AI based LLM will ease the introduction of robotics

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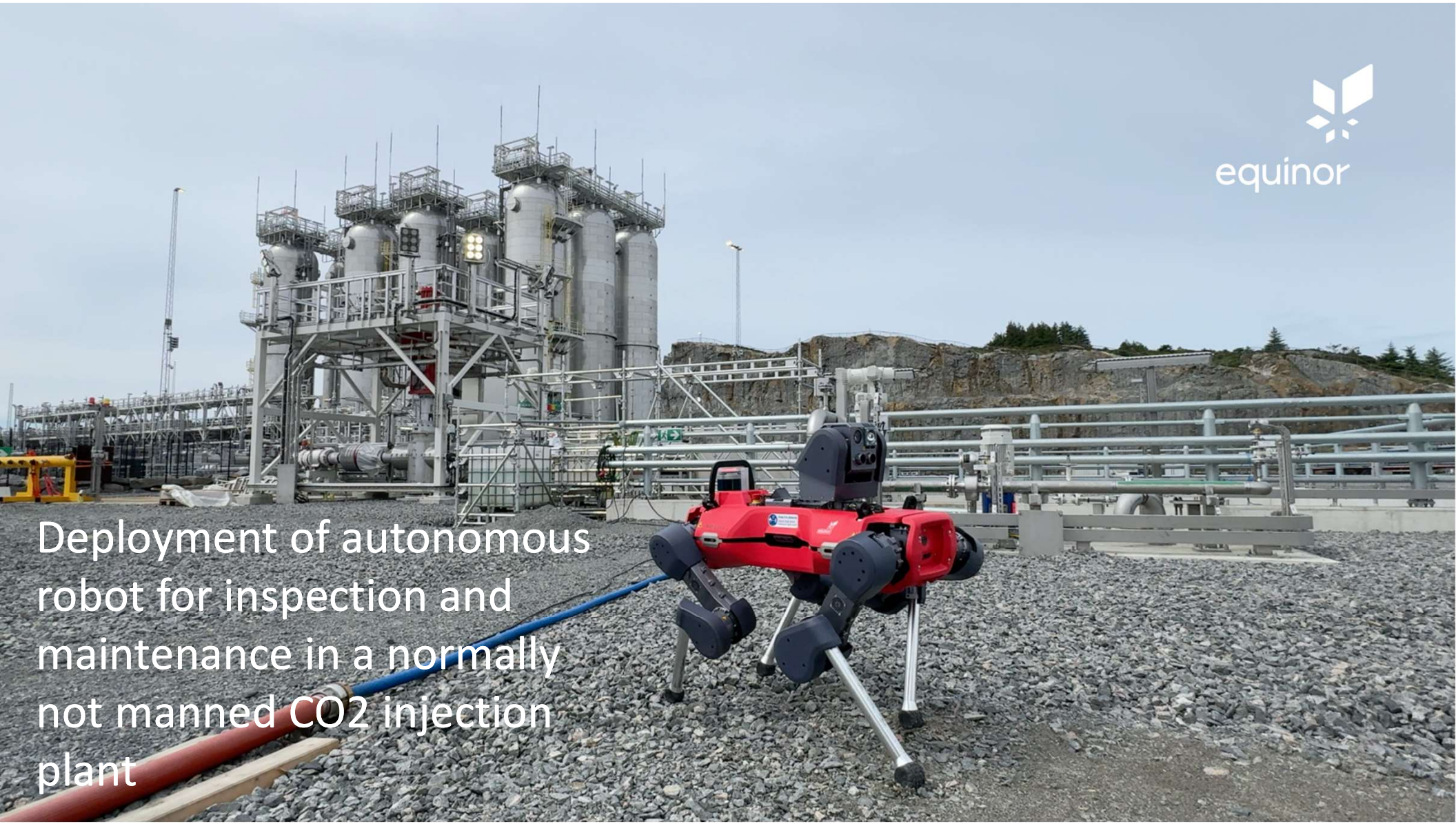
Generative AI in inspection and maintenance (I&M): Learnings across sectors, low-hanging industry use cases, and future challenges and opportunities - ADRA Nov 5th 2024

Where is the value?

What is EQUINOR ?

Equinor is the operator of the world largest offshore wind farm Dogger Bank in the UK.

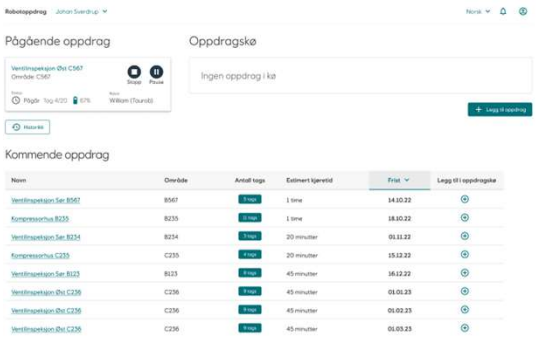
Norway supply approximately 30% of all gas used by Europe and Equinor is by far the largest operator in Norway.

