



Intelligent Mud Solutions AS

RheoSense

—

Real Time Fluid Analysis

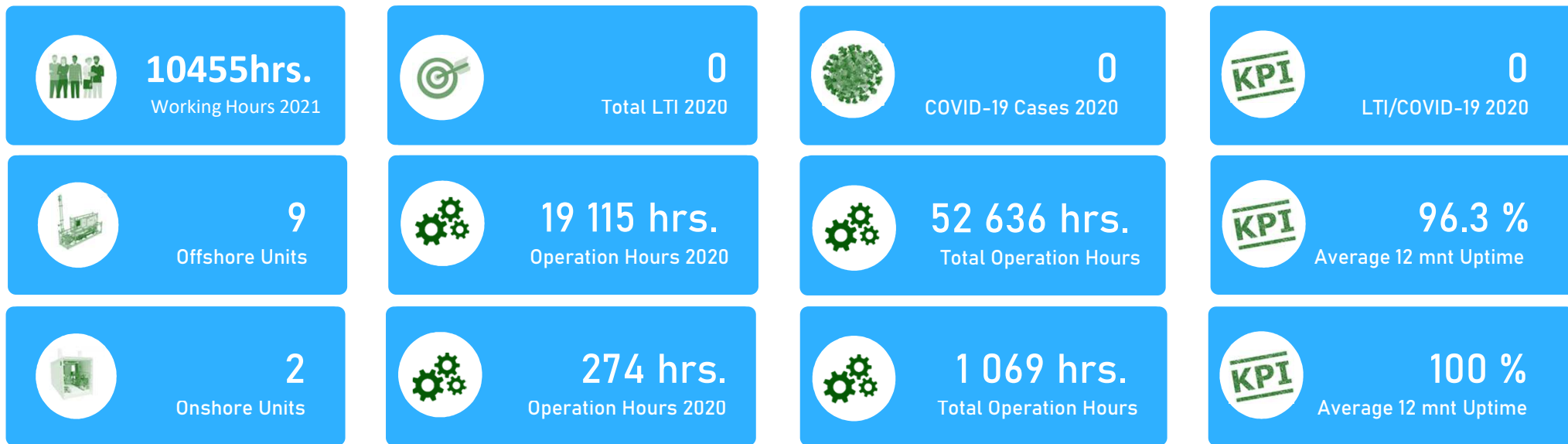
Mitigate RISK - Reduce OPEX - Create VALUE

