



INTERVENTION &
STIMULATION ALLIANCE

Introducing Automation for Well Intervention Operations on NCS



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Schlumberger

 **AkerBP**

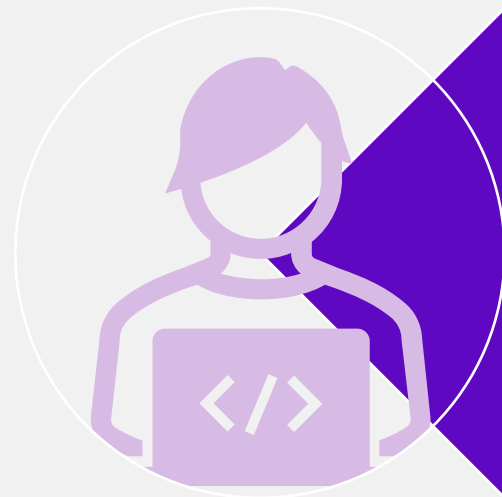


Agenda



Overview

- Well intervention operations
- The path towards automation



Why Automation?

- Goals and status
- Experience from the field



Safety

- Automated safety
- Human operator role

Well Intervention

Any operation carried out in a well during its lifetime that alters the production or provides well diagnostics.

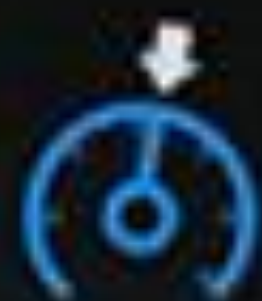


Wireline



Coiled Tubing





65

65

mph



300



Avg. Wh.

292

Kato Rd

Cutthroat

Warm S

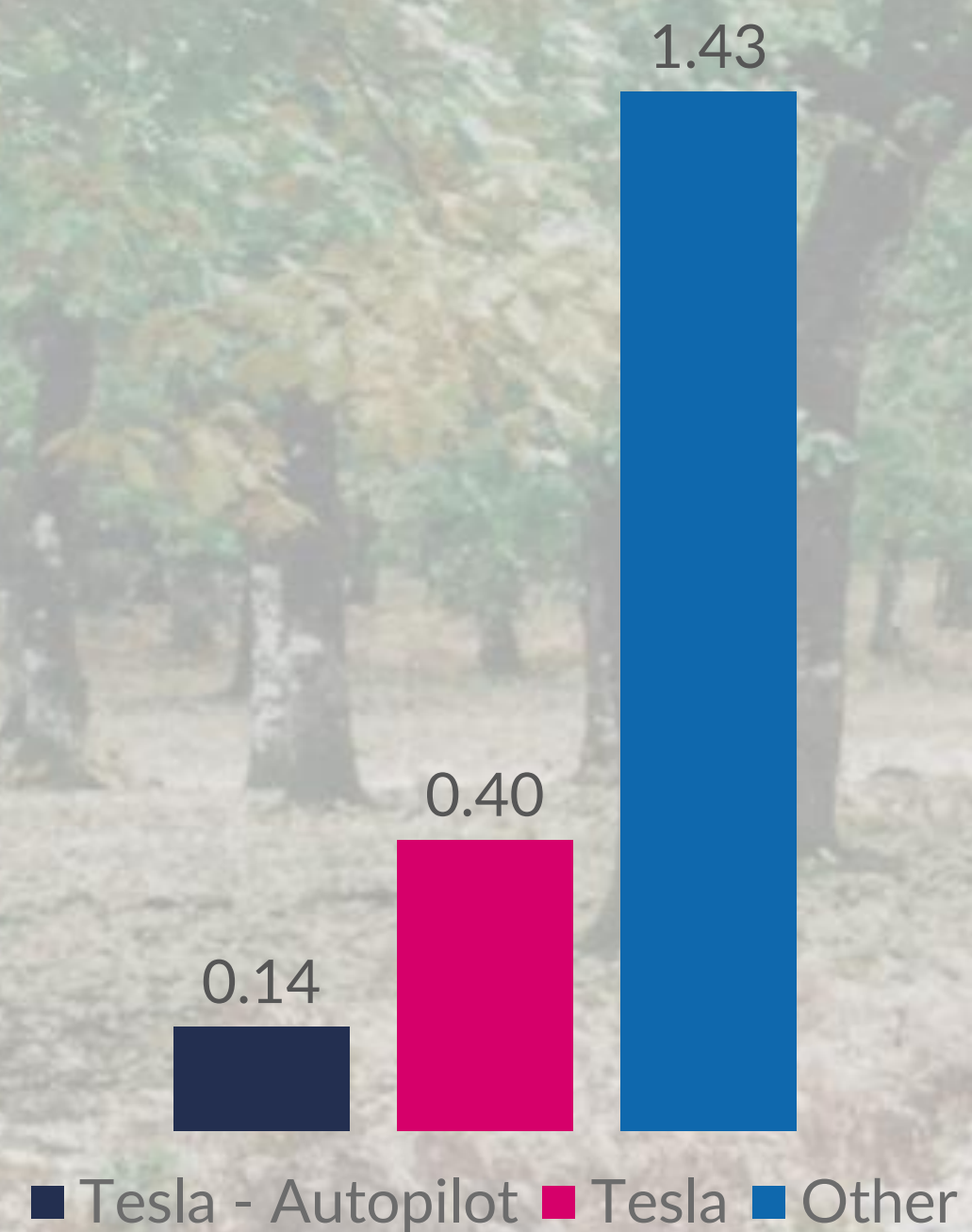
SPEED
LIMIT
65

44 %

P R N

Why Automation?

Accidents per million km





?



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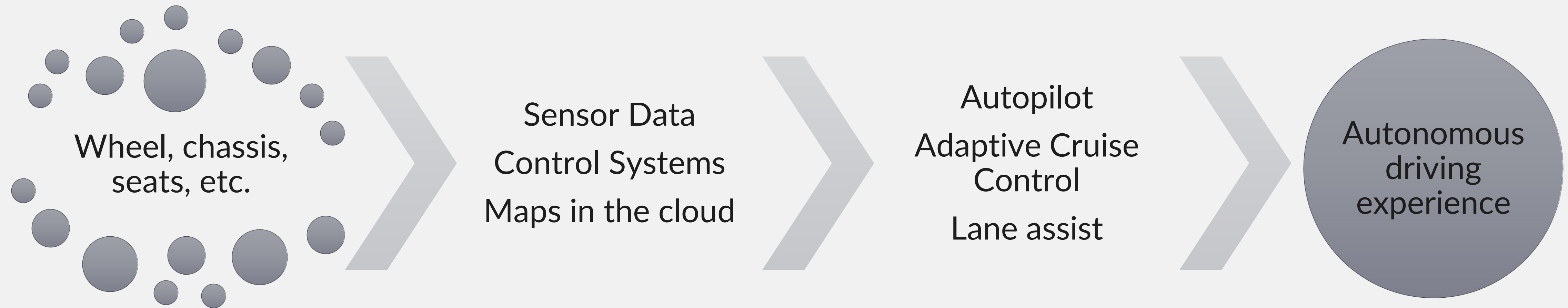
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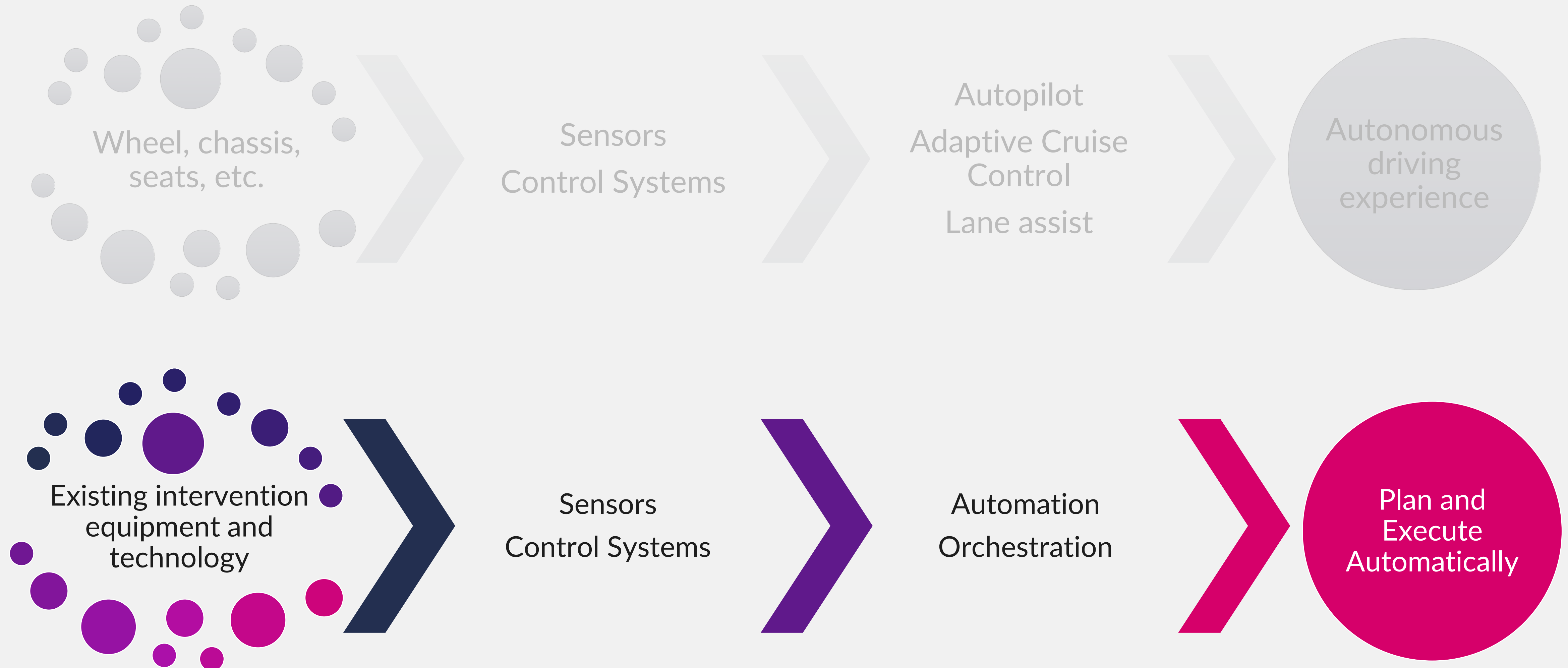
The Alliance will be a global benchmark for outstanding offshore well intervention and stimulation operations



What are we doing?

