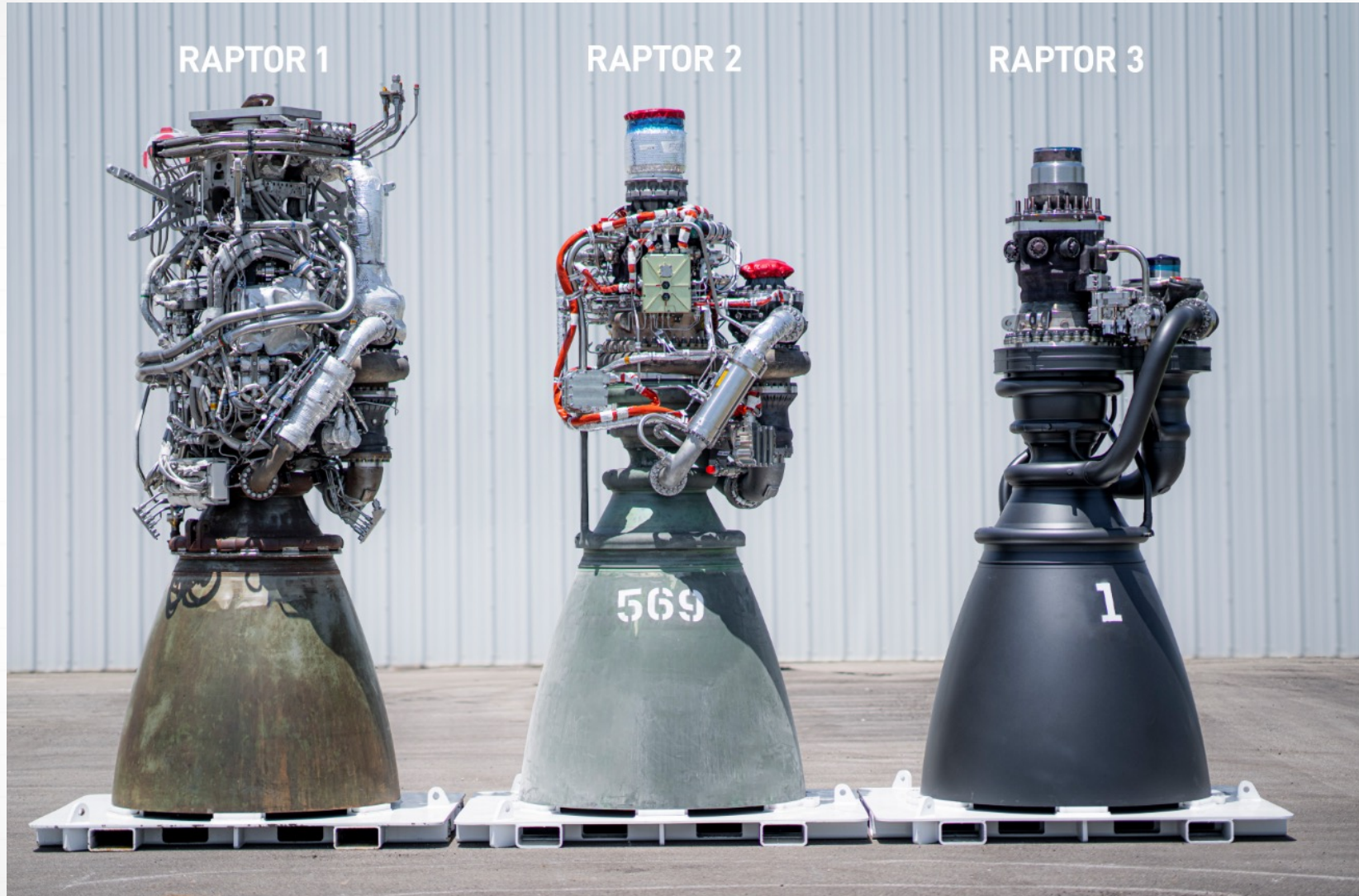


Borekonferansen 2024 - Transocean

Samhandling – Mer for pengene

5-6 Nov. 2024