About Us – Vision, Goal & Deliveries

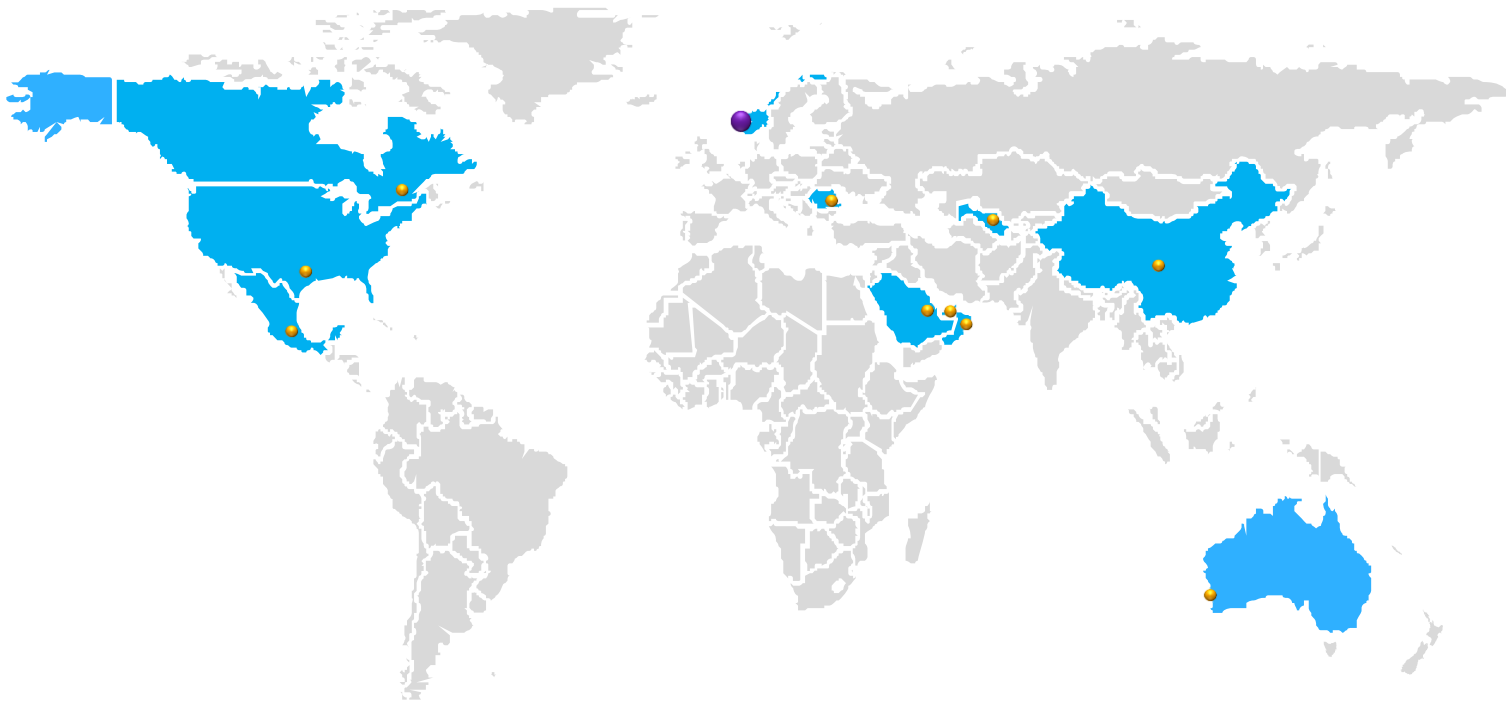
Since inception in 2010, IMS has been working with automation of the analysis and measurement of drilling fluid. Through significant R&D in conjunction with our partners, more and more automation is being introduced to the drilling fluid process.

Our vision: *Contribute to a safer and more cost-effective Drilling Operation by bringing the Automated Mud Lab to the market*

Our goal: *Remove the need for the Drill-Site Mud lab and fully automate the Mud mix process control.*



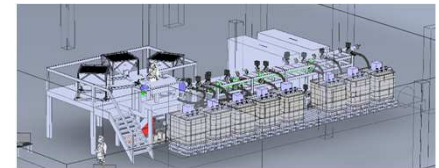
About Us - Office, Technology Center & Location



Head Office

- Stavanger (NOR)

Technology Center



500 m² technology center for development of drilling fluid analysis equipment.
Mixing, heating and centrifuge capabilities.



Location & Partners

- USA
- Canada
- Mexico
- Romania
- KSA
- UAE
- Oman
- Uzbekistan
- China

Technology – General

“Our vision is to contribute to a safer and more cost-effective Drilling Operation by bringing the Automated Mud Lab to the market”

Autonomous measurement skid installed at to the fluid process and provides **real-time continuous** mud property analysis to users.

Measurements:

