First fully integrated Digital Oilfield Automation solutions provider
Sensia is a new standalone company…
The leader in digitally-enabled oil and gas integrated solutions

A global leader in automation technologies for manufacturers and industrial producers.

This combination represents a significant opportunity to create value and better serve the Oil and Gas market through digitally-enabled, packaged systems and fully-engineered, lifecycle-managed solutions.

A leading global provider of technology to the oil and gas industry.
Sensia at a glance

FOCUSED ON SOLUTIONS

~1,000 employees
HQ Location: Houston, TX
>80 countries served

PEOPLE
~500 employees
Extensive Process Automation
Engineering expertise

BUSINESS & TECHNOLOGY
Control & IoT capabilities
Oil & Gas solutions & services
Software & analytics
Artificial lift

Schlumberger

PEOPLE
~500 employees
Deep Petro-Technical Domain knowledge

BUSINESS & TECHNOLOGY
Measurement
Instrumentation
Software & analytics
Artificial lift
What does it all mean?

**Data**

**Fast Loop**
- VFM
- Aggregation
- MQTT - Contextualization
- Back filling
- Self Diagnostics
- Edge Applications
- Auto Diagnostics
- Predictive Analytics

**Mid Loop**
- PDMS
- Production Data
- Well test
- Production vs. Forecast
- Back Allocation
- Orchestration

**Slow Loop**
- Production & Reservoir Analytics
- Forecasting
- Historical Data
- Interface to Petrel

**Connected Production**
- LIFT IQ
- AED
- Instruct

**Process Control & Safety**

**Intelligent Assets**

**Measurement, Metering & Blending**
Why do this? To solve customer challenges

Creating a fully integrated provider of measurement solutions, production domain expertise, and automation to the oil and gas industry.

INDUSTRY TRENDS
- Volatility
- Pressure on profit margins
- Market consolidation
- Optimize / expand capacity while minimizing capital investment

CUSTOMER NEEDS
- Faster time to market
- Operational productivity
- Asset management and reliability
- Enterprise risk management

OUTCOMES
- Complete lifecycle and process automation solutions from well to terminal
- Measurement and data connectivity for insight & analytics
- Artificial Lift – optimization and life extension of oil wells
- Integrated process automation
- Digital solutions for efficient management of Oil and Gas Assets
The value and where you’ll find it

From reservoir to refinery, Sensia provides solutions for:

• Production
• Transportation and storage
• Processing

It helps reduce risk, drive efficiency, optimize performance:

• Optimize project execution
• