

The logo consists of the letters 'NLI' in a bold, white, sans-serif font, centered within a solid red square. The background of the entire page is a photograph of a wind turbine's nacelle and tower, showing the white cylindrical tower and the grey nacelle against a clear blue sky. A large red triangle is overlaid on the bottom right corner of the image.

**NLI**

Baltexpo 2013  
Hans Jørgen Rånes

# Agenda

## Trends and challenges in the maritime offshore market in Norway

- Price level of energy
- Extensive international competition
- Cost and execution schedule
- Requirements and demands from field developer
- Fulfilment of requirements from field developer and authorities
- Constantly growth in manhours spent
- Change from topside to sub-sea
- Risk mitigation in all steps and functions

## Price level of energy

- Wind Power – cost apprx Nok 2,0 pr. Kwh
- Solar Power – cost apprx Nok 2,0 pr. Kwh
- Gas Power – cost apprx Nok ,60 pr. Kwh
- Nuclear Power – cost apprx Nok ,40 pr. Kwh
- Hydro Power – cost apprx Nok ,20 pr. Kwh
- Wave Power – cost apprx Nok 4,50 pr. Kwh
- Oil Power – cost apprx Nok 1,0 pr. Kwh

# Extensive international competition

Felt/plattform	Operatør	Kontrakt 1	Kontrakt 2	Sum
Ivar Aasen	Det norske	Dekk: SMOE, Singapore	Jacket: Ikke tildelt	4 mrd. kr
Edvard Grieg	Lundin	Dekk: Kværner	Jacket: Kværner	11 mrd. kr
Mariner	Statoil	Dekk: Daewoo, Korea	Jacket: Dragados, Spania	11,5 mrd. kr
Martin Linge	Total	Dekk: Samsung/Technip Underleveranse, boligmodul: Apply	Jacket: Kværner	8,1 mrd. kr
Aasta Hansteen	Statoil	Dekk: Hyundai, Korea	Spar-skrog: Technip, bygges av HHI Korea	10,5 mrd. kr
Dagny	Statoil	Dekk: Daewoo Shipbuilding & Marine Engineering (DSME)	Detaljerte ingeniørtjenester, offshore sammenstilling og idriftsettelse: Aker Solutions	6,1 mrd. kr

**Totalt:**

**51,2 mrd.kr**

**Norsk andel: 13,6 mrd. kr.**

# Cost and execution schedule



Foto: Eri Norge

## PROBLEMER PÅ GOLIAT-PROSJEKTET



# Cost and execution schedule



NYE PROBLEMER: Yme-plattformen kan få problemer i de store bølgene i Nordsjøen. Foto: Maiken Ree

# Requirements and demands from field developer



ROTERE: Arendalsbedriften APL leverer svivelsystemet som båten skal kobles til. Skipet kan rotere rundt denne. Foto: APL

## Eksplasjonssikker Alvheim



## Ny rigg skal kunne operere i to meter arktisk is

Statoil håper på leveranse i 2018.



SØSTERSKIP: Eidesvik har gassdrevne skip med lik design som Viking Avant (bildet). Foto: Allan Klo / Eidesvik

## Vil ha krav om gassdrevne skip

Document no	Rev	Description
TR1096	4	Specification for pipe lay welding; installation by S-laying, amendment to DNV OS F101
TR1098	2	Submarine Pipeline Systems
TR1114(*)	3	Thin film internal epoxy coating for pipelines
TR1115	2	External coating of bends, anchor flanges and spools
TR1230	4.01	Subsea Structures, Manifolds and choke modules