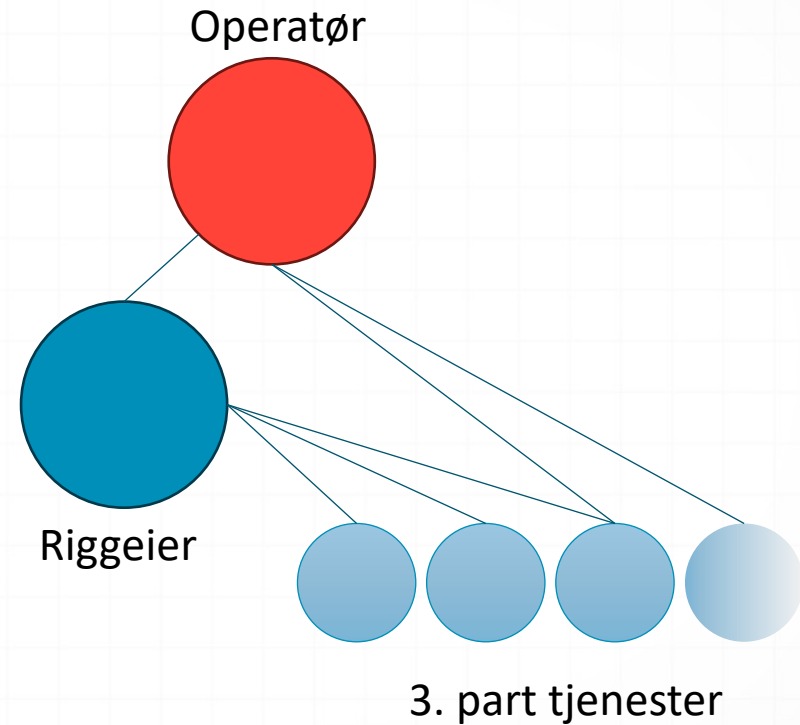
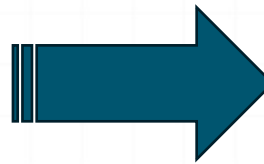
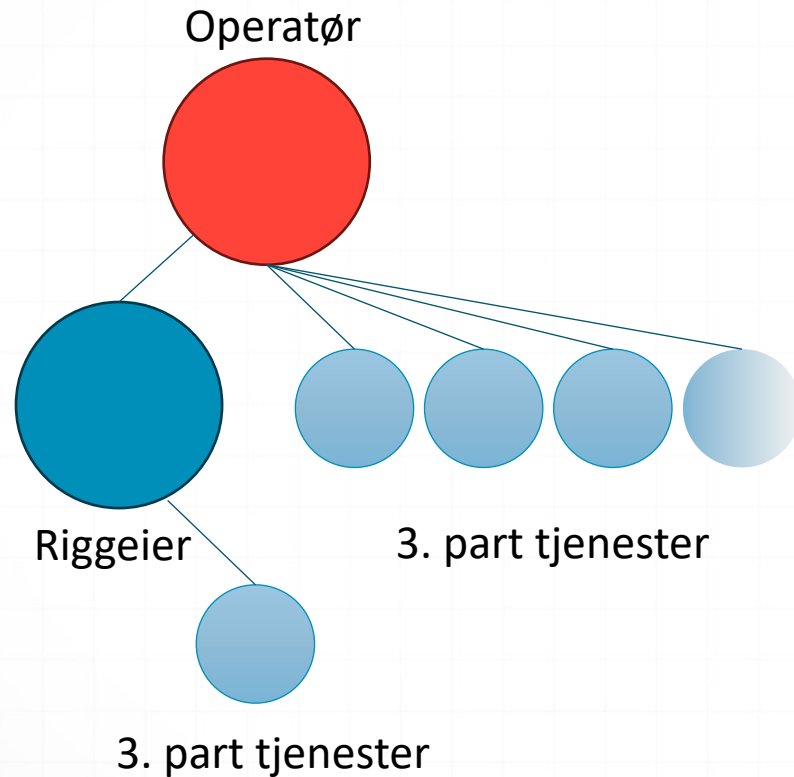
SPACE-X - UTVIKLING AV RAKETTMOTORER