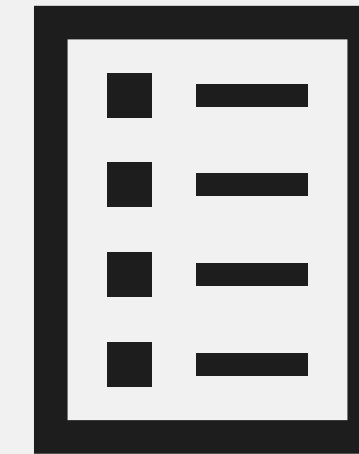
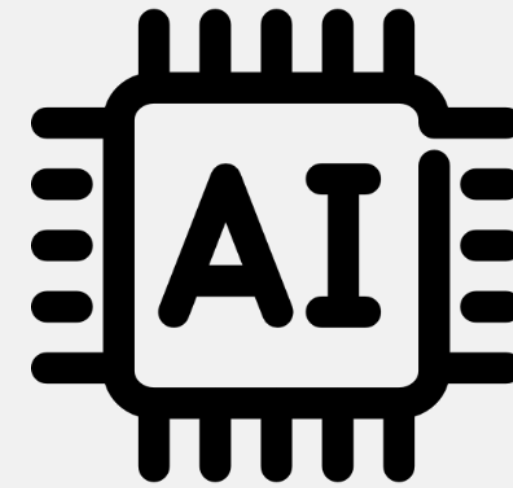
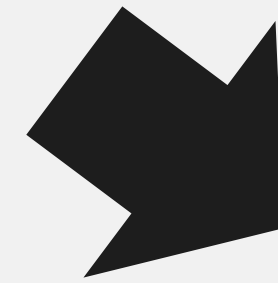


What are we doing?



