

#### Fortid, nåtid og fremtidig Subsea Teknologi

Erik H. Sæstad

VP & General Manager



#### Oceaneering International Inc.

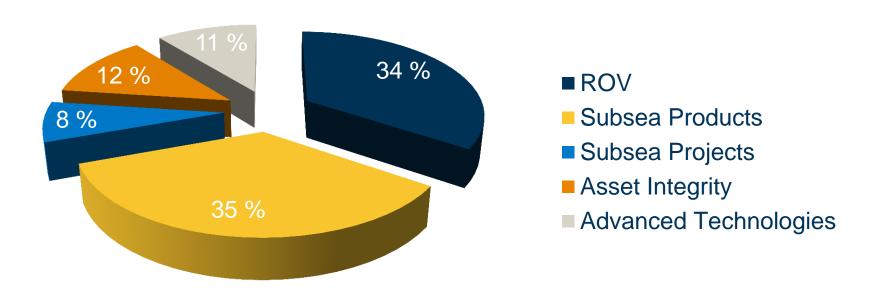


- Founded in 1964
- Listed on NYSE
- 67 locations in 21 Countries
- Approximately 12 000 Employees
- \$ 2,5 billion yearly revenue
- Operate from 7500 msw through to outer Space



#### Solving Challenges from Sea to Space

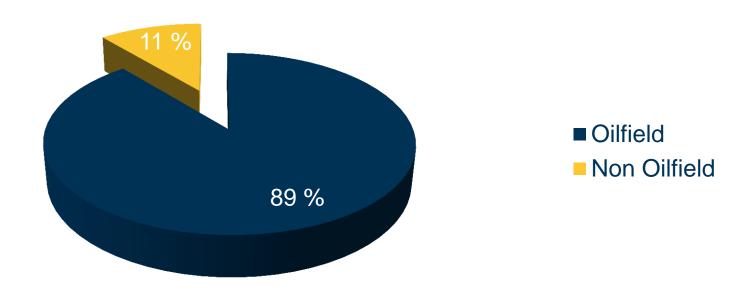
**Business Segment Revenue (2011)** 



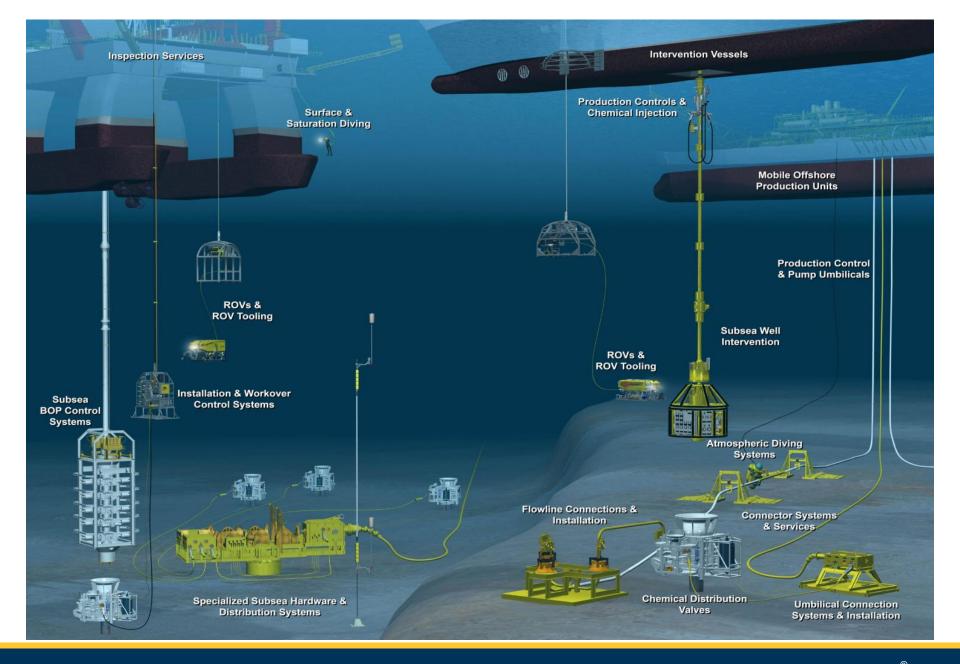


#### Solving Challenges from Sea to Space

Oilfield / Non Oilfield (2011)