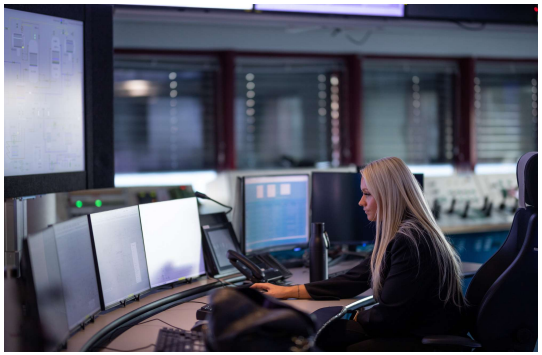

equinor
Deployment of autonomous robot for inspection and maintenance in a normally not manned CO2 injection plant

Current solution: Control room operator communicate with an operator in the field

radio

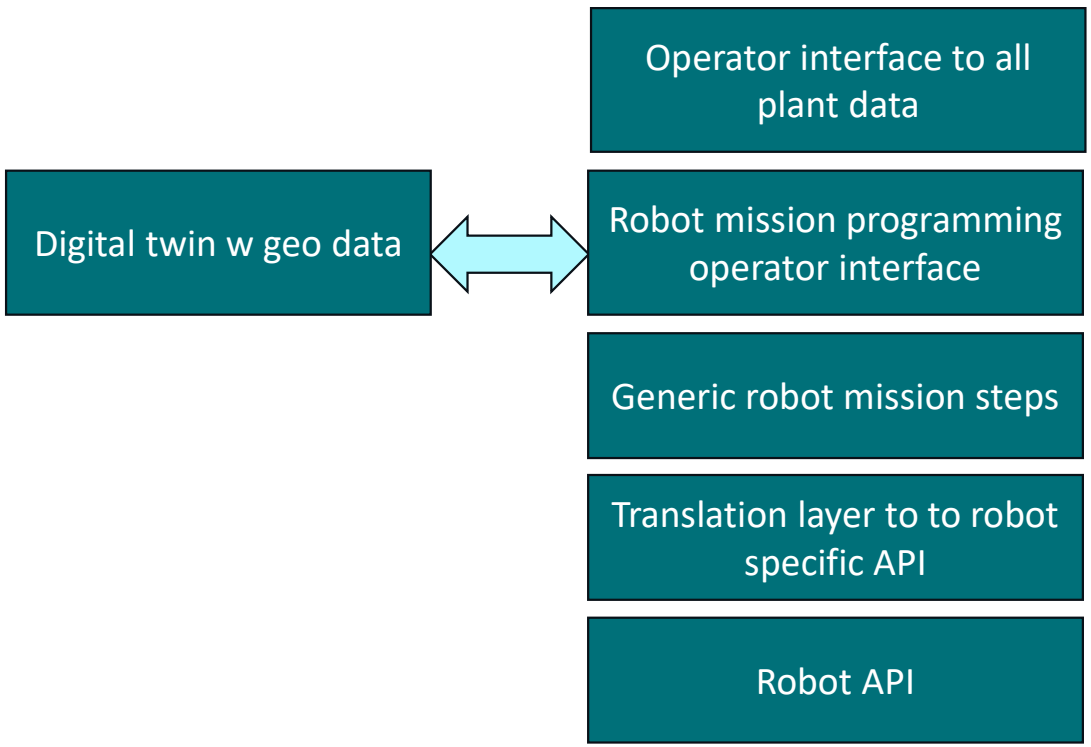
Current solution for robot in operation: Mission programming software available in the control room