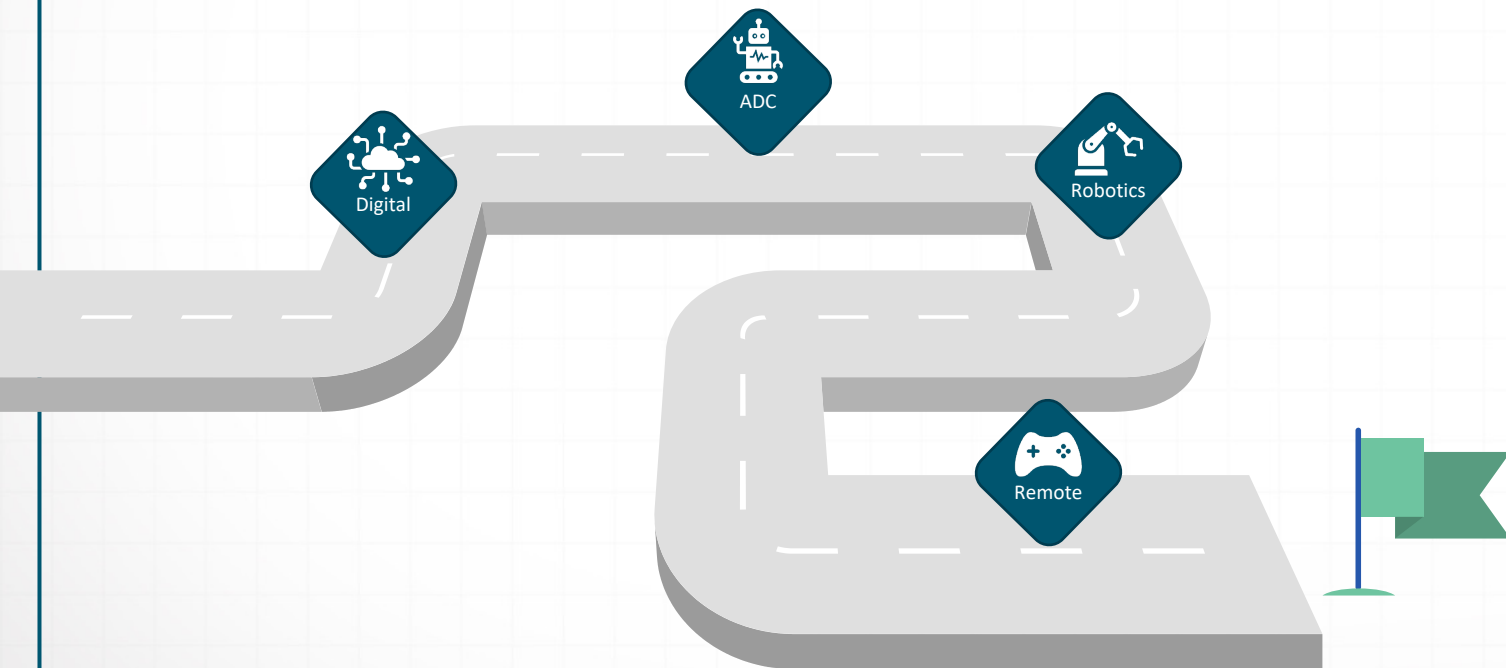
5 år

Performance	
Thrust	Raptor 1: 185 tf (1.81 MN; 408,000 lbf) ^[5] Raptor 2: 230 tf (2.26 MN; 507,000 lbf) ^[6] (sea-level) • 258 tf (2.53 MN; 569,000 lbf) ^[7] (vacuum) Raptor 3: 280 tf (2.75 MN; 617,000 lbf)
Thrust-to-weight ratio	Raptor 1: 88.94 Raptor 2: 141.1 Raptor 3: 183.6

SAMHANDLING – KONTRAKTUETT, OPERASJONELT OG TEKNISK – KOMPLISERT MED STORE MULIGHETER



VÅR VEI TIL AUTONOME OPERASJONER – 2019 - 2024



Integrated Operations

-  A true One Team
-  Training & Competence
-  Ops Center to Ops Center
-  Connectivity
-  Data Integration

