Windcluster Mid- Norway towards 2015

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R&D coordinator

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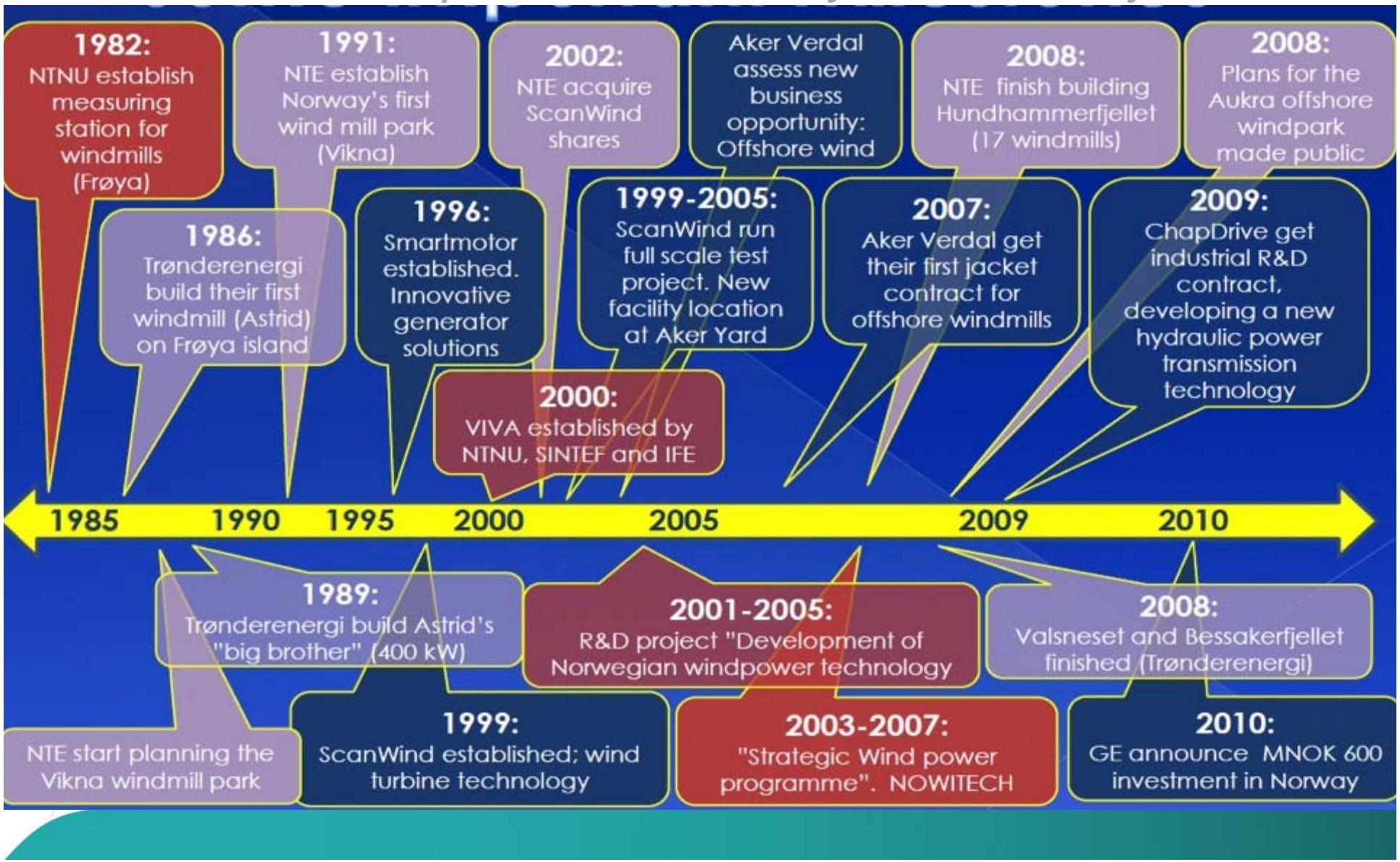
Wind power from Mid- Norway – a success story…….



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Windcluster Mid-Norway shall establish the groundwork for a new national industrial venture based on the production of wind energy. Main Goal: Aiming for a 100-percent Increase in Sales Member companies in the wind cluster have as their main goal an overall increase in sales of wind power of one hundred percent by 2014.