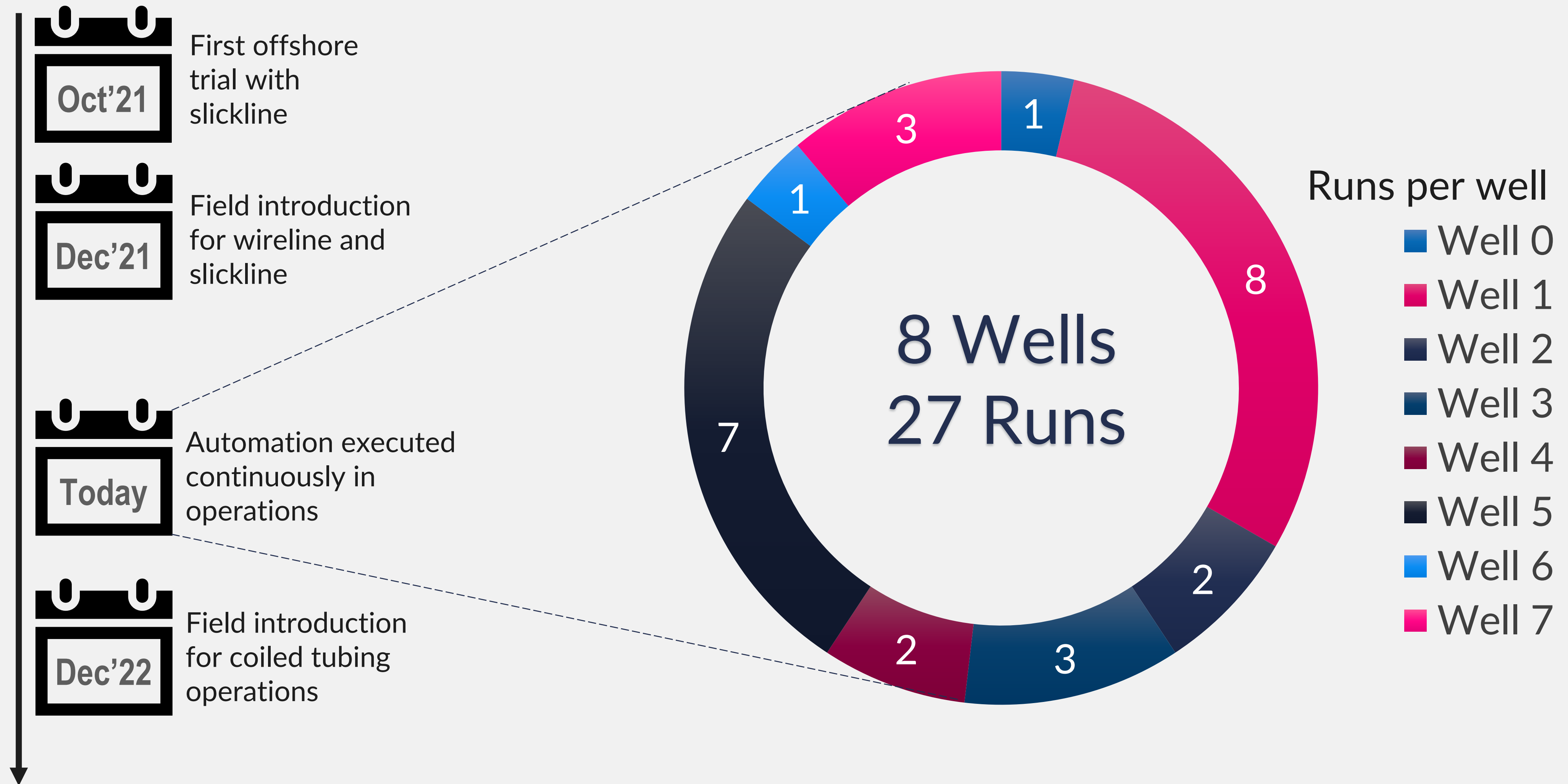
Automation Goals

State
objective



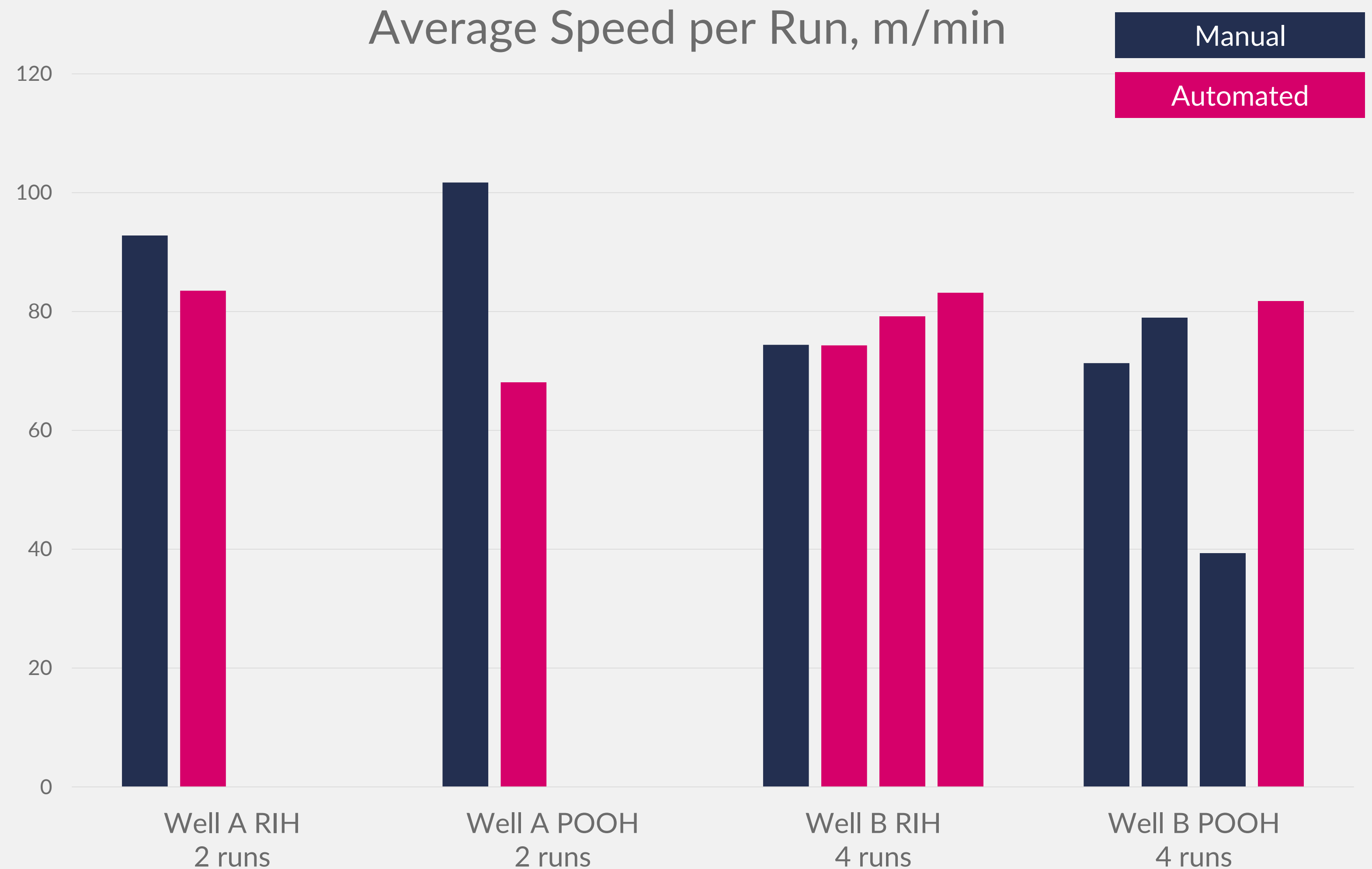
Plan and execute
steps automatically

Where are we today?



