Transportens Innovationsnetværk
Medfinansieres af Uddannelses-og Forskningsministeriet

”Speedboat launch”
Transport concept big wind turbines

1st meeting

Kick start - Formulate scope

Speedboat launch – Transport concept big wind turbines
Meeting #1, Wind Logistics Group, January 28, 2020
Kolding, Denmark

Welcome to LM Wind Power

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Your safety is our concern

- Fire-drills planned ?
- In case of an emergency – Evacuation procedure + exit

Agenda

First Half:

1000-1200:	Purpose of the group Formulate scope Timeline for the project Value creation Case example Group work
1200-1230:	Lunch

Agenda

Second half:

1230-1430:	Present findings / Discussion
1430-1445:	Coffee break
1445-1530:	Additions to the groups, funding
1530-1600:	Next Steps / Wrap Up

Introductions and members

- Let us briefly go around the room for introductions:

BBC Chartering	Mads-Peter Holk Poulsen
DIS	Education:
Energy Innovation Cluster	▪ Esbjerg Business College, (HHX), 2001
Head Energy	▪ Esbjerg Business Academy / Maritime College, (Diploma), 2003
Force Technology	▪ Siemens Management Institute (SE Asia), PMI Level 3, 2012
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FORCE Technology	2001-2003: C. Breinholt – Agency/Broking
MHI Vestas	2006-2009: Blue Water Shipping - Agency/Wind Projects
NorSea Group	2009-2010: deugro Beijing + Melbourne – Wind Projects
R&D	2010-2012: Siemens Wind Power Singapore – Transport/Tender/Construction
SiemensGamesa	2012-2013: SAL Heavy Lift Singapore – Sales/Projects
TINV/Panticon	2013-Present: BBC Chartering Singapore + DK – Global Wind Chartering
Vestas	

First half

- Scope, purpose, and launch of this speed boat

Your top 10 ranking of advance ideas

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Ranking	Project idea	Score	Type	Category
1	Cost reductions in wind logistics	3,9	Generic	Cost
2	New shipping concept needed for large new offshore turbines like GE 12 MW	3,9	Specific	Innovation
3	Internationalization to new markets	3,7	In-between	Internationalization
4	Standardization in wind logistics	3,7	Generic	Cost
5	Lack of USA infrastructure for offshore wind	3,6	Specific	Internationalization
6	Local content requirements of new markets	3,4	In-between	Internationalization
7	Vessel regulations in new markets (cabotage, flag, crew, and class requirements)	3,2	In-between	Internationalization
8	Sharing of knowledge available in Denmark/Europe before entering new markets	3,2	Generic	Internationalization
9	Tools for supply chain development. How to set up a supply chain from scratch, in part or in full (local content)?	3,0	In-between	Internationalization
10	Green fuels	3,0	Specific	Environmental

Purpose, Scope, Timeline, Value

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1. **Name:**
   - Concept group for transport of large wind turbines

2. **Purpose:**
   - Primary purpose of the group is to identify and point out constraints in the supply chain when transporting large MW wind turbines.
   - Secondary purpose of the group is to investigate whether these constraints can be mitigated or provide suggestions on how to solve them best possbile. This should help provide time and awareness to the industry of the challenges ahead. Meaning less risk/less cost through mitigation and carefull planning.

3. **Timeline:**
   - We must produce an ”update” by May for the next TINV meeting.
     - One meeting for this will be insufficient as topic is rather complex. Should there be another one-two meetings before May, so we have time to investigate current findings and evaluate ?
     - Creating milestones for our progress are essential

Purpose, Scope, Timeline, Value

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4. **Scope:**
   - Should the group be split to get more detailed input from its members ?
     - Factory to quay
     - Handling/Rigging/Operations in ports
     - Shipping from quay to quay
     - Geographical challenges + Infrastructure constraints in general
     - Onshore vs Offshore ?
     - 2 topics over 2 meetings ?

   - What should the approach of each area/group.
     - Ensure the group has enough knowledge about the assigned area in the supply chain.
     - Identify constraints and implications when starting to move:
       Blades larger than 75m in length
       10mw+ Nacelles
       Towers with 7-8-meter diam, weighing 300-400 mt, longest sec. 40m+

Purpose, Scope, Timeline, Value

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4. **Scope (continued):**
   - Identify only the most critical constraints that threatens to severely disturb the schedule timeline or will inflict significant increases in spending
   - Measure the impact of these constraints by using knowledge available in the speedboat or by including professionals who can assist
   - Work out a conclusion and plan for mitigation if possible
   - Identify stakeholders
   - More points ?

5. **Value creation:**
   - We as a group must define the criteria for value creation for these studies. The aim will for sure be to create value by trying to look beyond and try to mitigate loss of time, less risk and efficiency in pricing. But what is value to the group members ?

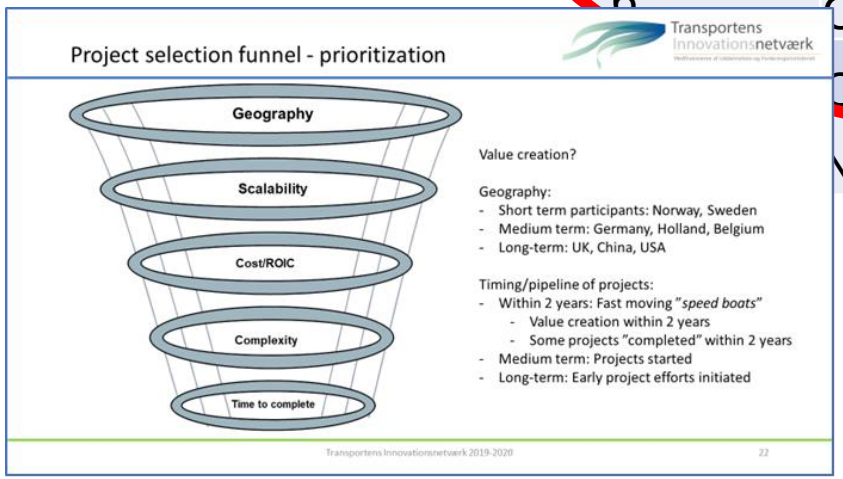
Purpose, Scope, Timeline, Value

Ranking	Criteria	Score
1	Return on investment	3,6
2	Scalability	3,6
3	Geography	3,4
4	Time to complete	3,4
5	Skills available to do	3,3
6	Cost of project	3,2
7	Complexity	3,2
8	New members needed	2,6