The Purpose of Establishing Windcluster Mid-Norway is: - to work together on improving each other's competitiveness - to present a common profile toward the relevant communities and markets - to generate favourable conditions for the recruitment of staff - to reinforce the cooperation between companies and skills-centres both nationally and internationally - to facilitate innovation and creativity - to disseminate

SIVA

INNOVATION NORWAY

Forskningsrådet

arena PROGRAMMET

Some results from Windcluster Mid-Norway

	2011	2010
Antall medlemsbedrifter i WMN	57	42
Andre bedrifter som deltar på WMNs aktiviteter	50	40
Deltakende FoU og kunnskapsmiljøer	7	7
Deltakende Offentlige utviklingsaktører	5	4
Antall møtesteder, fora fagnettverk	8	7
Utenlandske samarbeidspartnere	4	5
Antall Innovasjonsprosjekter (deltakende bedrifter i parantes)	13 (20)	7(12)
Prosjekter Intrernasjonal forretningsutvikling	5	5
Prosjekter utdanningstilbud	2	1
Kompetansehevingsprosjekter i klyngen	4	0
Prosjekter Bedriftsetablering	2	0

Største kontraktsverdi enkeltbedrift	ca 900.000.000
SUM utløste offentilge midler der WMN har vært involvert	ca 40.000.000
Utløste Investeringer til WMN bedrifter fra SIVA	ca 130.000.000
Vurdering Onshore marked Norge og Sverige fram mot 2020	Ca 50 Milliarder NOK
Vurdering offshore marked UK og Tyskland fram mot 2025	Ca 1.000 Milliarder NOK

New strategy and goals for Windcluster Mid- Norway 2012 – 2014

Main goal: 100% increase in sales for the period

2012 - 2014.

Additional goals 2012-2014

- Establishment of a supplier network of approx 50 companies related to onshore wind projects in Norway and Sweden
- Prequalification as supplier to onshore and offshore wind projects of 15-20 new companies
- Initiate the establishment of minimum 5 ” joint ventures” which get in position to bid om contracts for onshore and offshore wind projects
- Contribute to the formalization of cooperation between Norwegian and foreign suppliers in the wind business.
- Contribute to initiate Wind R&D projects for 100 Million NOK

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50-75 milliarder kroner forventes å bli investert i landbaserte vindkraftanlegg i Midt- Norge og Midt- Sverige de neste tiåra. I tillegg kommer nettutbygginger for ca 20 mrd.
= 5 1/2 x St Olavs sykehus