### The world of Oceaneering

From sea to space









# Oceaneering AS - Norway



ROV Operations



Remote Intervention Technology



Rental & Maintenance



Subsea All Electric



Dredging & Decommissioning



Rotator Valves



Umbilical Solutions



#### Oceaneering in Norway



- Started in 1973
- Approximately NOK 2,5 mrd yearly revenue.
- Approximately 1400 permanent employed personnel
- Located in Stavanger, Bergen, Kristiansand, Trondheim, Fredrikstad, Florø, Mongstad, Ågotnes og Kristiansund.



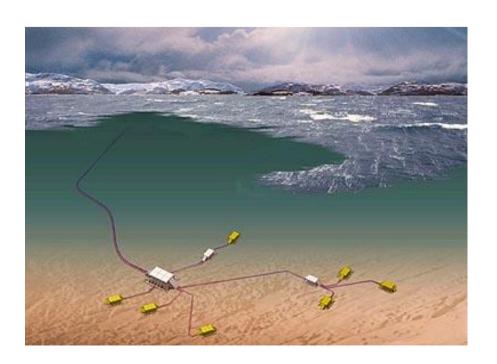
# Fortid, nåtid og fremtid...

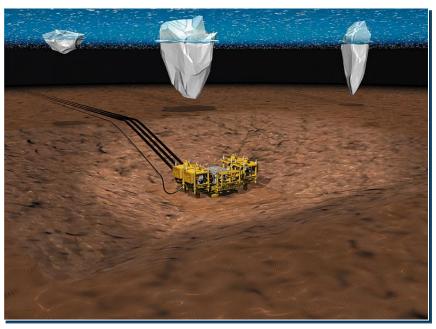






#### Harsh environments...





Norway/Barents Sea; East Canada; Sakhalin... anywhere harsh weather, hydrocarbons, and ,sometimes, deepwater meet.



#### It really does look like the artists impression!











# At work...





### Remotely Operated Vehicles



Maxximum ROV Very Heavy Workclass 330 HP



Millennium ROV Heavy Workclass 220 HP - 4000 Mtr Rated



Magnum ROV Workclass 170 HP - 4000 Mtr Rated

Almost 300 WROV systems are currently in operation



SeaMax ROV Eyeball 3000 Mtr Rated



Spectrum ROV Light Workclass 3000 Mtr Rated



#### Nåtid





### Fortid - TREC på Ekofisk





#### Nåtid - EMagnum & Minimum

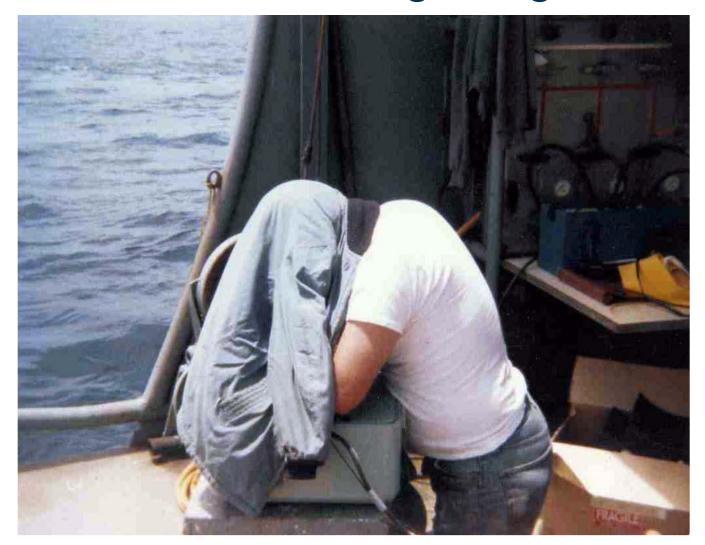




EMagnum & Minimum @ 6,500ft.