# Fulfilment of requirements from field developer and authorities



Supplier qualification and ability to demonstrate compliance

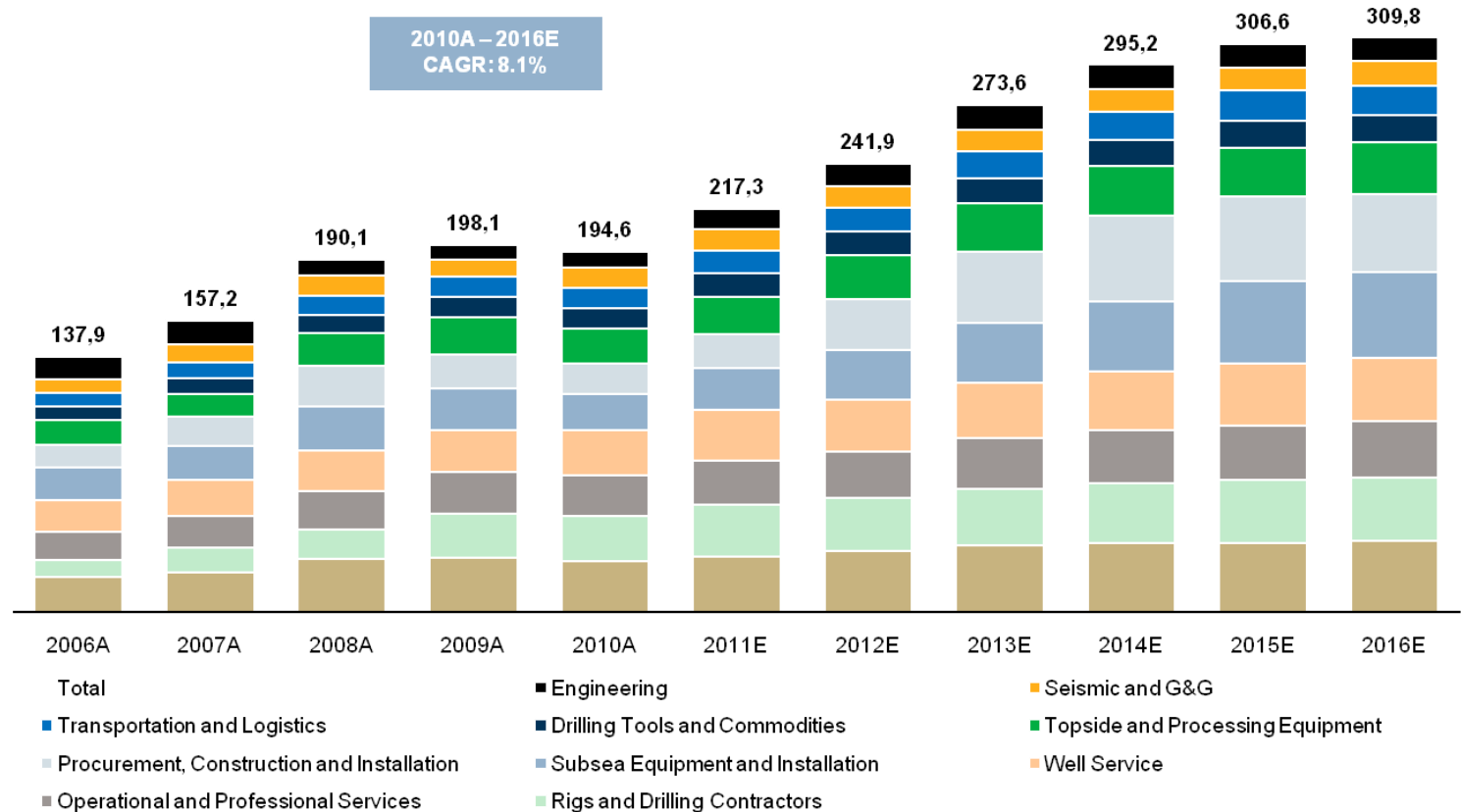
- Norwegian suppliers have more than 40 year experience
- Foreign suppliers need time to understand and comply to regulations
- Impact of deviations may be dramatic



# Constantly growth in manhours spent

- 50% more manhours executed pr. oil equivalent today compared with year 2001
- Cost pr. hour for engineers are not very different world wide
- Reason for this direction of development
  - Many new employees
  - Challenging requirement from customers
  - Norsok as guideline and company specifications
  - Method of collaboration

# Change from topside to sub-sea



# Risk management and mitigating actions

- Compliance to risk management systems and standards
- Continuous improvement
- Expectation is handling by risk owner
- Aggregated risks from all levels