



## R&D and Innovation Programme TKI WoZ

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# TKI Offshore Wind

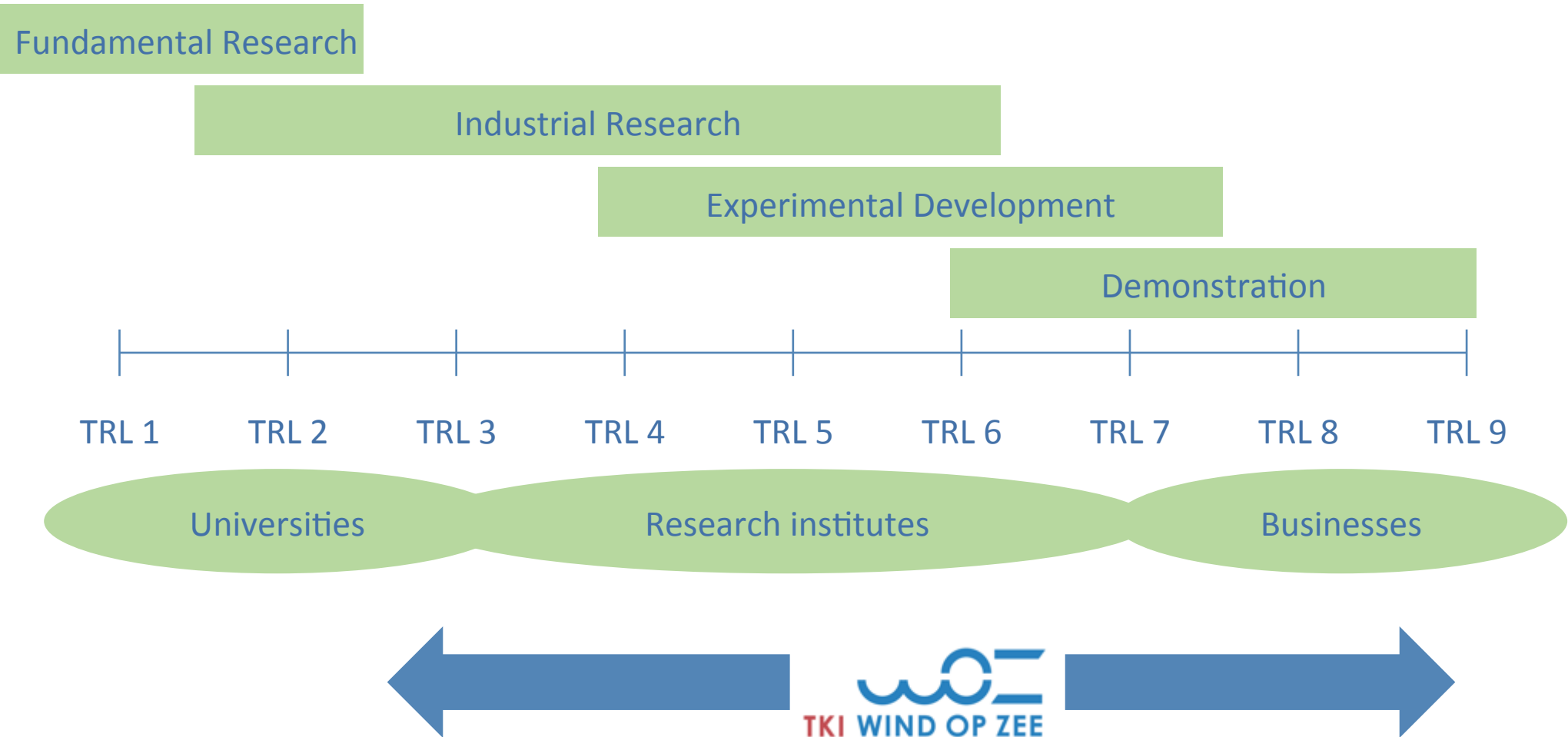
Government top sector policy to further strengthen high performing industry sectors in the Netherlands

TKI Offshore Wind is focussed on offshore wind innovation, R&D and strategic support

