

> HEAVY WELL INTERVENTION VESSEL THE NEXT GENERATION



ULSTEIN DX105 - HEAVY WELL INTERVENTION VESSEL

Offshore Vessel & Rig Connect Asia – Offshore Drilling Rigs

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INTRODUCTION

- Ulstein and Herrenknecht Vertical have formed a design cooperation for an integrated Heavy Well Intervention Vessel



- Herrenknecht is world market leader in TBM (Tunnel Boring Machines). They develop and manufacture innovative deep drilling systems to exploit energy resources
- Ulstein Design & Solutions BV is one of the world market leaders in design of complex offshore construction vessels and drillships

WELL INTERVENTION

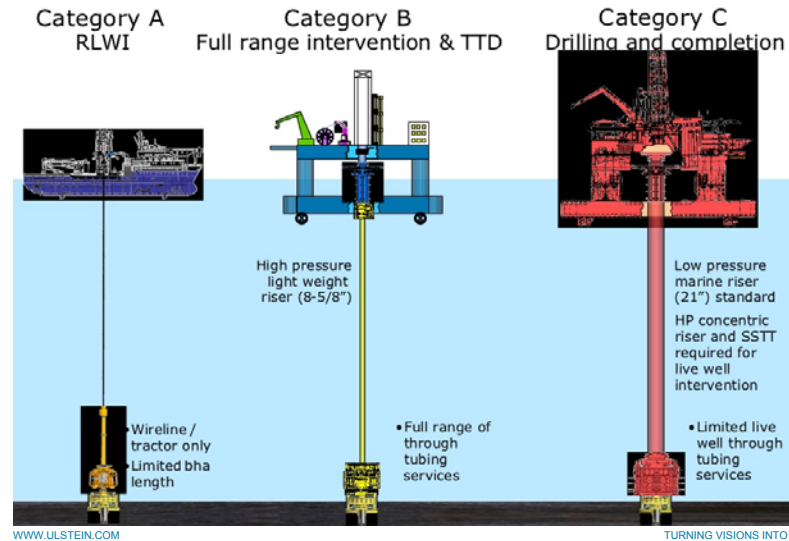
- Any operation carried out on a well, basically to maintain and/or improve the production of the well

Two main categories:

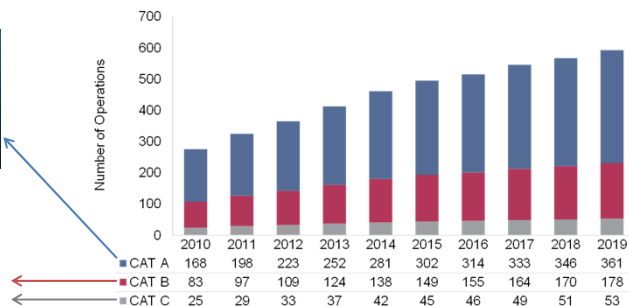
- Light interventions (open water), downhole tools may be lowered on slick or wireline to perform logging, plugging, perforating etc.
- Heavy interventions (riser based), a high pressure riser is used as a conduit between the seafloor and the vessel. Downhole tools may be lowered through the riser on wireline, slick line or coiled tubing.



WELL INTERVENTION CATEGORIES



MARKET WELL INTERVENTION



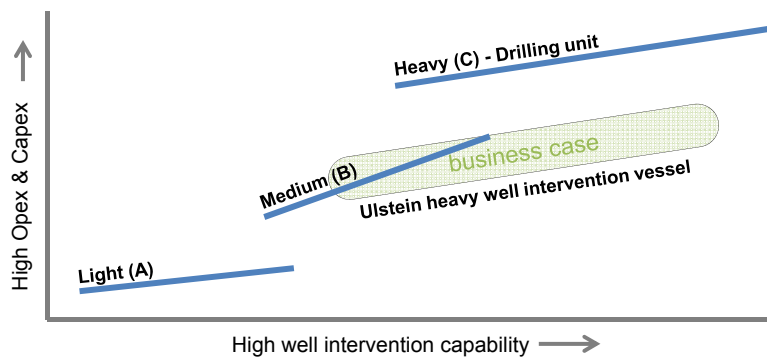
Subsea Well Intervention Workover and IRM