VÅR VEI TIL AUTONOME OPERASJONER



 Integrated Operations

-  A true One Team
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CREWHAWK

User View

ADMINISTRATOR

User Login

▶ INSTALLER

▶ CHANGE PASSWORD

▶ Dev. Sign In/Out

▶ Crew

▶ Equipment

▶ Crew sign in

▶ Auth Matrix

▶ Shutdown



▶ Create Zone



Operating Mode

0 Drilling

ZONE CONFIG

STAIRS TO FWD SERVICE DECK
STATIC ZONES LIST

DYNAMIC ZONES LIST

Enable click and drag

▶ Operating Mode

11:38:04

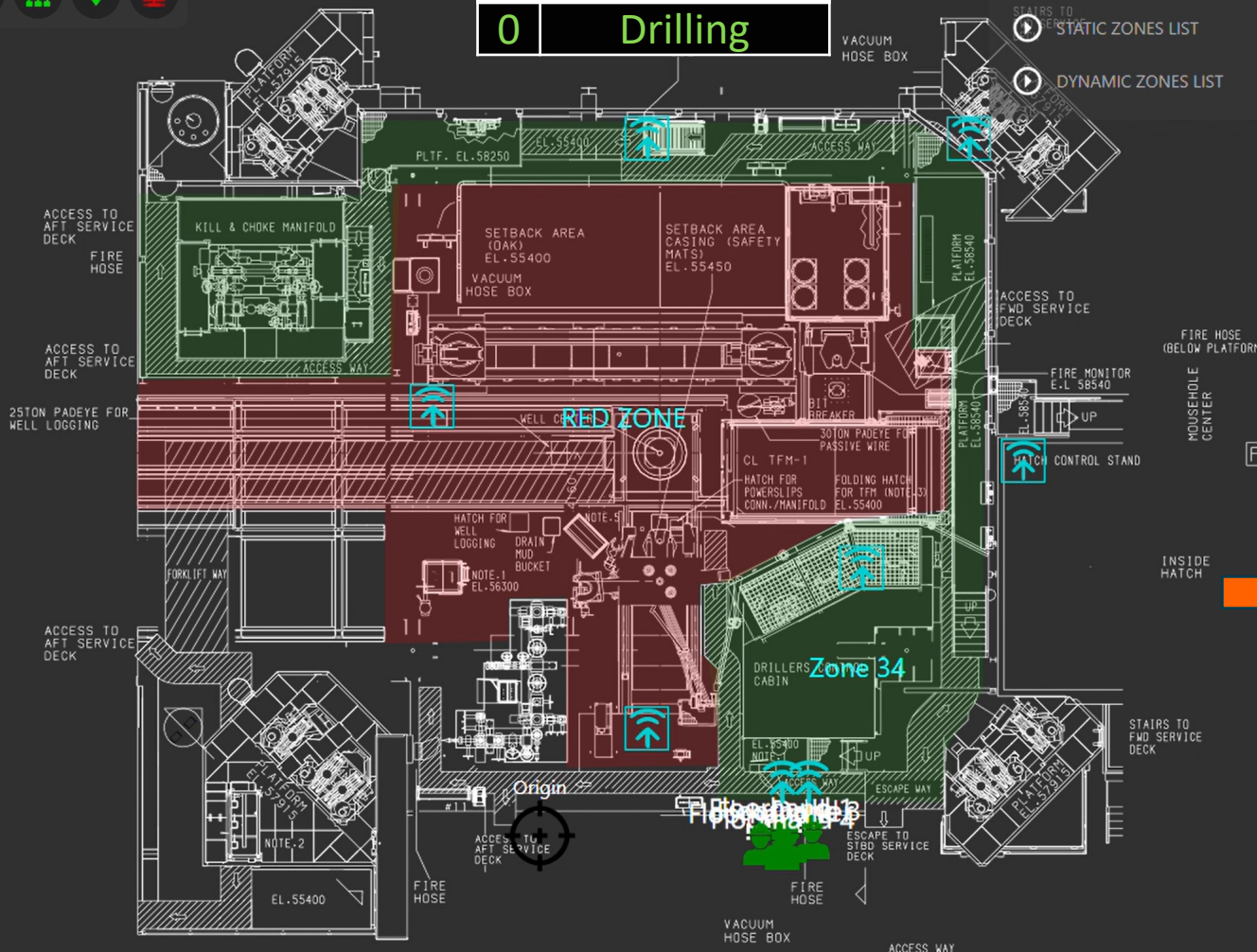
Wednesday, Nov 30 2022

Current system state

HEALTHY

Operating Mode

xx	Black zone
0	Drilling
xx	Maintenance
1	Make up BHA
2	Run BHA
3	Tripping in Drill Pipe
4	Tripping out Drill Pipe
5	Pull BHA
6	Lay out BHA
7	Run Conductor
8	Run Large Casing
9	Run Riser
10	Run Casing Singles
11	Run Casing Stands
12	Pick up & Lay down Cement Head
13	Run Lower Completion
14	Run Upper Completion
15	Pull Riser



People

Equipment

Gateways

Device Issues (0)

Alarm and Event Summary

Auto ackn.

