## Digitizing the future oil field





**3D** printers

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

<u>...</u>

#### Smart devices

5

6

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

----

# Digital in midstream



\*PIGs = Pipeline Inspection Gauge

#### Minimizing human intervention

ICRs, utilizing rules based parameters, will support automated operations with minimal human staffing. Digital Technologies will lead to automation of trivial tasks, allowing operators to focus on decision making.

#### **Digital workforce**

A truly digital operating model requires increased investment in staff who are capable of creating, working and using multi-dimensional data models, simulation tools, and machine learning algorithms.

## **Network optimization**

Applying the digital model, with integrated Operational, Financial and Commercial data allows the entire system to be optimized for availability and throughput to meet commitments and obligations.

### Smart trucks

Parts are delivered by GPS/sensor enabled trucks to support real-time tracking and coordination of activities

Dynamic inventory management supports logistical decisions to optimize the sourcing of repair parts based on the availability and leads-times in case of



## **Tablets/smart glasses**

Engineers utilize guided workflows on tablets and augmented reality data on smart glasses to perform maintenance while collaborating with remote specialists in real-time

#### **Predictive maintenance**

Artificial intelligence can by used to monitor large amounts of sensor data produced throughout the system to predict maintenance needs and significantly reduce the number of unplanned events.