Douglas - Westwood

BUSINESS CASE

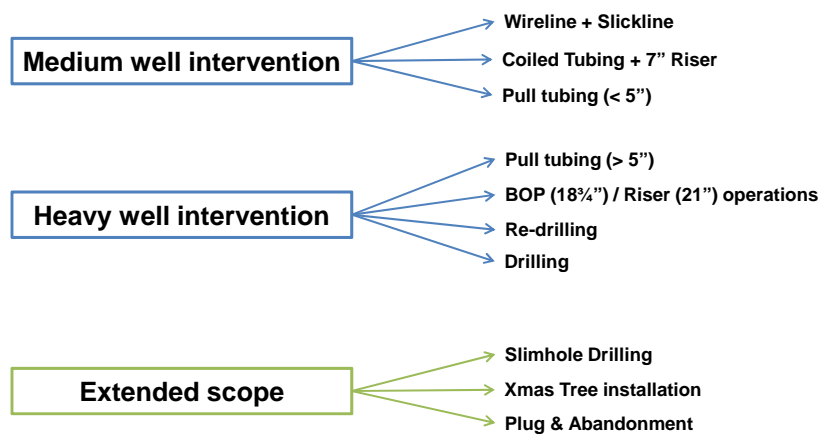
WELL INTERVENTION

- ▶ A well intervention vessel with capabilities close to a Drilling vessel, but with much lower CAPEX and OPEX



BUSINESS CASE

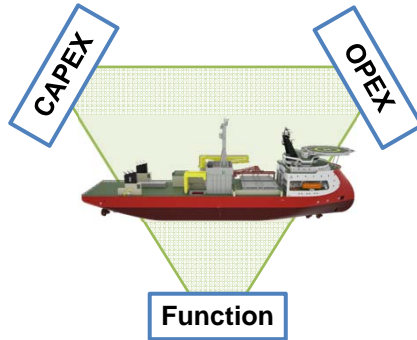
MARKET SEGMENTS



DESIGN TARGETS

WELL INTERVENTION

vessel 100 m\$
topside 60 m\$



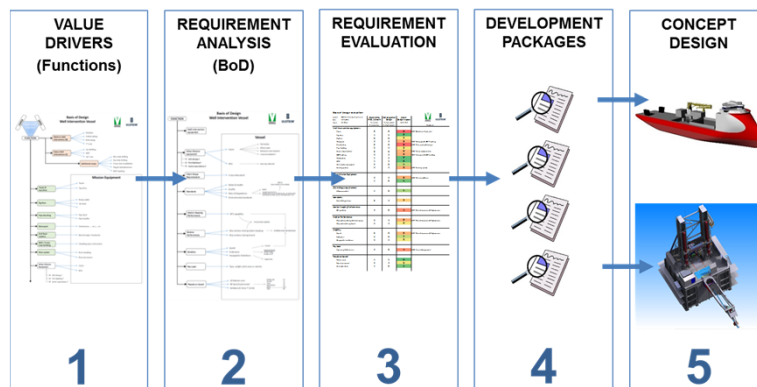
200 - 250 k\$/day

Heavy & Medium deepwater well intervention
+ Extended scope

DEVELOPMENT PROCESS

VESSEL AND EQUIPMENT

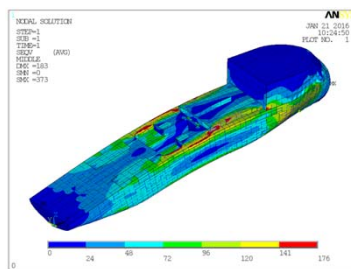
- Ulstein Design Process (UDP) used to develop the vessel and equipment in synergy



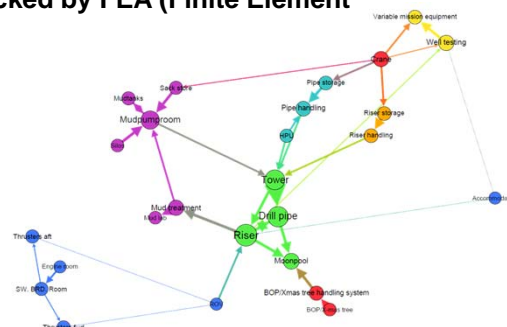
DEVELOPMENT PROCESS

VESSEL AND EQUIPMENT

- Main dimension optimised to improve uptime
- Network theory applied to optimize vessel arrangement
- Global hull strength checked by FEA (Finite Element Analysis)



