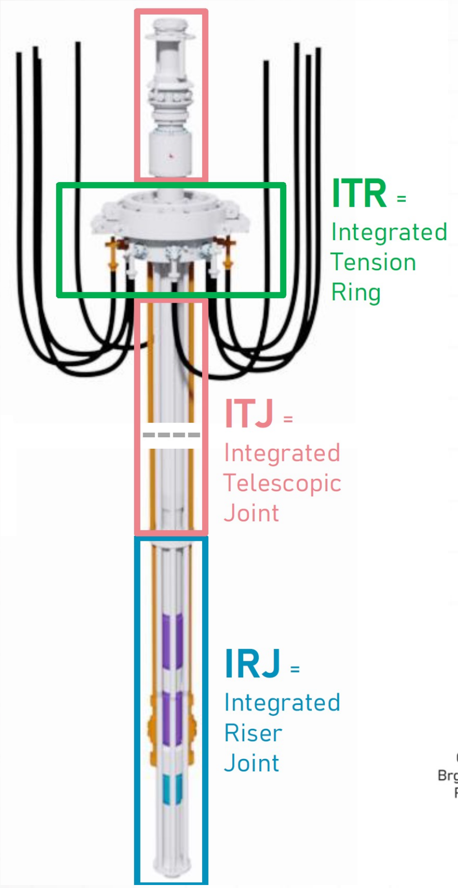
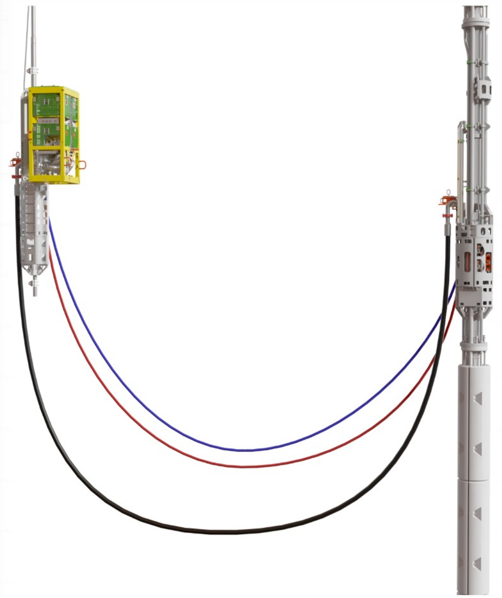
MPD technology readiness for Harsh Weather challenges

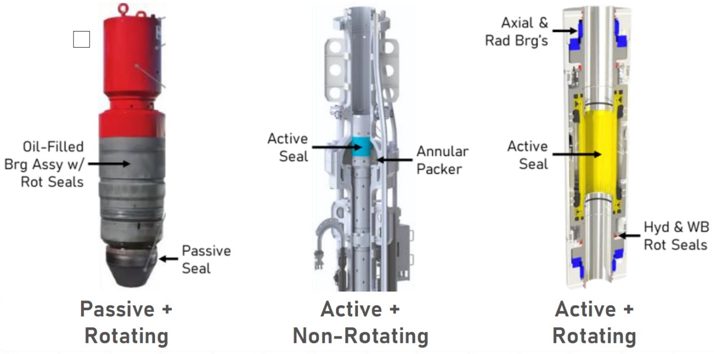
Drilling Contractors perspective on technical readiness for deployment of MPD solutions on NCS/Harsh Weather Semis

Borekonferansen 2025

MPD TECHNOLOGY READINESS FOR HARSH WEATHER CHALLENGES







Technology available, why not used on the NCS and on the Harsh Weather semis?