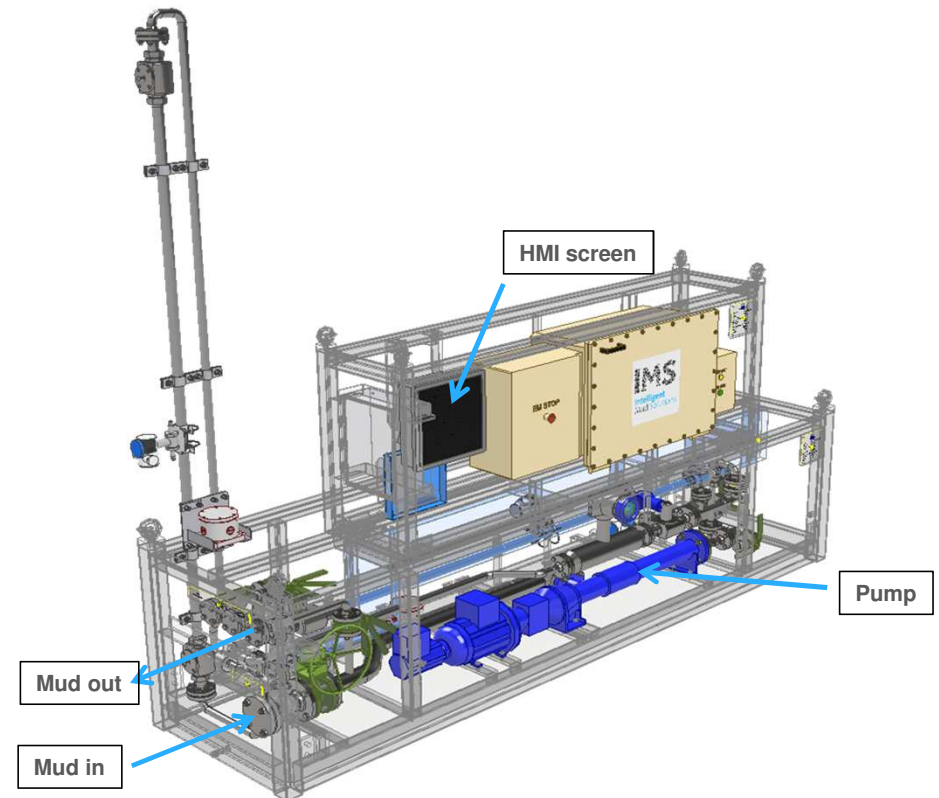
- Rheology: 3, 6, 30, 60, 100, 200, 300, 600 rpm
- Density: 400-2200 g/l
- Gel: 10s, 10min
- Temp: 4-80°C

Provides properties at ambient and API values.

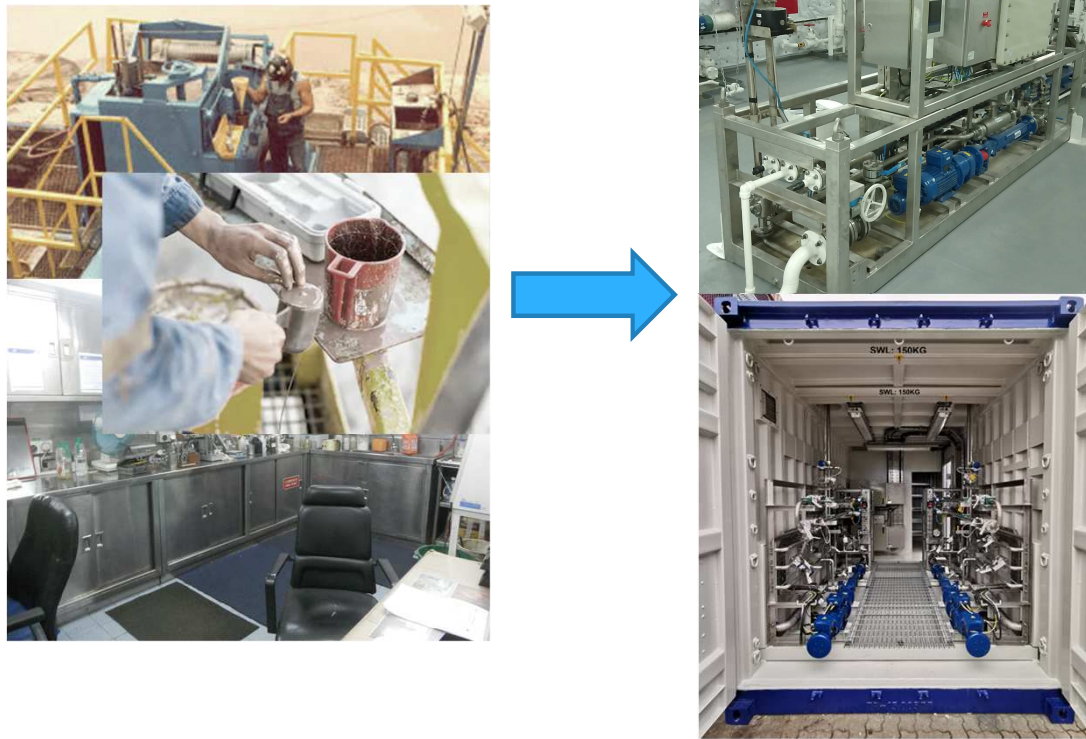
Measures OBM, WBM and all alternative fluid systems.