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TURNING VISIONS INTO REALITY

ULSTEIN DX105

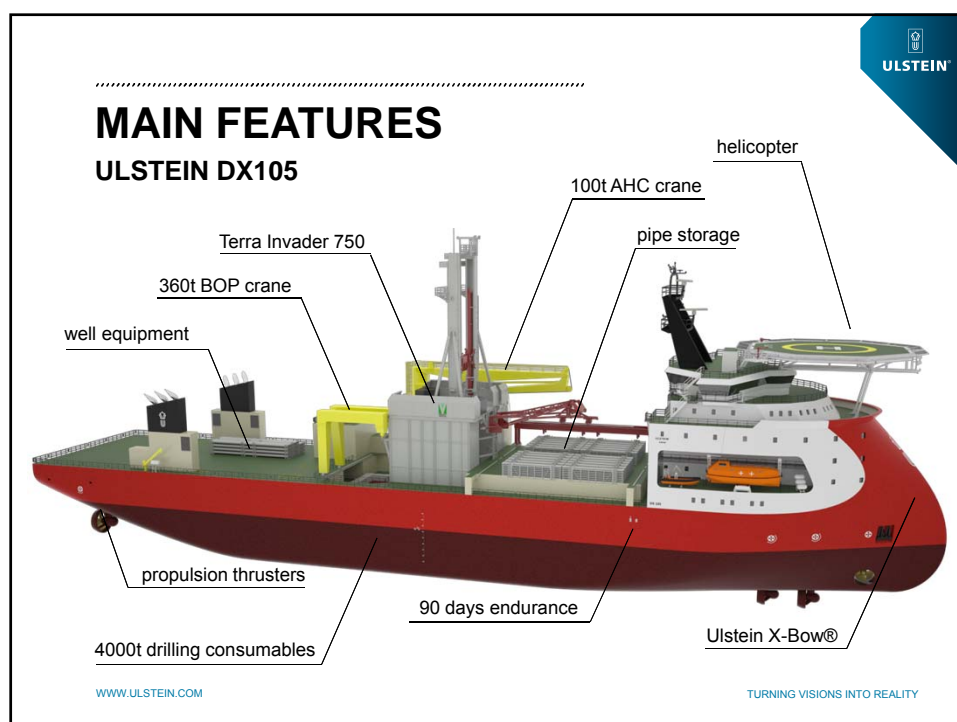
HEAVY WELL INTERVENTION VESSEL

General specification	
Length	154.4 m
Beam	29.4 m
Draught max	9.0 m
Deadweight	13000 ton
Total deck area	4000 m ²
Speed	15 knots
Station keeping	DP 3
Class	DNV (SPS & MODU)

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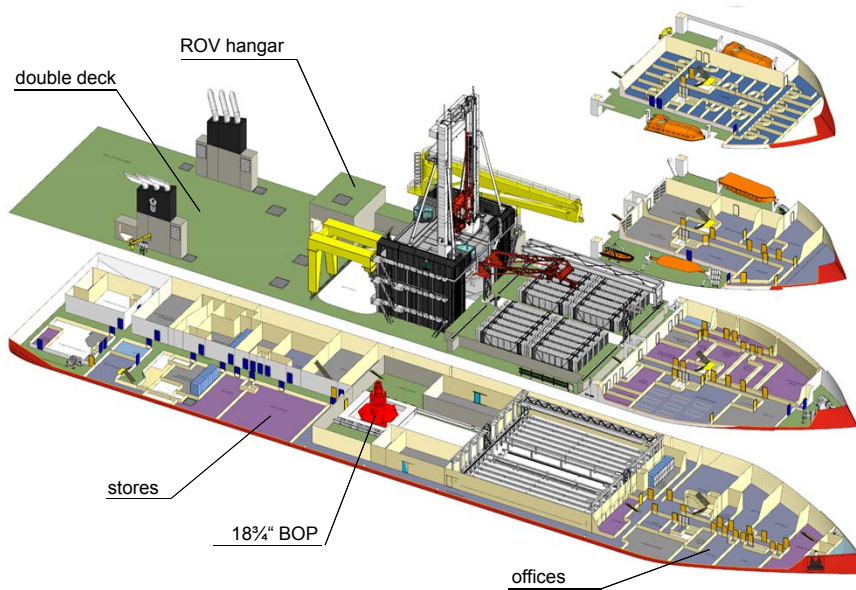
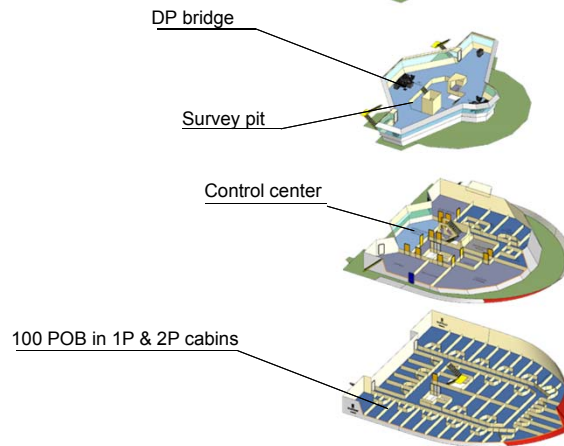


