 450 kw erected in 11 days 1991
- Middelgrunden 20 x 2MW in 2000 - iconic
- Horns Rev 1 with 80 x 2MW first big offshore park
- BTM UK offshore report.
- A2SEA installer – Coaster with legs
- Hywind – 2.3MW floater – Statoil a first floater off Norway called "crazy" now Hywind 2 in Scotland
- London Array Phase 1 630MW - huge
- Ørsted q European world champion in wind



Technology



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What needs to happen

- Costs needs to continue to drop
 - Structures need industrialization
 - Cables
 - Installation and maintenance
 - Robotics
- Offshore wind is bulk electricity – challenges
 - Large scale storage
 - Watershed – Grid has to become renewable friendly not the opposite

All wind actors need to

- Drive digitalization
- Drive storage
- Drive cyber security
- Drive and enable the electrification of society
- Provide a credible back bone to climate change challenged electricity system

If you do cannot drive you are left behind

In weather terms offshore is coming onshore with increased flooding and marinisation of land



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Thank you
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