Acknowledge All

Alarms

Warnings

Zones

5

0

9

11/30/2022 11:36:57 AM 43000201 DANGER RED ZONE DANGER ZONE ALERT Acknowledge

11/30/2022 11:36:32 AM 43000090 DANGER RED ZONE DANGER ZONE ALERT Acknowledge

3

0

2

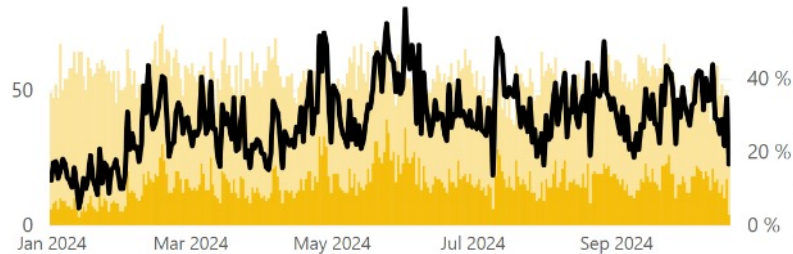
TRANSOCEAN - RISER ROBOTICS



WORKSIGHT – ENGAGE, COACH OG CONFIRM



COACH Trends (Line shows % of COACH Conversations with Additional Coaching Provided)



COACH Question Responses (Right Click to Drill Thought to See Comments)

Question	Additional Coaching Provided	Total Items	% Additional Coaching Provided
INSTANT INSIGHT	174	599	29 %
How well did the crew identify improvement opportunities and at-risk behaviors? (Identifying opportunities = Additional Coaching Provided)	107	250	43 %



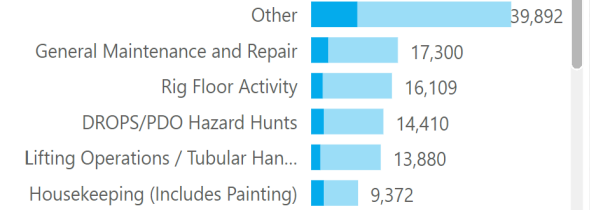
What are Weak Signals?

536,531
People Impacted



142,244

What Activity are we Observing?



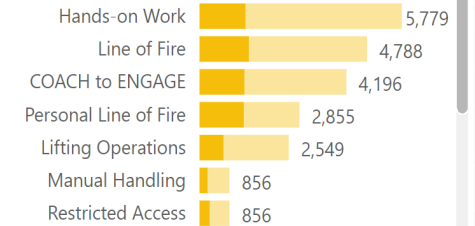
What are Weak Signals?

81,181
People Impacted



24,856

What topic are we COACHING?



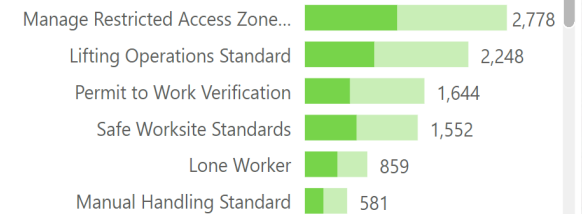
What are Weak Signals?

13,110
People Impacted



13,110

What topic are we CONFIRMING?



VERO CASING TONG SYSTEM CASING AND LINER RUNNING



TNG casing/liner automation & digitalization:

- VERO casing tong system used on TNG casing / liner jobs. Run by both WF and TO personnel.
- Automated system with feedback needed for auto sequences
- TNG 95 % completed, filling sequence remaining, optimisation remaining (done during operation)
- Driller operate on video, casing operator in the “back seat”
- Adapted to rig chair integration / rig control system (Intelliwell) including zone management / anti-collision.
- TNG records for Wintershall recently
- Good and positive feedback from rig- and casing crew 😊

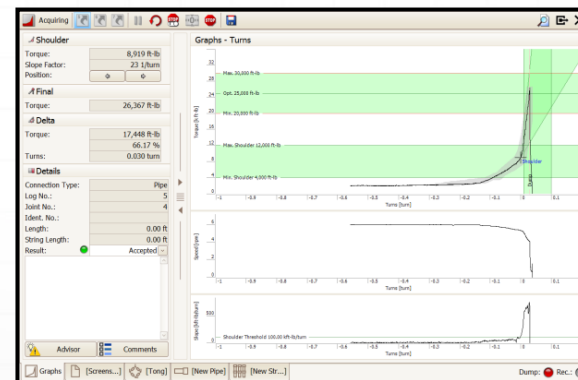
TNG casing running with VERO:

VERO AUTOMATED CONNECTION INTEGRITY

VALUE DRIVERS: WELL INTEGRITY

Validated Connection Integrity

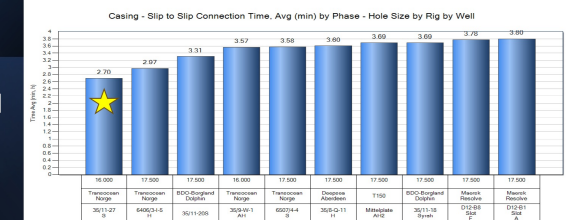
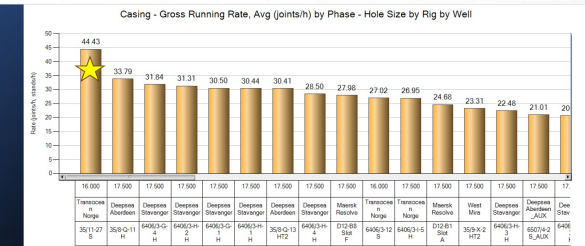
- 100% assurance to OEM makeup criteria
- Automated speed control, evaluation and makeup advisor
- Reduced risk of completion workovers and environmental leakage



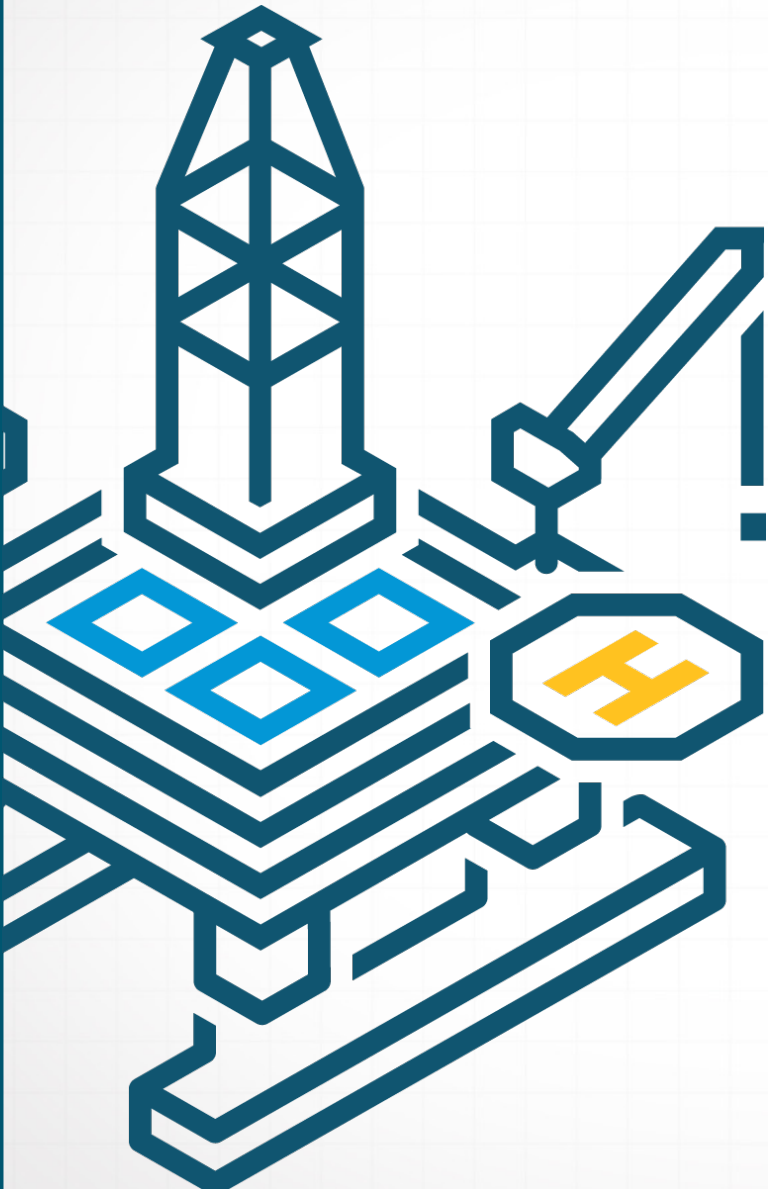
New Wintershall Dea record for running 13 3/8" csg

Excellent One Team Performance

A big THANK YOU to all of you!