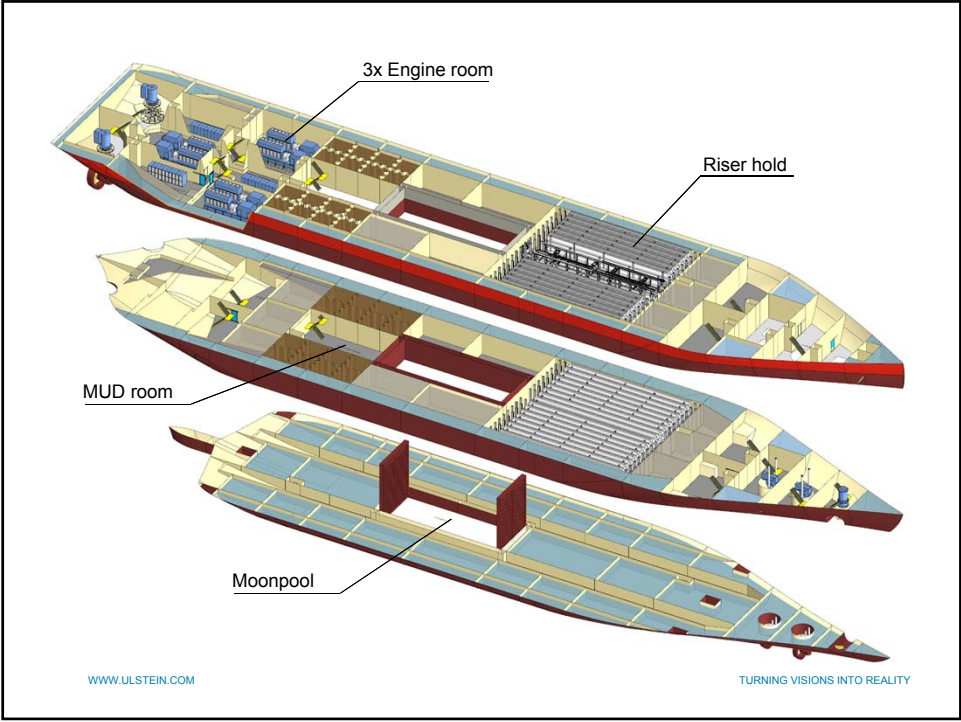
TURNING VISIONS INTO REALITY




ARRANGEMENT

ULSTEIN DX105




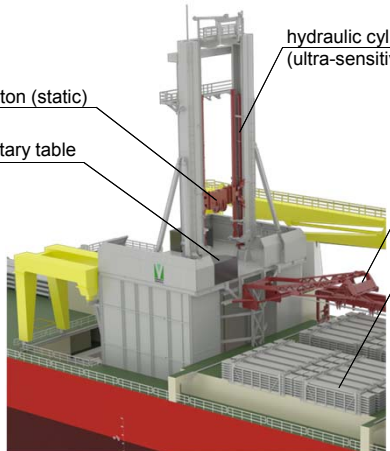




HVG TERRA INVADER 750

WELL INTERVENTION TOWER





hydraulic cylinder hoist system
(ultra-sensitive push and pull)

main hook 750 ton (static)

49½" rotary table

semi-automatic pipe handling tool
(horizontal setback)

drill pipe 3½" - 5" (35.000 ft)