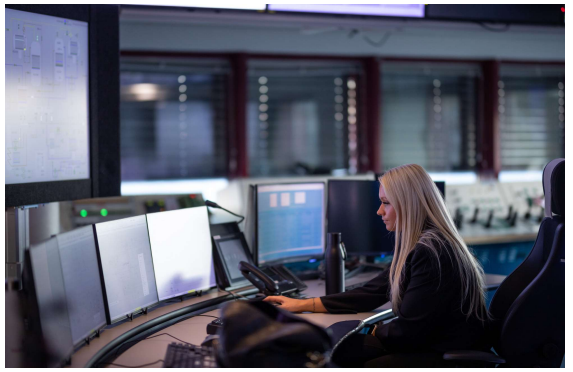




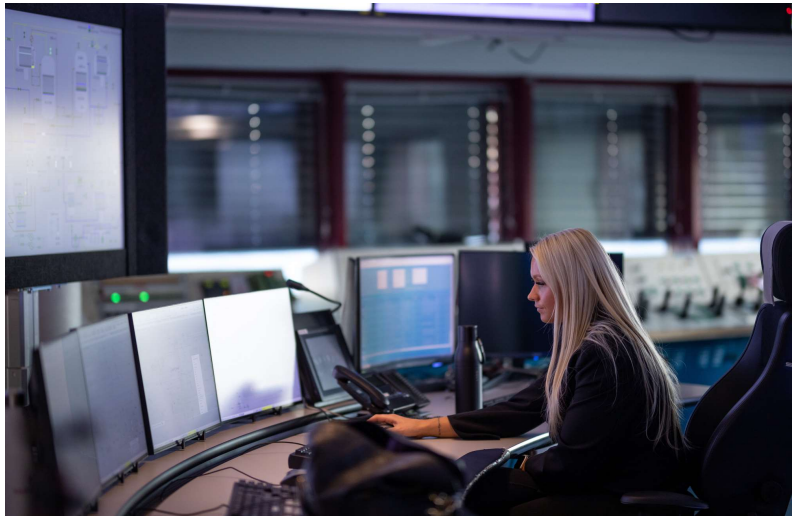
WiFi or 4/5G

SW stack for current solution using robots



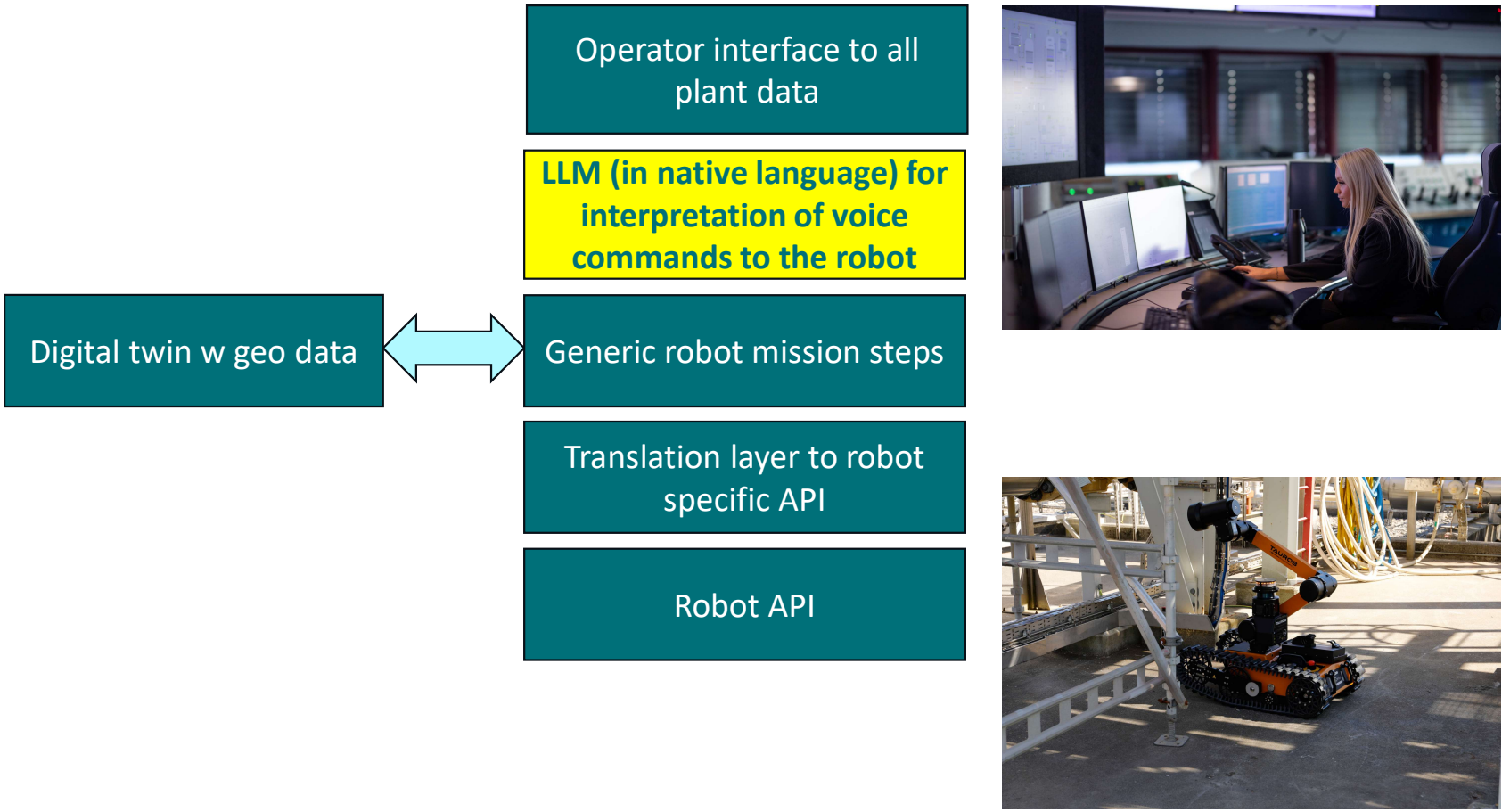


Desired state: The robot can interact directly with the control operator (voice control)



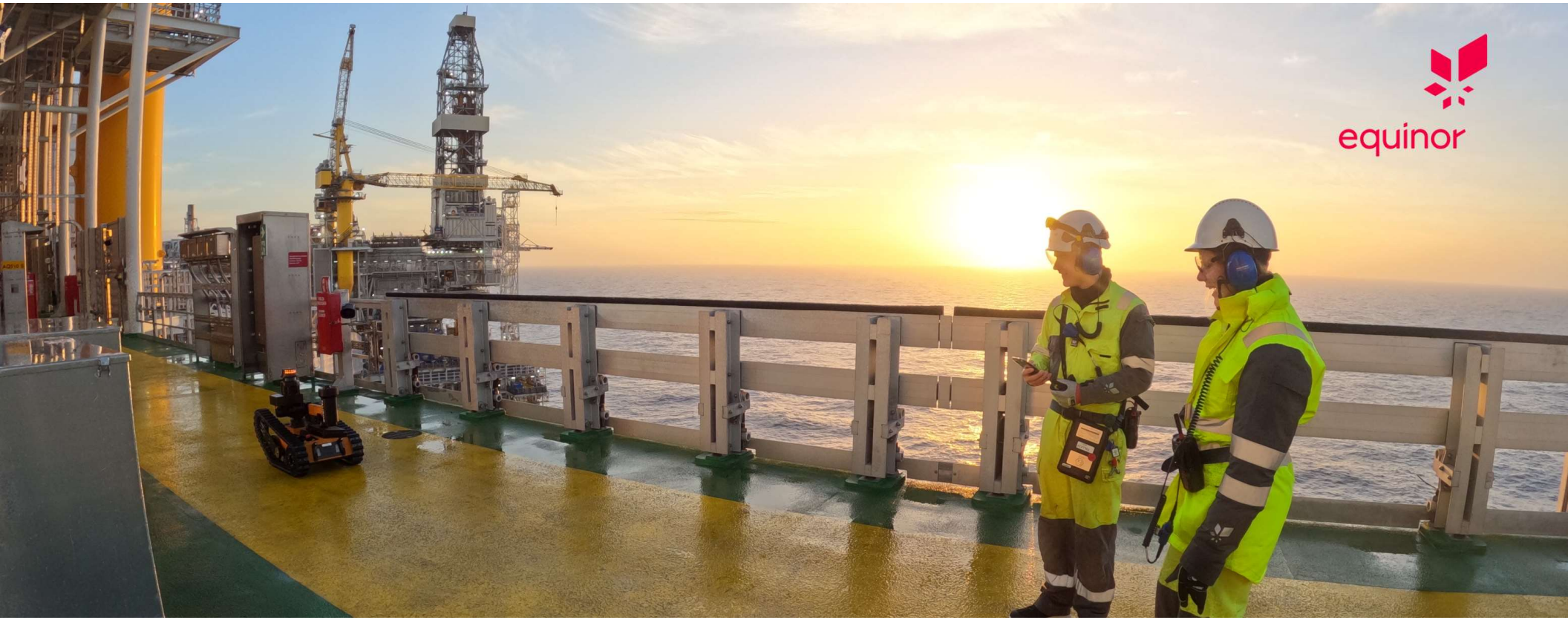
WiFi or 4/5G

Proposed SW stack: The mission programing component can understand the voice control



Key insight of the use of AI & LLM in the widespread introduction of robotics

- Change management is hard – technology easier
- Voice commanded robots will significantly lower the barriers to widespread use of robots
- Voice controlled mission programming adds value to the use of robotics in inspection and maintenance by reducing complexity of robot user interface (mission programming, fleet management) and need for operator training.
- Voice control must be in the user's native language. Example: in the Energy industry on the Norwegian Continental Shelf, the use of the Norwegian language in operation is regulated by law due to safety.



Autonomous Inspection Robots

EQUINOR TDI Asset Autonomy Robotics and Drones