VINDKRAFTUTBYGGING I MIDT-NORGE OG MIDT- SVERIGE

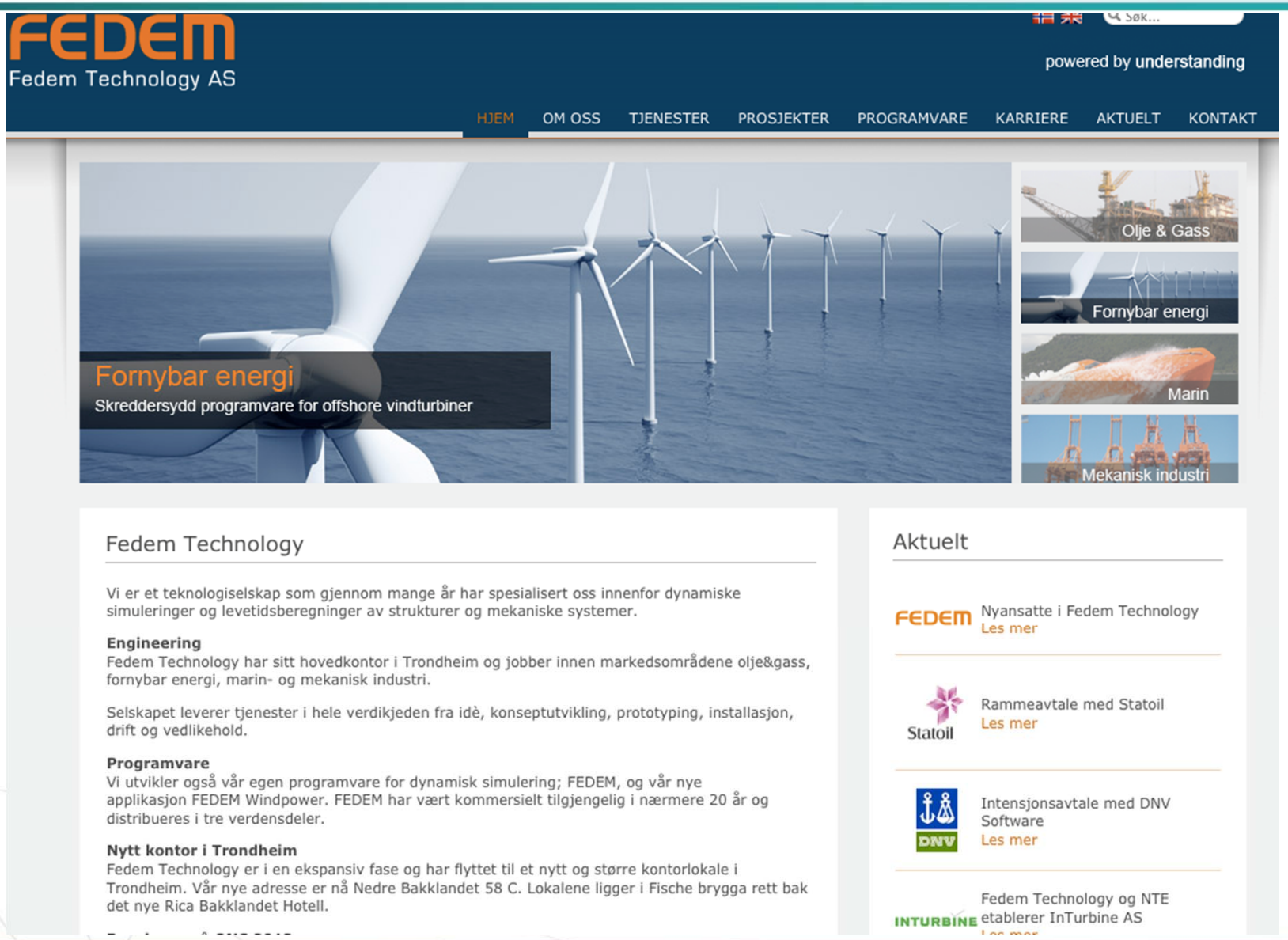
- 4.000 Megawatt
- 8-10 TWh vindkraftproduksjon
- 1.500 – 3.000 vindmøller
- Over 20.000 årsverk i prosjekterings- og byggefase
- Ca 500 årsverk i driftsfase

Hvilke muligheter og utfordringer gir dette for

- **Leverandørindustrien ?**
- **Utbyggere ?**
- **Lokalsamfunnene ?**
- **Regionen?**

6 main strategies

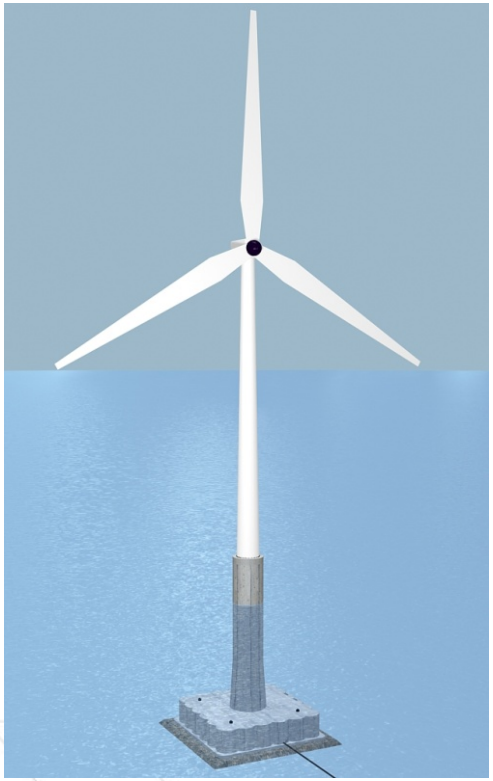
- **Supply chain development**
- **Cooperation with R&D institutes and universities/university colleges**
- **Market focus**
- **Communication**
- **Growth in members**
- **Development of the organization WMN**