No radioactive instruments, tolerates particle sizes to 6 mm.

Fluid pump and motor are the only moving parts.

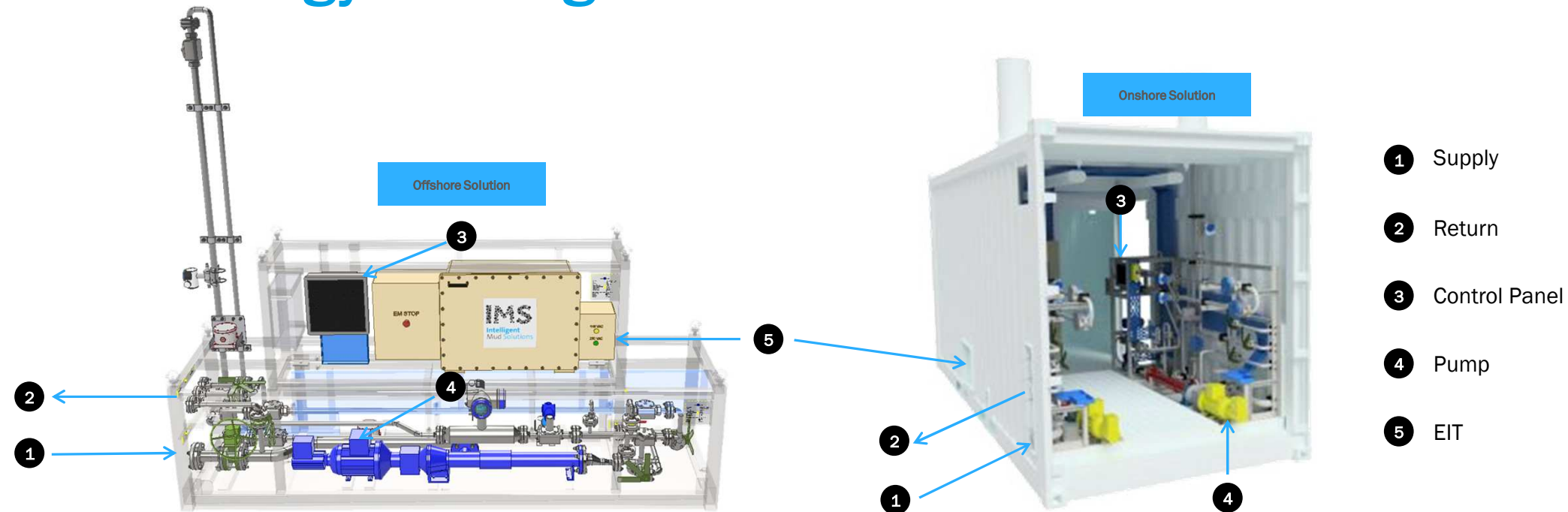


Technology – A New HSE Standard – Mitigate RISK



- Ability to analyze the mud properties from a control room can **reduce stress** for the users.
- Autonomous analysis of drilling fluid allow operators to perform several operations at the same time **reduce the need for manual and hands-on operation**.
- **Reduced human exposure** to hazardous materials and chemicals.
- **Reduction of hazardous materials and chemicals**.
- Autonomous analysis can result in a **more efficient operation**.
- Efficient operations can result in reduction of drilling time and therefore also **reduced emissions**.