Over 100 companies signed membership agreement

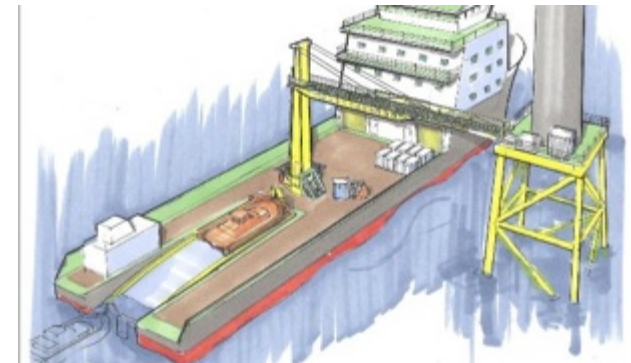
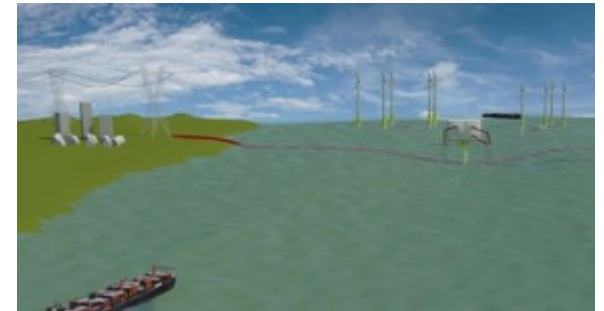
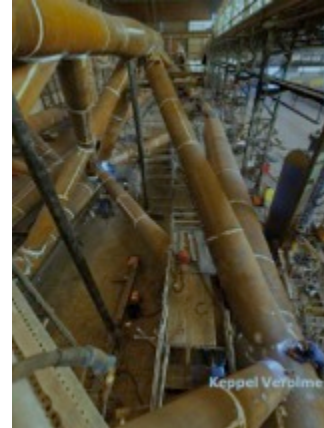


# R&D and innovation landscape

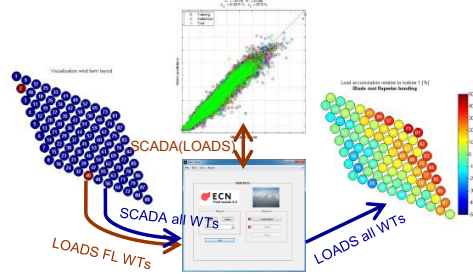


# Research & Innovation areas

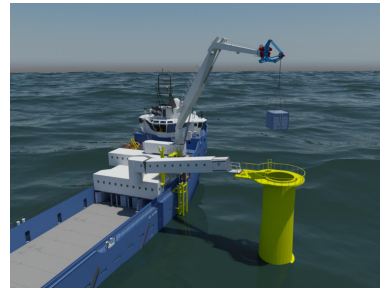
1. Offshore Foundation technology
2. Wind turbines and wind farm optimisation
3. Electrical network and grid connection
4. Transport, Installation and Logistics
5. Operations and Maintenance