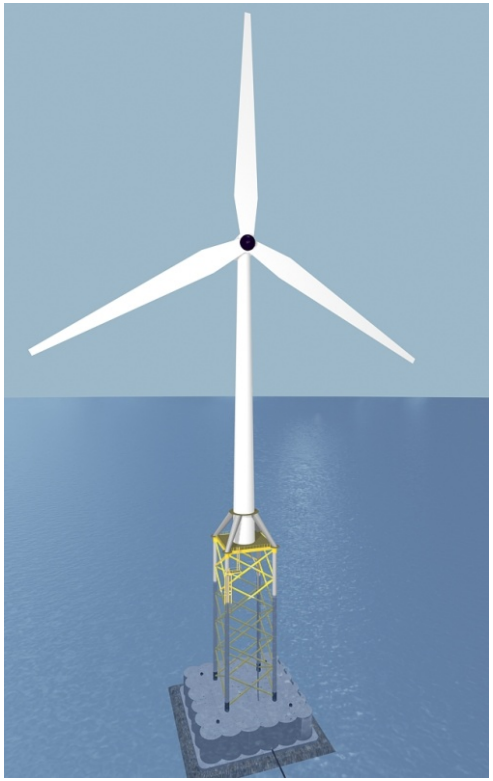

FEDEM
Fedem Technology AS
Søk...
powered by understanding
HJEM
OM OSS
TJENESTER
PROSJEKTER
PROGRAMVARE
KARRIERE
AKTUELT
KONTAKT
Fornybar energi
Skreddersydd programvare for offshore vindturbiner
Olje & Gass
Fornybar energi
Marin
Mekanisk industri
Fedem Technology
Vi er et teknologiselskap som gjennom mange år har spesialisert oss innenfor dynamiske simuleringer og levetidsberegninger av strukturer og mekaniske systemer.
Engineering
Fedem Technology har sitt hovedkontor i Trondheim og jobber innen markedsområdene olje&gass, fornybar energi, marin- og mekanisk industri.
Selskapet leverer tjenester i hele verdikjeden fra idè, konseptutvikling, prototyping, installasjon, drift og vedlikehold.
Programvare
Vi utvikler også vår egen programvare for dynamisk simulering; FEDEM, og vår nye applikasjon FEDEM Windpower. FEDEM har vært kommersielt tilgjengelig i nærmere 20 år og distribueres i tre verdensdeler.
Nytt kontor i Trondheim
Fedem Technology er i en ekspansiv fase og har flyttet til et nytt og større kontorlokale i Trondheim. Vår nye adresse er nå Nedre Bakklandet 58 C. Lokalene ligger i Fische brygga rett bak det nye Rica Bakklandet Hotell.
Aktuelt
FEDEM
Nyansatte i Fedem Technology
Les mer
Statoil
Rammeavtale med Statoil
Les mer
DNV
Intensjonsavtale med DNV Software
Les mer
INTURBINE
Fedem Technology og NTE etablerer InTurbine AS

The Scanwind team is still vital – in several companies in WMN

Concepts

Two alternatives evaluated:
- Concrete foundation
- Steel jacket foundation with concrete base