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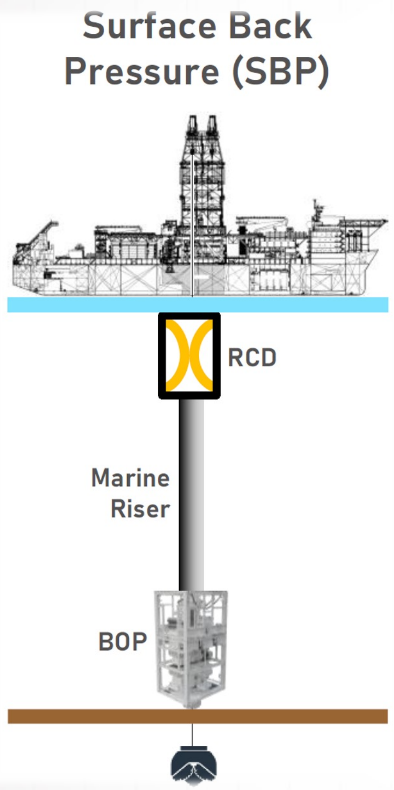
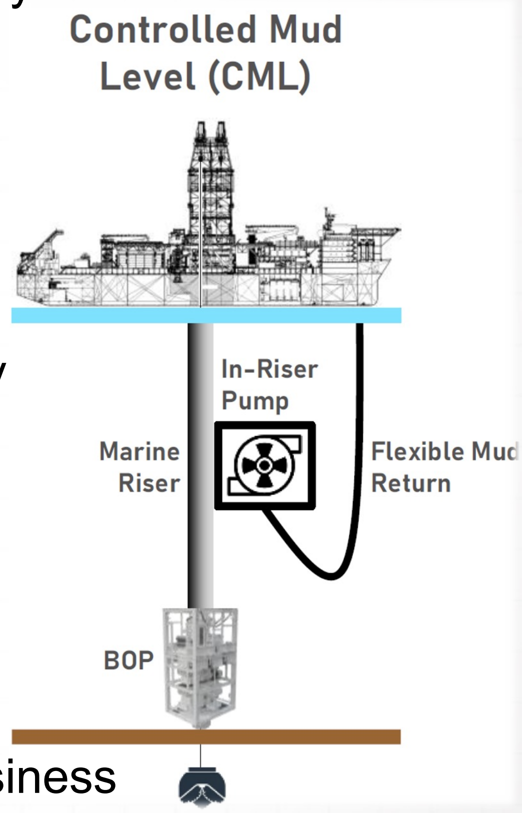


What are the issues with current MPD systems?

- ➢Expensive installation - also impacting available well construction days.
- ➢Customized and not fully integrated into the rigs
- ➢Reliability not meeting the expectations
- ➢Lack of redundancy/robustness – Pull to surface for repairs
- ➢Excessive rig up time when running/pulling
- ➢HSE risk/personnel safety exposure
- ➢Service/Maintenance requirement impacting function / rig availability
- ➢Patent issues?

Harsh weather elements considered?

- ➢ Heave - Response/control requirements?
- ➢ Handling/running requirements? WOW and HSE?
- ➢ Harsh Weather/NCS requirements aligned/understood to build business cases?
- ➢ MPD? CML? Both?



K-BOS BUSINESS CASE WHEN DEPLOYED OUTSIDE NCS

The NCS and Harsh Weather operations risk picture is different – the business cases drivers changes – it drives changes in design

K-BOS Safety and operational benefits;

- ✓Increased shearing capabilities
- ✓Shear all planned drill-string components
- ✓Shear in milli-seconds.
- ✓Seal in same operations
- ✓BSR seal after disconnect maintained.
- ✓Continued monitoring vs regular function testing