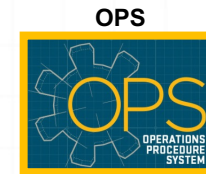


TEKNOLOGI FOR FREMTIDEN



DIGITAL TRANSFORMATION

We have continuously invested in the digitization of our operational procedures and activities, transforming Transocean and the industry



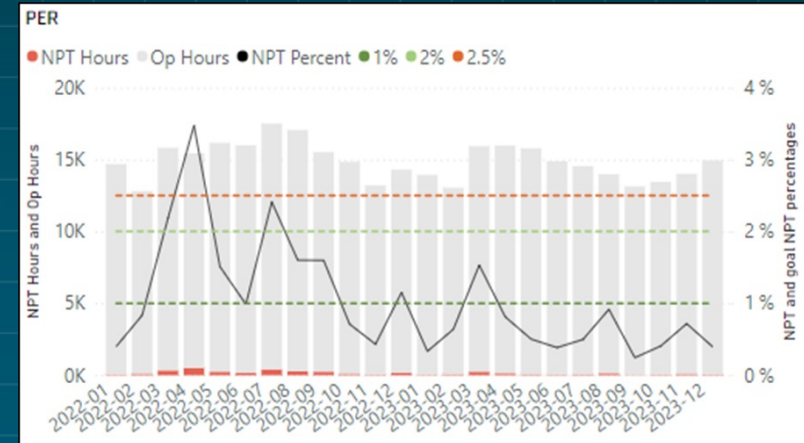
INTELLIGENT TECHNOLOGIES

New technology extends our ability to consistently deliver safe, reliable, and increasingly efficient operational performance



CRITICAL OPERATION ASSURANCE (COA) TIL PLANLEGGING

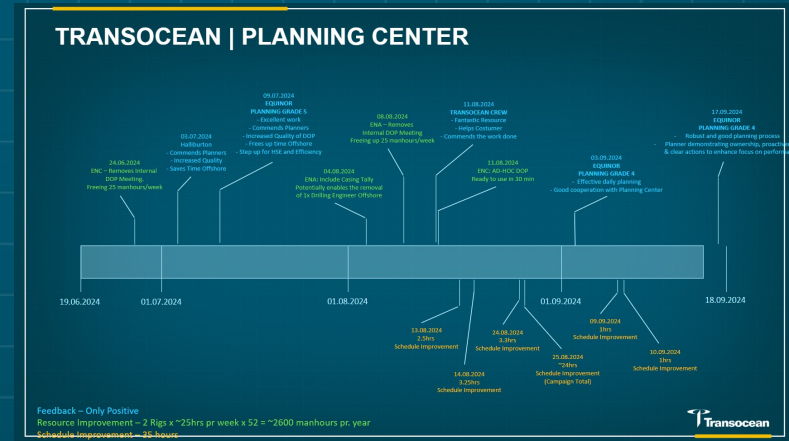
COA



«DNA Transfer»

- Reduced risk and NPT caused by Procedural Error
- Consistency and lateral learnings between rigs
- Improved planning of critical tasks
- High impact personnel development

One Team
Planning
Center



- 1300 manhour reduced per year / rig reduced offshore
- 35 hours schedule improvement / last 3 months
- 3x higher AARs
- Clear improvement on DOP quality

NOEN AV VÅRE OBSERVASJONER...

- «Mennesker kan gjøre feil» – vi må utvikle løsninger på tvers av «One team» for å forenkle oppgaven for operatøren, etablere kontrollbarrierer - stole på, men verifisere
- HMS skal aldri være et konkurranseelement – del informasjon for læring
- Sikt mot en «åpen» arkitektur-løsning for å muliggjøre datadeling mellom forskjellige applikasjoner og plattformer.
- Endringer vil alltid inntreffe – Bygg løsninger som støtter endringsprosesser fra starten.
- «Borekompetanse» må være en del av enhver besetning, uavhengig av innovasjon og ny teknologi.

