Digitizing the future oil field

1. Sensors on the rig detect abnormal temperature
2. IOC engineer receives alert and performs diagnosis via interactive 3D model
3a. Drones investigate the off-shore rig and share photos/live videos in real-time
3b. Real-time request oilfield services (OFS)

Surveillance drones

4. Real-time analytics

5. Engineers receive alerts and incident details on their smart watches/mobile devices and prepare for service

6. Parts and tools required to fix the issue are printed in real-time using 3D printers

7. On-shore drones deliver parts from the warehouse to the off-shore rig

8. Tablet/Smart glasses

Tablet/Smart glasses

Engineers utilize virtual models on tablets and augmented reality data on smart glasses to perform maintenance

Drones investigate the off-shore rig and share photos/live videos in real-time

Predictive data analytics determine maintenance needs based on surveillance data; integrated supply chain orders parts

IOC identifies required services and issues service request to OFS vendors; best bid is accepted in real-time

On-shore drones deliver parts from the warehouse to the off-shore rig

3D printers

Parts and tools required to fix the issue are printed in real-time using 3D printers