Automation Experience

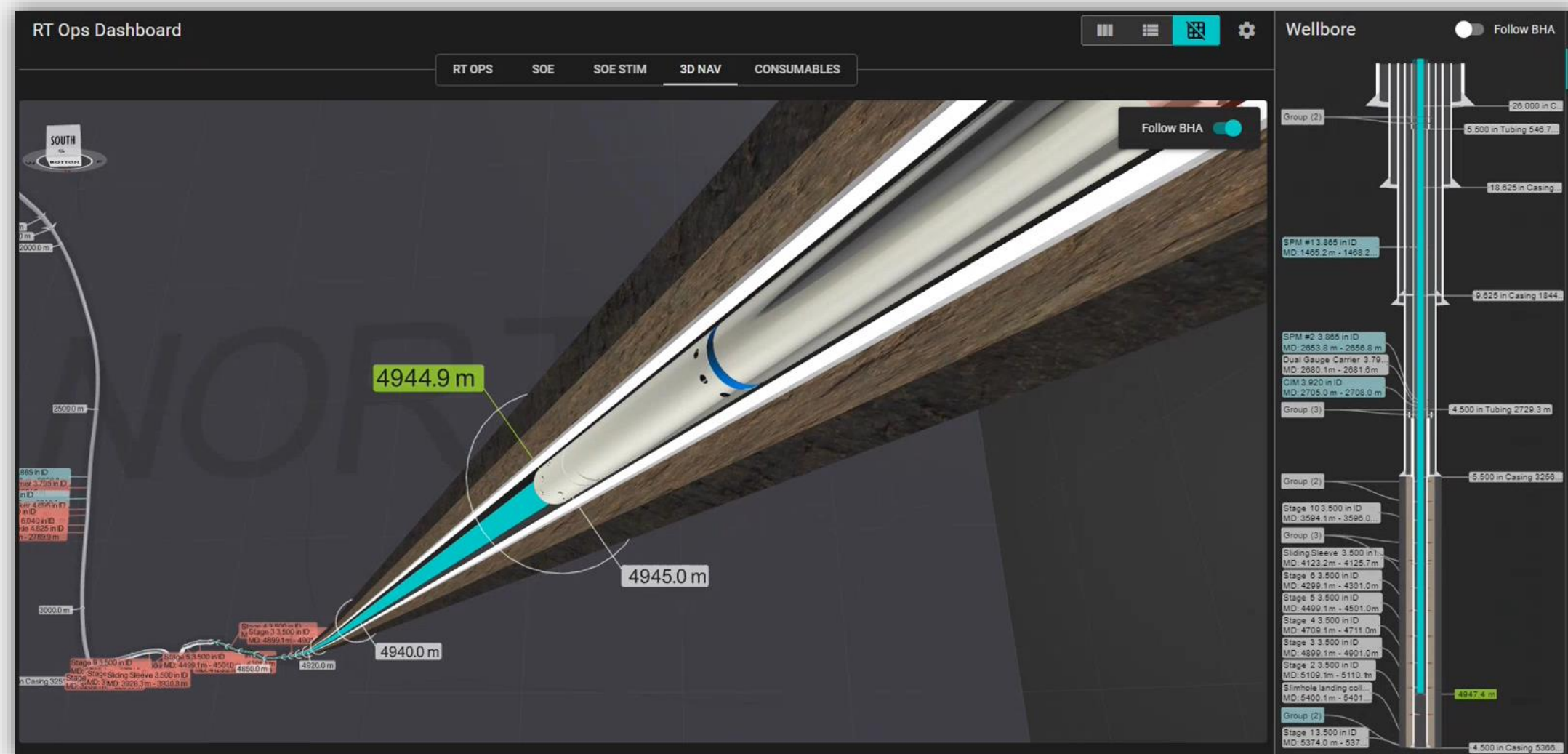
- Increased use of Automation
- Execution consistency
- Automation system equal experienced operators