# Et kontrollrom er veldig viktig offshore...





# "Hva mener du med at du ikke kan se noe?"



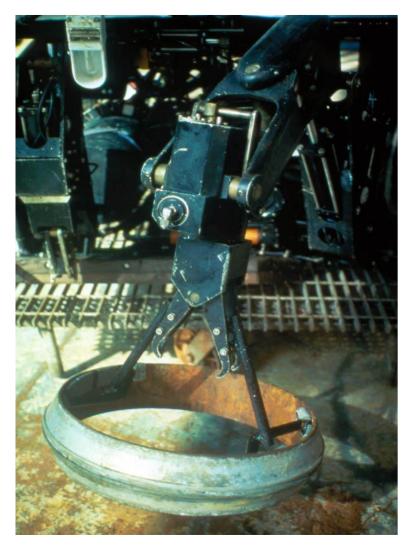


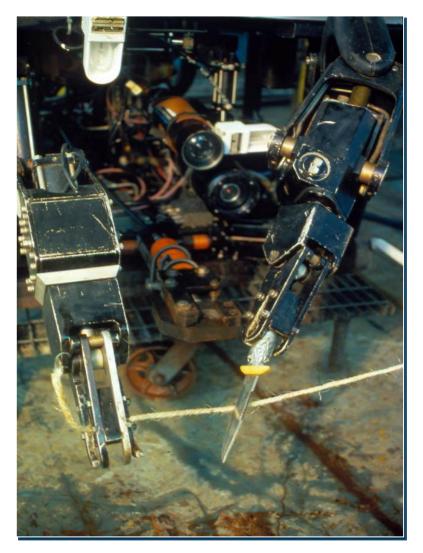






# Fortid - ROV Tooling!







# Nåtid – et stort utvalg av ROV Tooling







#### Nåtid - Deepwater Tooling and Work Packages







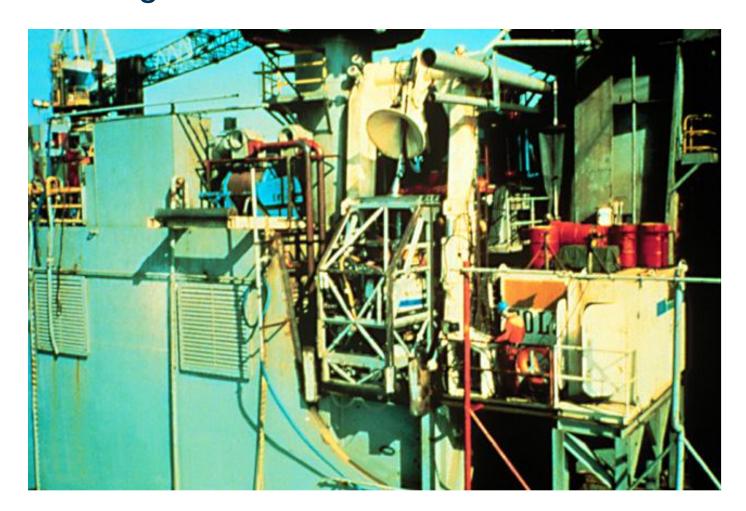


# Fortid - a ROVSV!





#### Of course we'll give you the primo location! Nothing but the best!





### ROV Services – Vessels & Barges







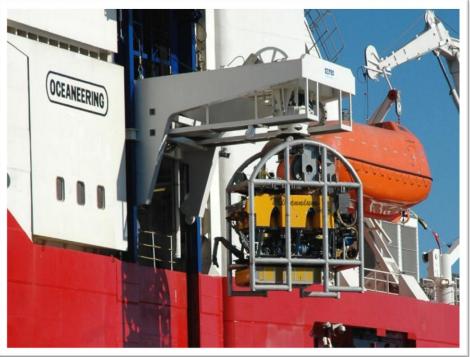




# **ROV System mobilization**

What you get vs what you need







# Nåtid - BOA Deep C





#### Back to the future.....





# **Dueling Magnums**





# SAFETY The critical paradigm



LOTO **Near Hits** 

**TAPROOT Audits** 

**TRIR Training** 

**JSEA** LTA

**Corporate Action** Committee

And more...