# Examples of R&D projects



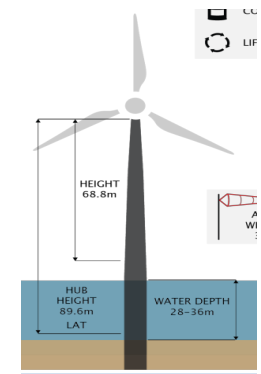
TNO – Smart Monitoring



Ulstein – Colibri™

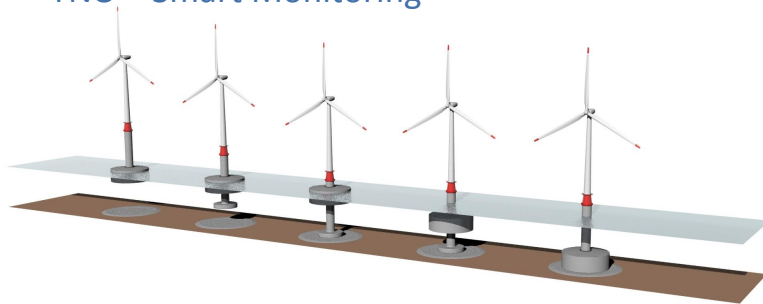


ECN – Semi Sub for VAWT

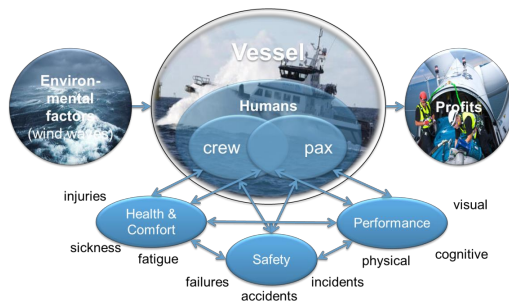


Jules Dock – Composite Tower

2015



Monobase - Self installing Gravity Based Foundation



MARIN – Offshore Maintenance JIP



NHL– IWAUC



TNO – SLOWIND

# Cost reduction options

## Cost Reduction (areas and examples)

### Technology

R&D and Innovation Programme  
5 R&D Program lines  
TRL from 2 to 8

### Supply Chain

Economies of Scale & Learning by doing  
Increased competition and Vertical Integration  
Contract structures

### Financing

Risk / Cost of Capital  
Financing structures  
Insurance

### Policy

Permitting  
Financial support system  
R&D and Innovation policy

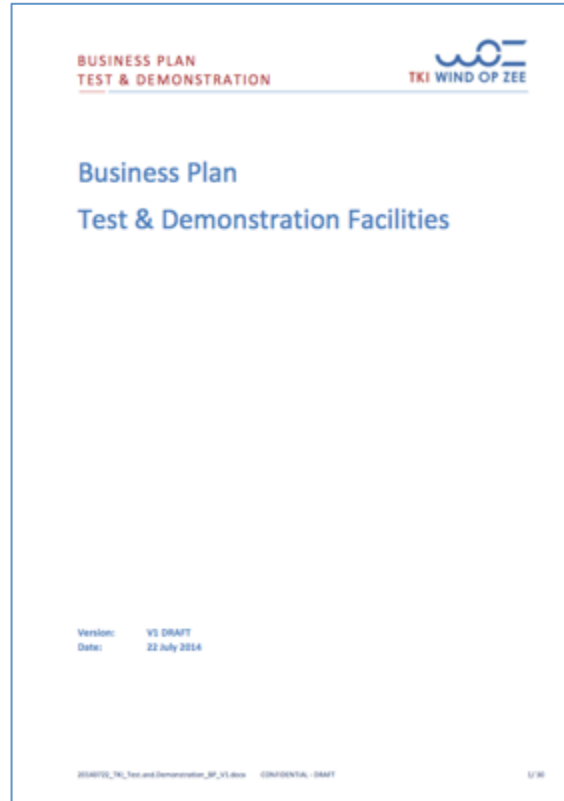
Demonstration



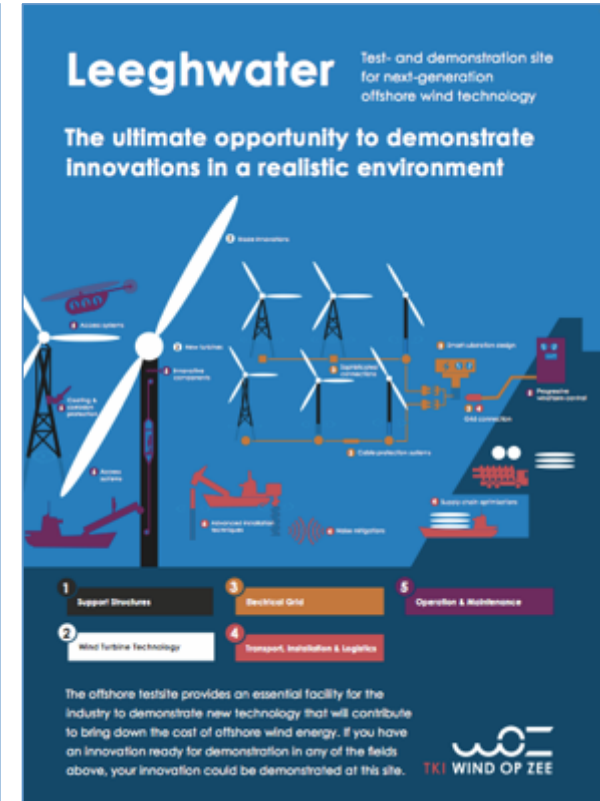
# Where did this come from?