Automated Safety

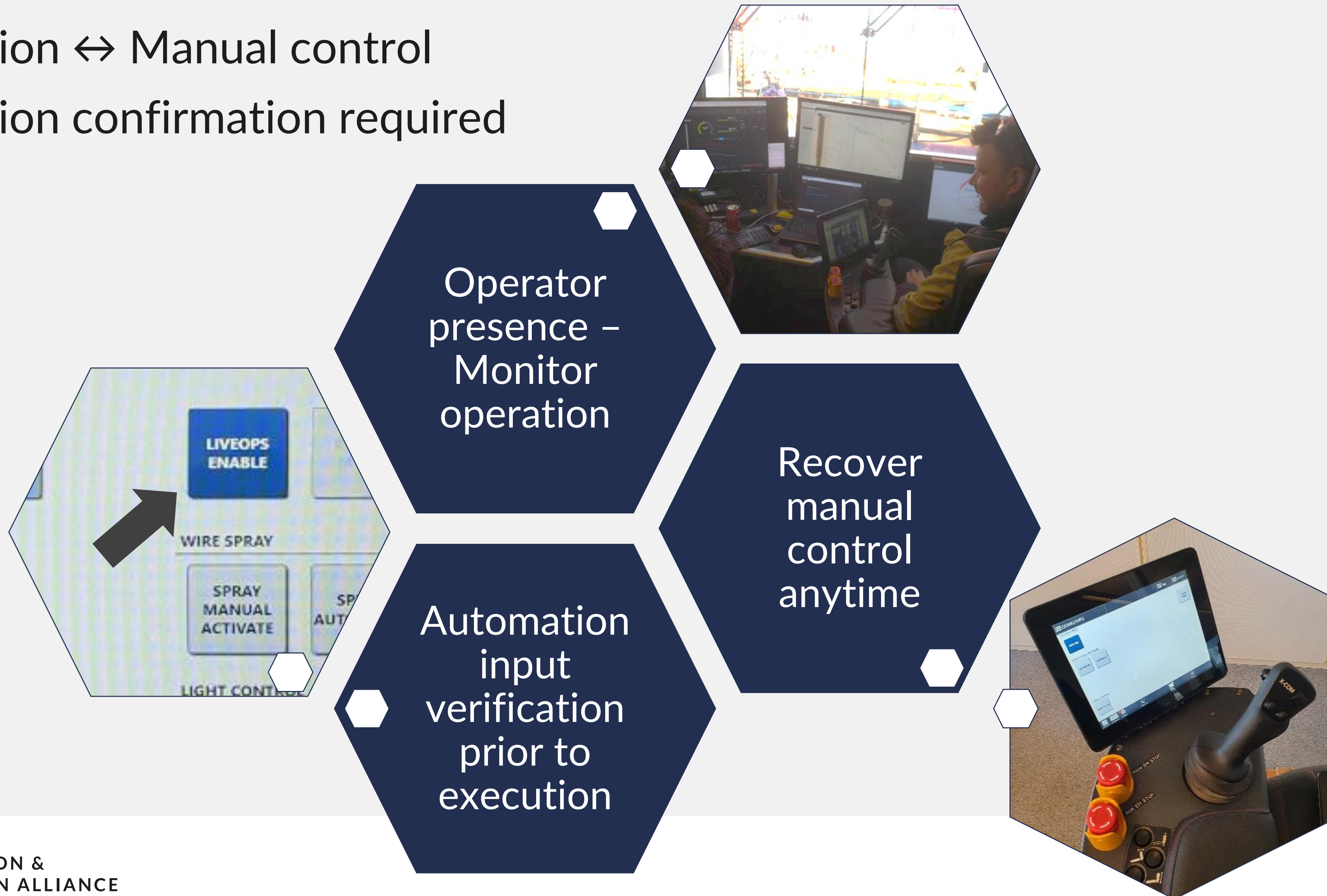
- Real-time modelling and monitoring of anomalies