Top 3

Top 5

7 most relevant



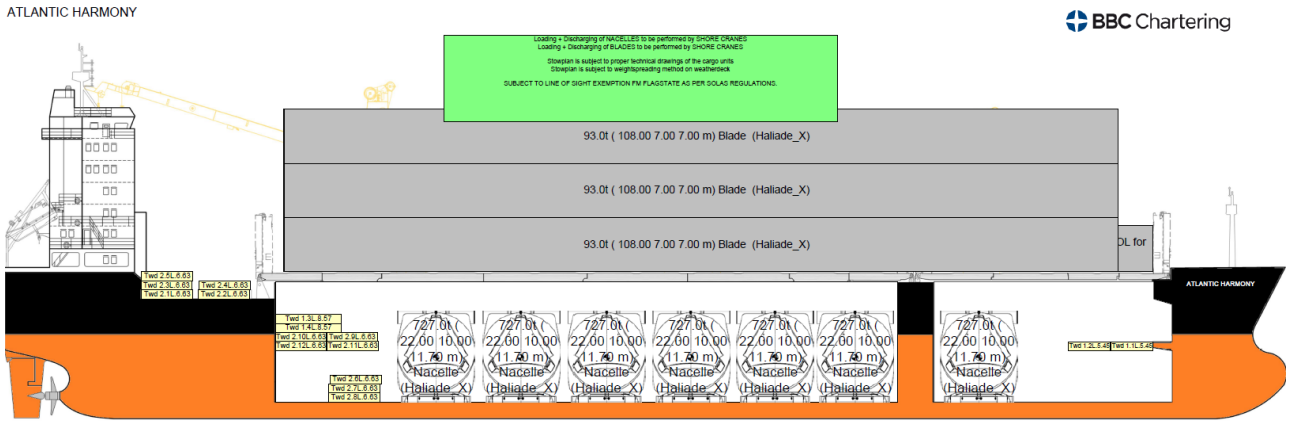
Slide from last meeting

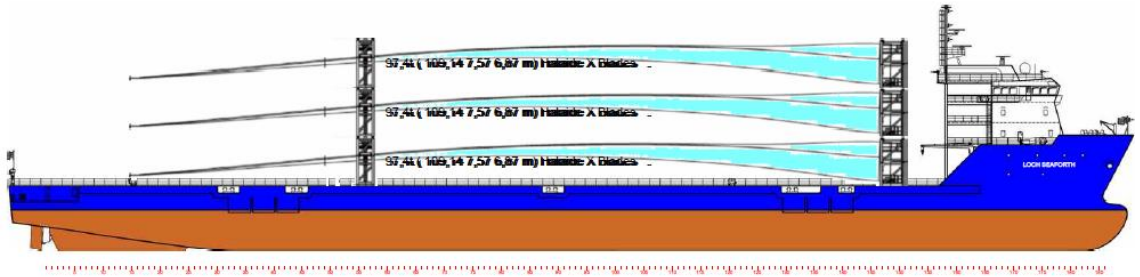
Example

Example quay to quay constraints for offshore turbines:

Key constraints:

- Delivery rates low
- Greater need for heavylift shore cranes
- Specialized ships expensive and few in numbers.





- Added cost: ??
- Mitigation: Investigate port infrastructures and alternative vessels. More studies needed
- Stake holders: Anyone shipping large WTG components and foundations
- Conclusion: There seem to be great risk involved for this scope. However the costs and understanding of capacity needs to further understood.
- Recommendation: Get in touch with carriers that transport offshore wind turbines to gain necessary knowledge on the subject. Run cost analyzis.

Group work

Group work

The objective of this workshop is to draw up a picture of which constraints the industry is about to get entangled in, looking ahead beyond todays challenges.

- **Group 1**:
- **Group 2**:

Please be ready to:

- Identify questions to the constraints you find
- Provide your answer
- Explain your discussions
- Review your findings on the flip-chart
- Answer questions from the group

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Please nominate:

- Captain
- Time keeper
- Flip chart paper note taker
- Presenter

Second Half

- Presentations, discussion, next steps

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Presentation of group results

Groups, Funding, Next steps

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1. **Capacity of the groups:**
   - Does the group have enough skilled insight and know how to identify constraints ?
   - Are the groups sizes ok ?
   - Other topics ?
2. **Are more members needed ?:**
   - Project developers, crane companies, EPCI´s, Foundation/Jacket producers, Forwarders, Ports, Installation vessel owners, more ?
   - Geography
3. **Funding:**
   - Some the investigations/tasks in this study will/could cost money. How do we fund it ?
4. **Next steps:**
   - Pick 1-2 most promising ideas from each group to work diligently on
   - Work further with ideas and involve necessary parties to evaluate constraints
   - Analyze further on resources needed for the group and make recommendations before next meeting
   - Agree on a new meeting date + topics

Wrap-up

Thank you to LM Wind Power