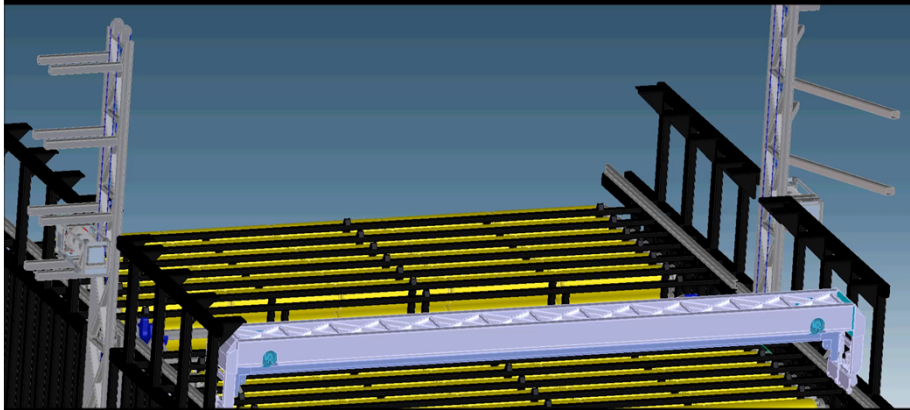
option	I	II
BOP	13⅝"	18¾"
riser	16"	21"
water depth	2500m	1500m

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TURNING VISIONS INTO REALITY

HVG TERRA INVADER 750

RISER HANDLING

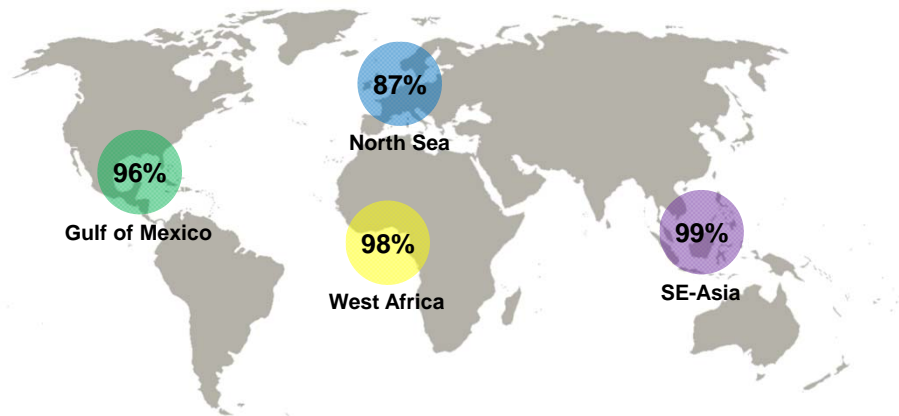


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TURNING VISIONS INTO REALITY

DESIGNED FOR UPTIME

ULSTEIN DX105 & HVG TERRA INVADER 750



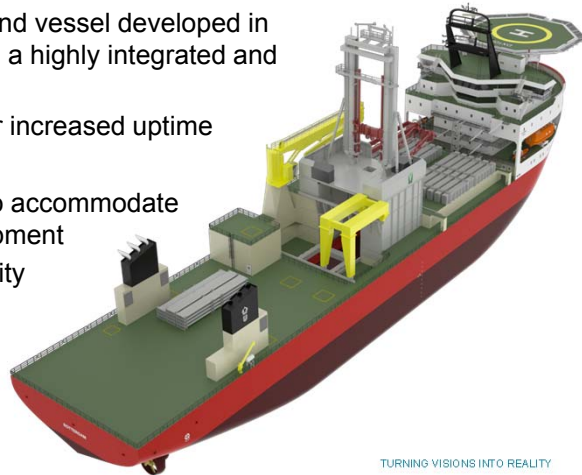
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TURNING VISIONS INTO REALITY

CONCLUSIONS

ULSTEIN DX105

- Intervention tower and vessel developed in synergy; resulting in a highly integrated and compact design
- Vessel optimized for increased uptime
- Large deck space to accommodate additional well equipment
- High payload capacity



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TURNING VISIONS INTO REALITY

PLEASE BE IN TOUCH!

ULSTEIN DX105 - HEAVY WELL INTERVENTION VESSEL



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