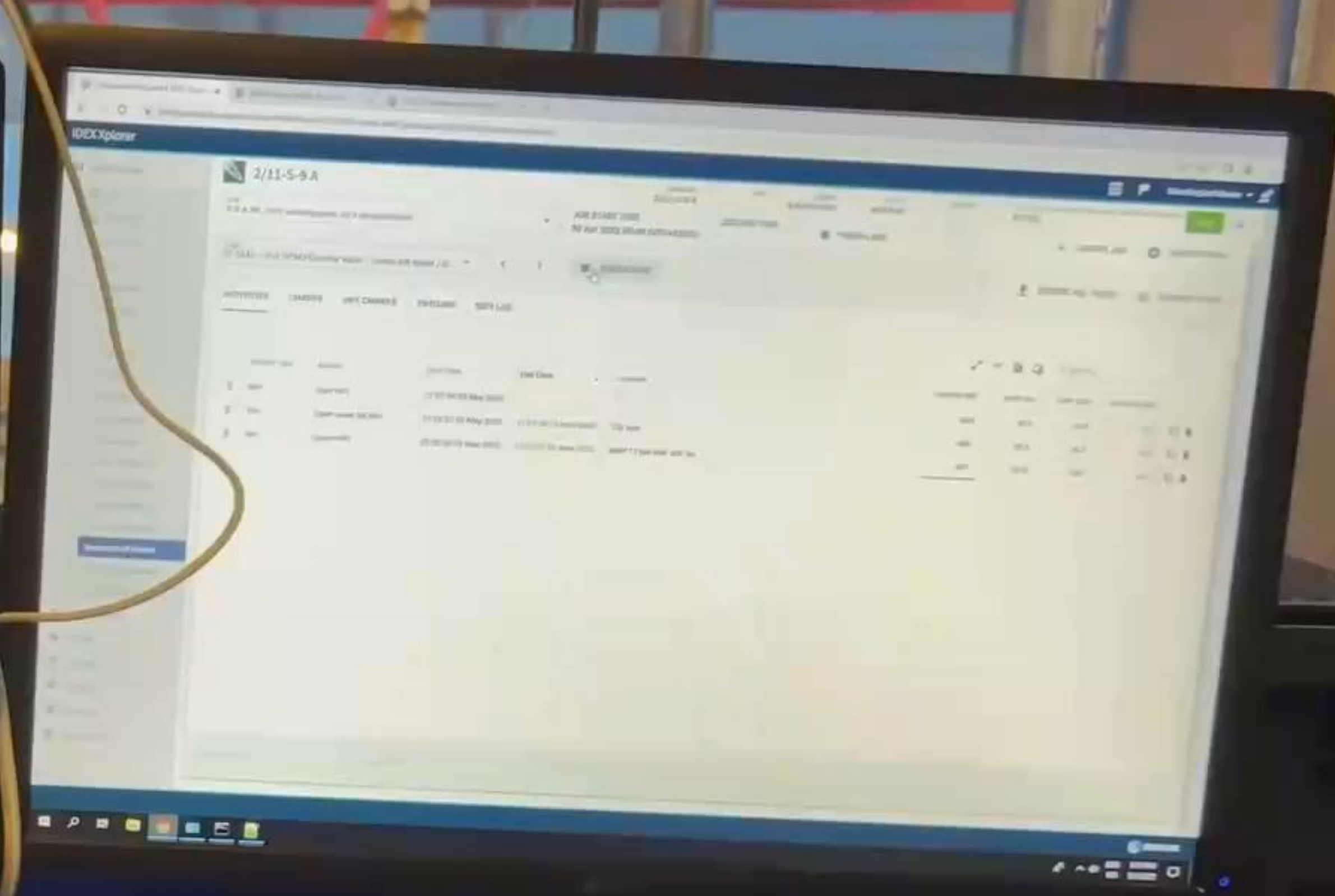
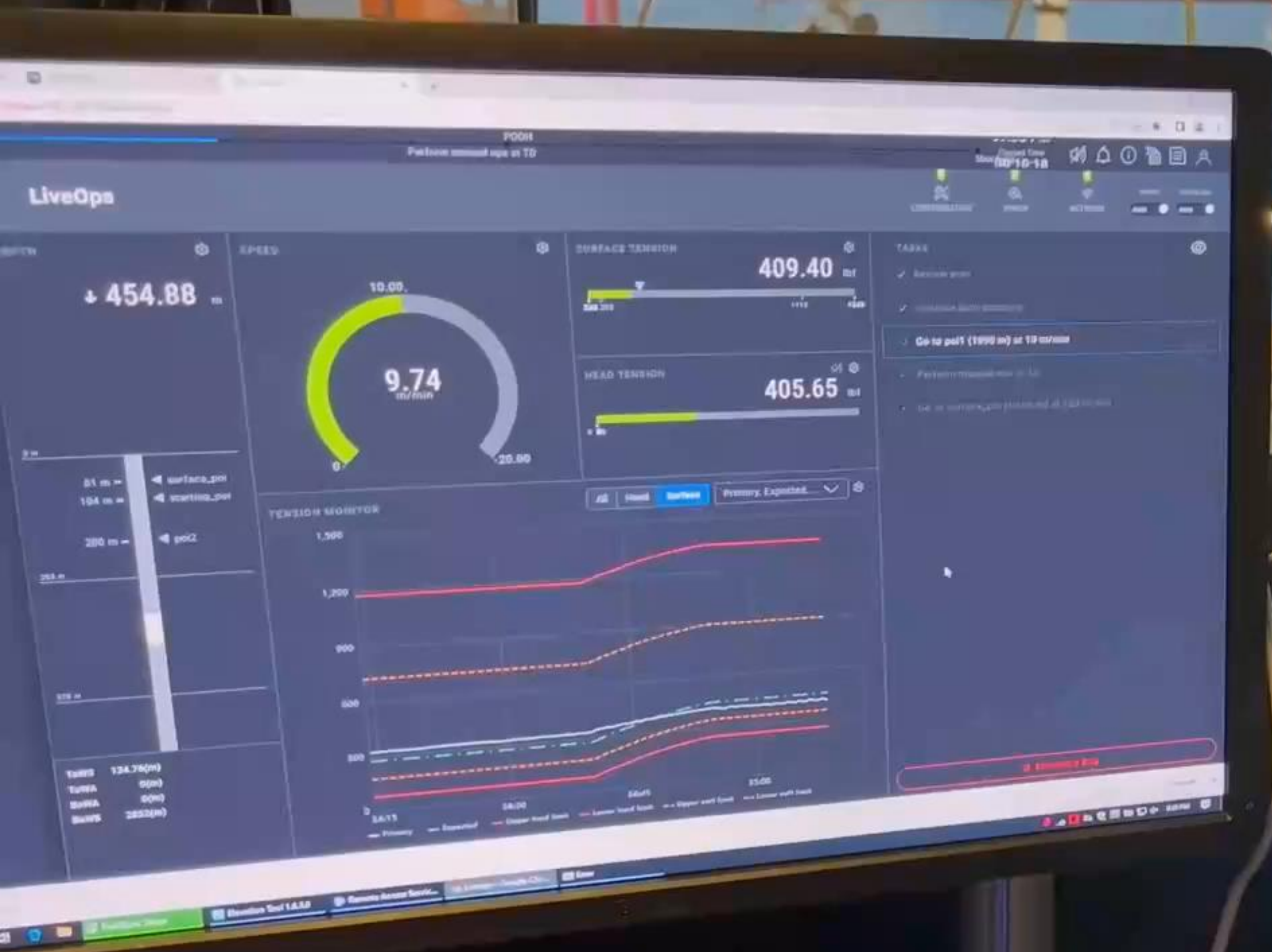
Automated safety measures prevents undesired and unsafe situations