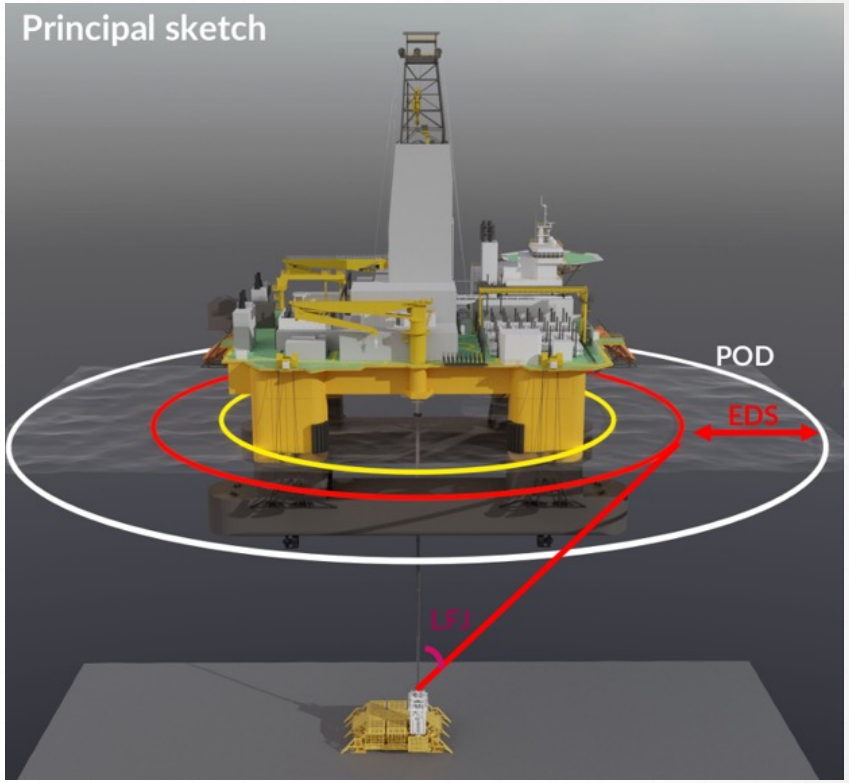
K-BOS BUSINESS CASE FOR NCS

Shallow water operational and economical benefits;

- ✓Reduce total EDS time from 33 sec+ to 3-5 sec
  - ✓Enabler for Shallow Water DP

But also…;

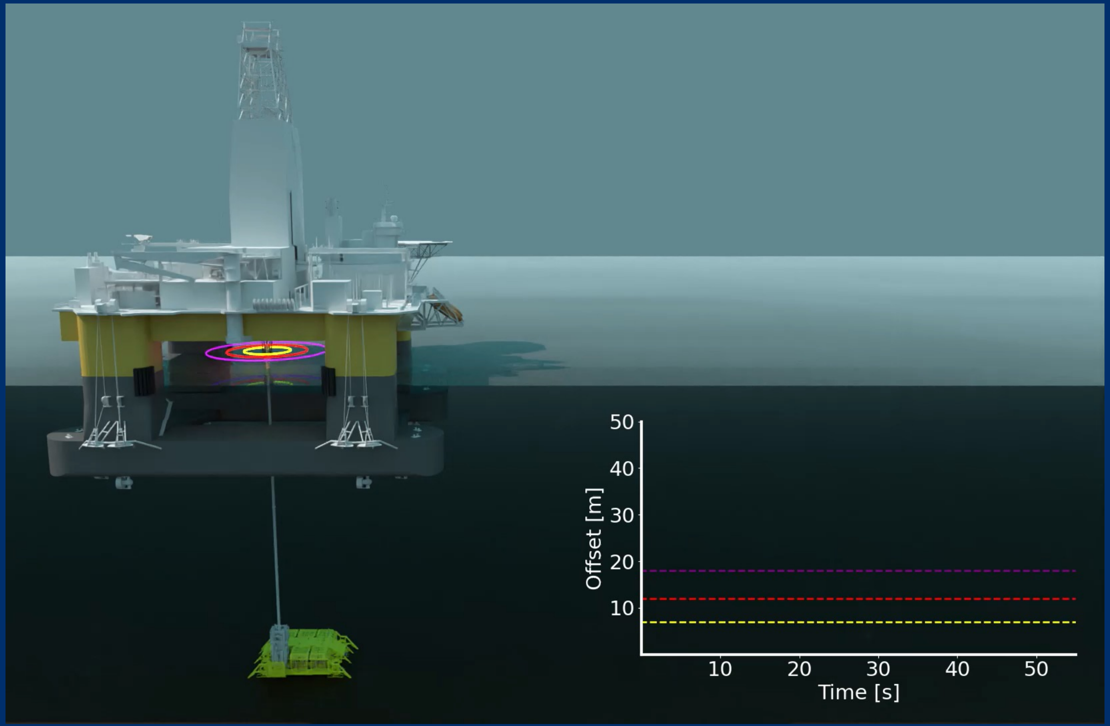
- ✓K-BOS Safety and operational benefits;
  - ✓Increased shearing capabilities
  - ✓Shear all planned drill-string components
  - ✓Shear in milli-seconds.
  - ✓Seal in same operations
  - ✓BSR seal after disconnect maintained.
  - ✓Continued monitoring vs regular function testing