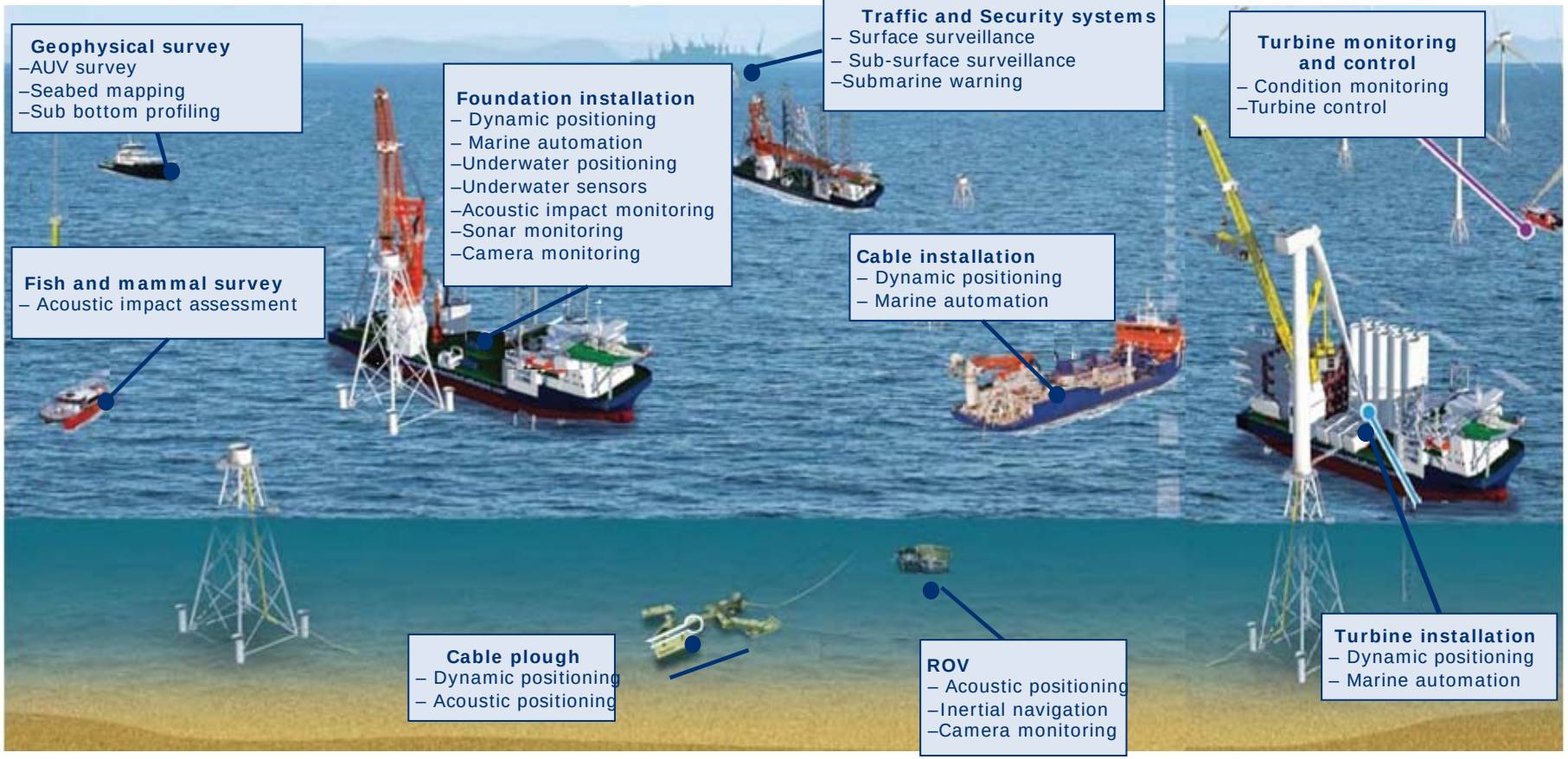
The concept for both alternatives is similar, with a base caisson to ensure stability.

Both alternatives is evaluated with respect to three locations, representing different water depths and wave climate
WD : 22 m – 58 m
H_{max} :14 m – 27 m