Safety—Human Operator Role

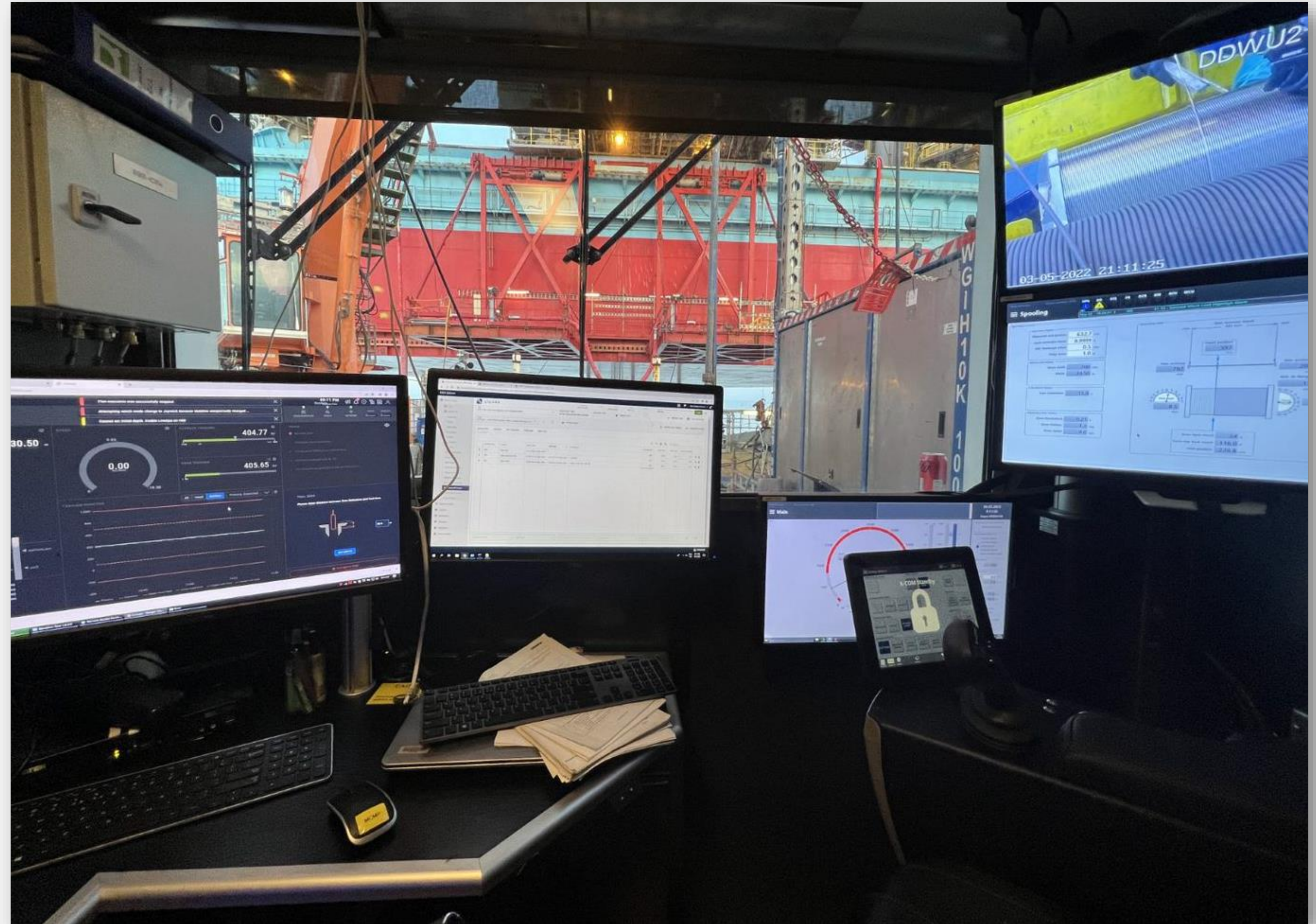
- Automation ↔ Manual control
- Automation confirmation required





Conclusion

- Wireline and slickline automation a reality in NCS
First in the world offshore
- Next step is coiled tubing automation
First in the world





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