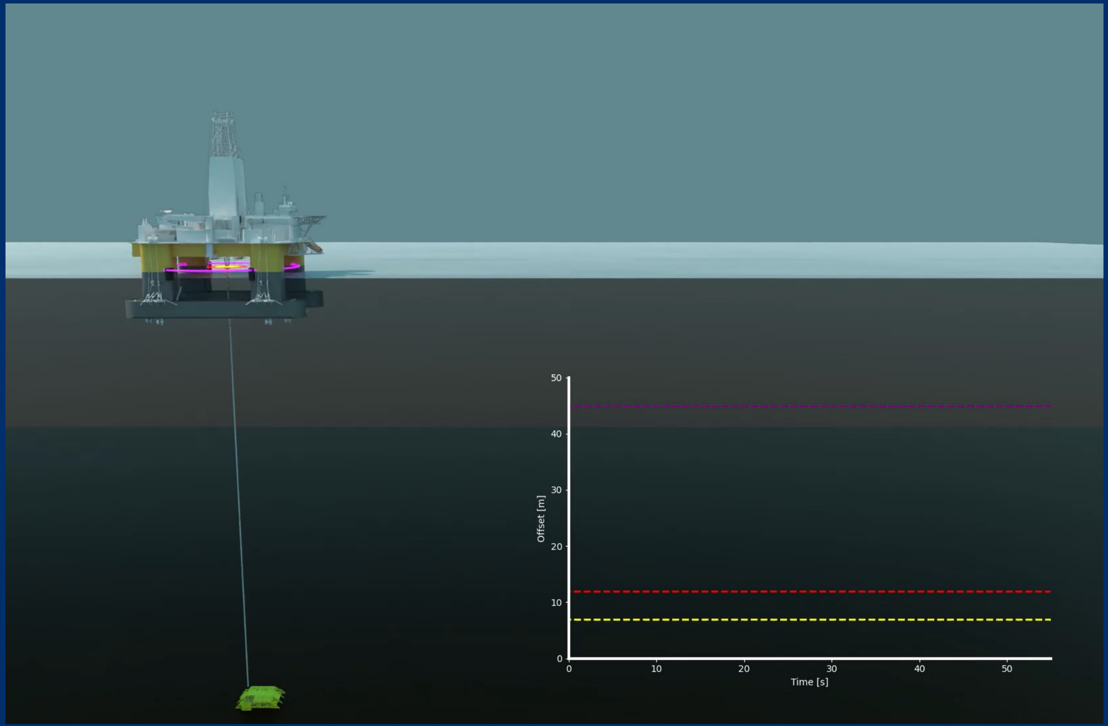
Courtesy Odfjell Drilling

Dynamic positioning - Auto Emergency Disconnect Sequence

100m water depth



300m water depth



MPD TECHNOLOGY READINESS FOR HARSH WEATHER CHALLENGES

- Align the requirements
- Define and clarify the demand

When the requirements are aligned, the demand is understood, the GAP can be closed and business cases confirmed