Technology – Design – Offshore & Onshore



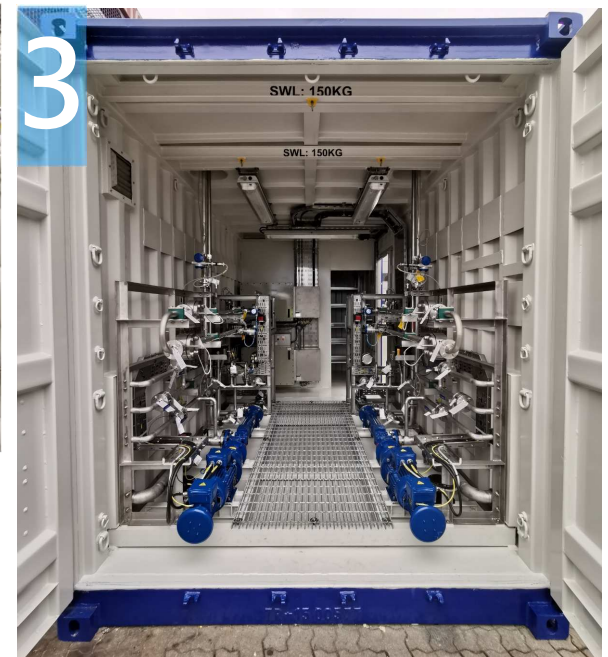
Certification, alignment, and approvals:

- DNVGL-OS-E101
- EU 97/23/EC (PED)
- CE
- ATEX Zone 1
- Local certification, alignment, and approvals to be agreed

Interface E&IT

- Power supply: 230V / 440V 50Hz AC
- Data Interface: CAT6 (RJ45, Direct termination)

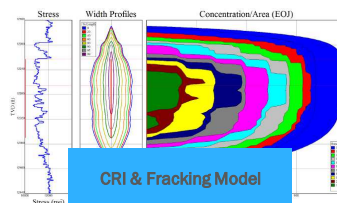
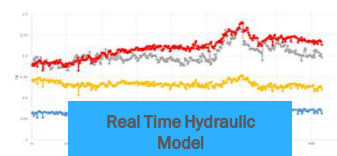
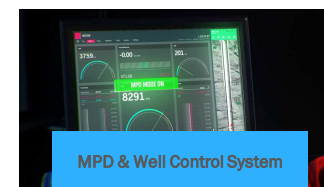
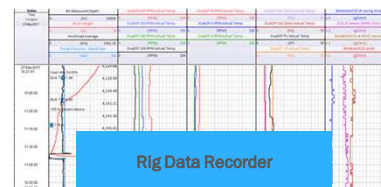
Technology – Flexible Installation



- | | | |
|----|------------------|---------------------------|
| 1. | Offshore | Temporary (Single) |
| 2. | Offshore/Onshore | Fixed/Integrated (Single) |
| 3. | Onshore | Temporary (Dual in/Out) |

All units can be customized according to client specifications

Technology – Integrated Digital Operations



Azure - Cloud

Technology – Improve MPD Operations



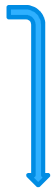
- Real time density and rheology measurement.
 - Well mass balance.
 - Dynamic real-time flow modelling and BHP control.
- Ability to predict changes to BHP due to changes in mud properties.
- Proactive vs Reactive mud management.
 - Stable mud properties – better BHP control.

IMPROVED
WELL CONTROL

IMPROVED
DRILLING
EFFICIENCY

HSE
IMPROVEMENT

Benefits – Reduce OPEX



IMPROVED
WELL CONTROL

Cost Saving:
M\$ 2,0 - 20,0

REDUCED
FORMATION
DAMAGE

Cost Saving:
M\$ 2,0 - 5,0

IMPROVED
DRILLING
EFFICIENCY

Cost Saving:
M\$ 2,0 - 3,0

REDUCED
MANNING

Cost Saving:
M\$ 0,1 - 0,3

OPTIMIZING
FLUIDS

Cost Saving:
M\$ 0,1 - 0,3

HSE
IMPROVEMENT

Cost Saving:
M\$ 0,1 - 0,3

Contact Details:



Shuhei (Sean) Oda – General Manager
Level 20 Alluvion, 58 Mounts Bay Road, Perth WA 6000
Tel +61 8 9476 5122 | Mob +61-407-223-094
Email shuhei.oda@sumitomocorp.com

Siddharth (Sid) SETIA - Trade & Digitization Lead
Level 20 Alluvion, 58 Mounts Bay Road, Perth WA 6000
Tel +61 8 9476 5147 | Mob +61 457 806 370
Email siddharth.setia@sumitomocorp.com



Pål Erik Johannessen
General Manager
pejohannessen@imudsolutions.com
Cell: +47 90 10 35 76