May 2013: Leeghwater concept for a 300 MW Demonstrator



December 2014: Leeghwater demonstration programme business plan



June 2015: Launch Innovation Site Borssele by Ministry of Economic Affairs and TKI Wind op Zee

# Where did this come from?



May 2013:  
for a 300 MW

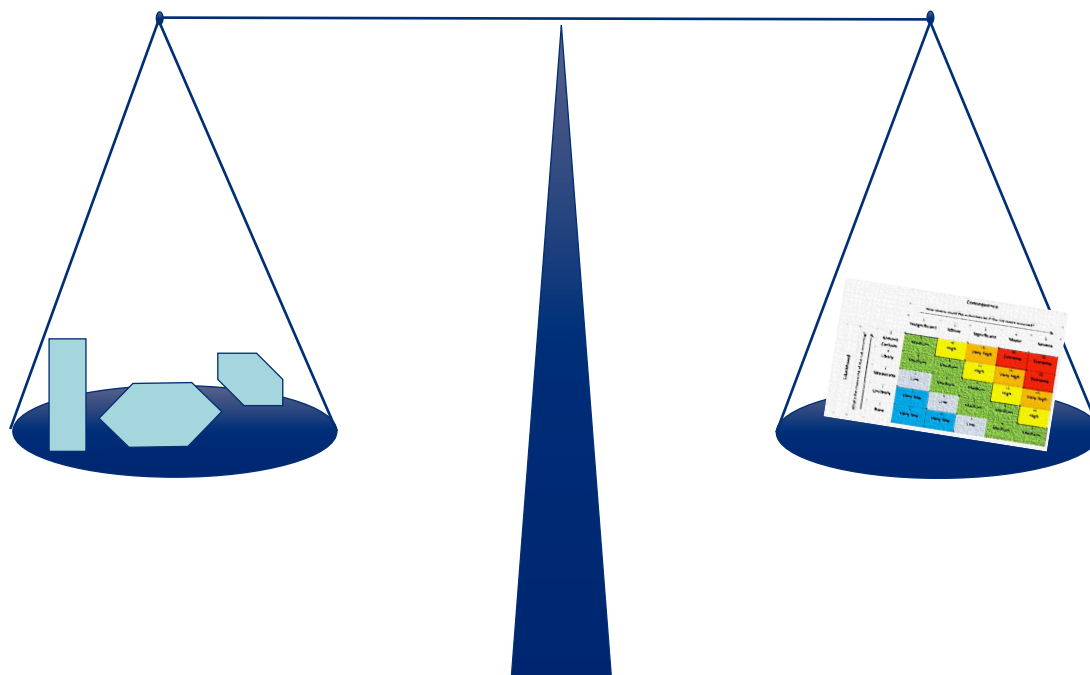
business plan

Affairs and TKI Wind op Zee



# A winning team

Tender Criteria: innovation!



Tender Criteria: feasibility!

# Match Making programme

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- Facilitate consortium organisation
  - Technology
  - Engineering & Construction
  - Operations
- Expression of Interest procedure
  - Match making workshops
  - Facilitate SME contributions
  - Increase the innovative content (tender criteria)
  - Limit the risks
- R&D programme
  - Involve scientific contributions
  - Knowledge institutes and universities

# Match Making

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- Partnering to create a viable and innovative project
- Short – Long term
- Innovation – Feasibility
- Technology – Construction
- SME – Large Companies

# Match Making process

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Expression of Interest



Match Making



Proposal Development