REINERTSEN

Kongsberg Maritime

Equipment & Services applicable for Wind Power Plants



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FORCE TECHNOLOGY

MEMBER OF windcluster MID-NORWAY





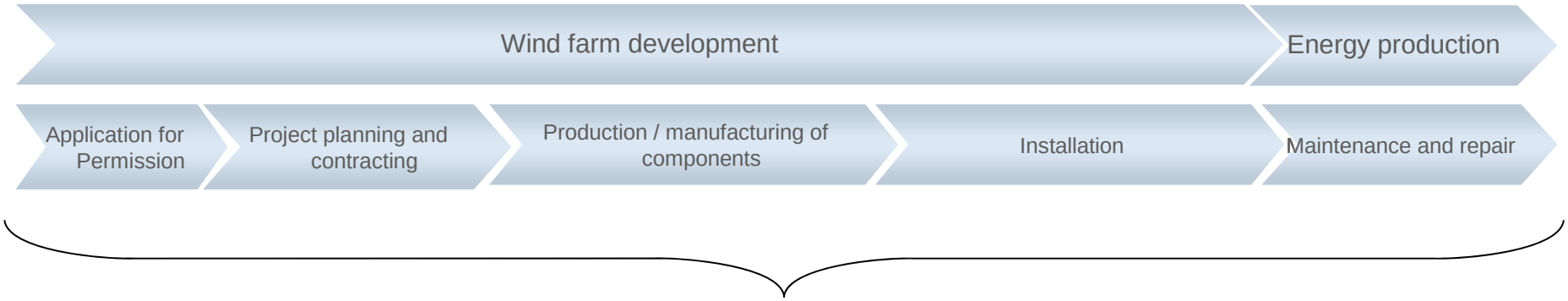

FORCE Technology

Systemized maintenance & asset management for (offshore) wind farms

Kjersti Husby Løken
FORCE Technology Norway

North Sea Offshore Wind Mission, Stiklestad August 2011

Offshore wind – DNV's contribution



Advisory Services
Certification Services

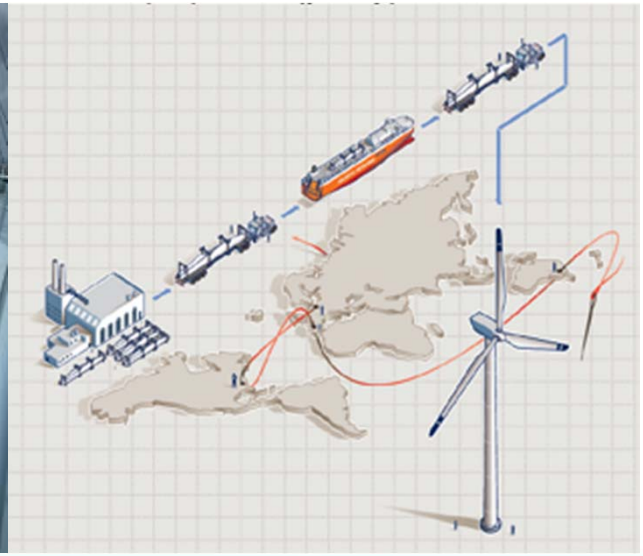
- Strategic Decision Support and Due Diligence
- Technology Qualification and Design Support
- Type and Project Certification
- Operational Excellence

Classification

- Guidelines for Design of Wind Turbines, issued 2001, DNV and Risø
- DNV-OS-J101 Offshore Wind Turbine Structures first issued 2004, updated 2007 (linked to IEC 61400-3)
- DNV-OS-J102 Design and Manufacture of Wind Turbine Blades, 2007
- DNV-OS-J201 "Offshore Substations for Wind Farms", 2009

Wilhelmsen Ships Service

- A one-stop shop for your logistics needs; managing multi modal transports and taking end-to-end responsibilities
- Direct access to own global maritime network, 400 offices in 78 countries, with local knowledge and market understanding, ensuring creative and high quality logistics solutions throughout the entire supply chain
- Offer comprehensive competence and experience from a diversified portfolio of other complex projects



AAK at Alfa Ventus

- Cooperation with Tristein
- Engineering
- Mounting of spreaders
- Lifting support

HANSEN PROTECTION

SmartMotor
Energy Efficient Technology

WINDSEA AS

Blaaster Wind Technologies

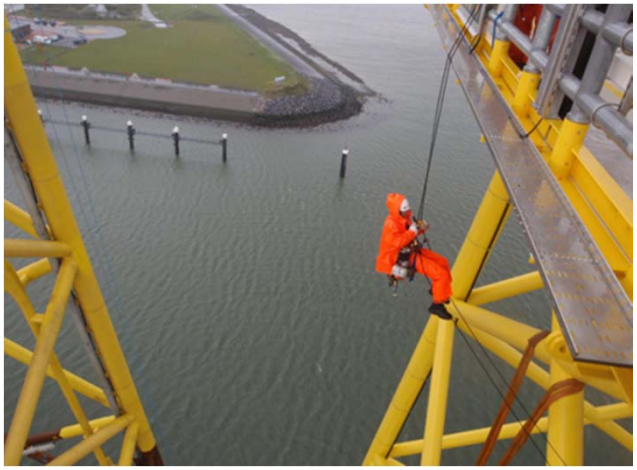
Developing the next generation wind turbines

- www.blaaster.no

- Blaaster Wind Technologies is a wind turbine manufacturer developing large direct-drive wind turbines
- Blaaster Wind Technologies has more than 20 years experience in developing wind turbines
- First prototype of Blaaster's new and revolutionary design will be installed on the coast of Mid-Norway in 2011
- The main design strategy is to make large road transportable direct-drive wind turbines
- The nacelle weight will be lower than all comparable wind turbines in the market today
- Blaaster's business model is based on making manufacturing alliances with industrial partners in different markets

WHY cooperation with R&D institutes and universities/university colleges:

- Great global potential for offshore wind
- Academic/science tradition in Mid-Norway
- Value creation most successful when cooperation industry-academia



HOW we promote the industry-science cooperation:

- Bringing together the members
  - Industry-science seminars
  - North Sea Offshore Wind 9.-10.11.12, Hull UK
- Project development, assist project financing, project implementation
- Supplier database for also partnersearch

The supplier database:

- Open, innovative and informative
- Easy to use
- Detailed information of each step

http://supplier.windcluster.no/search

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Ta kontakt med oss i Windcluster Mid-Norway

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