# Fortid.....





# En slags hjelm eller?





#### Fortid – hvor var dette?





# Noen tanker om fremtiden



# Loop currents? No problem!





# Some Technology Needs

- All Electric Subsea Equipment
- ROV/AUV with intervention capabilities
- Intelligent & Self Repairing Control Systems
- Local Subsea Processing



#### Subsea All Electric

#### **Featuring New Technology**

- Electrical Actuators
- Multifunctional Subsea Connectors
- Subsea Power Banks& Control Systems

Development driven from Norway





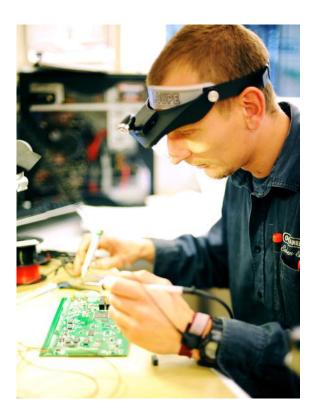




#### Subsea All Electric

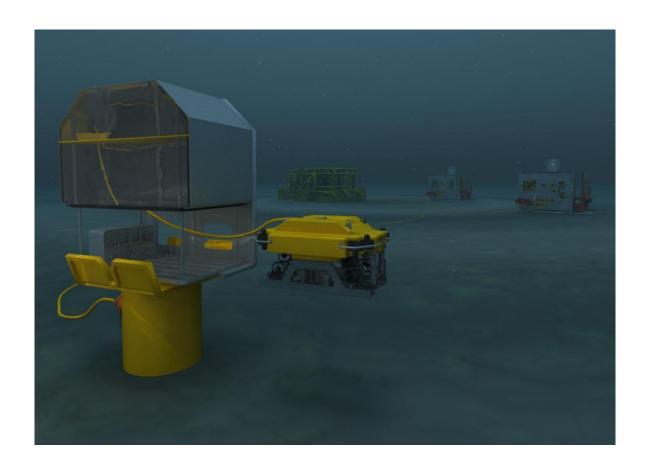
#### Innovative technology offers major advantages:

- Increased energy efficiency
- Quicker response time
- Fewer potential failure points
- Easier maintenance
- Easier installation
- Reduced risk of pollution



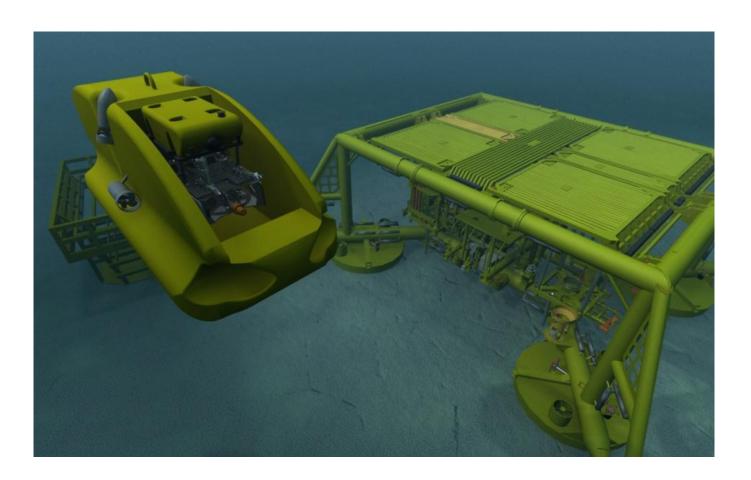


#### Resident ROV





#### Resident ROV





#### The future is here!





#### Thank You for Your Attention!

For more information please visit:

www.oceaneering.no

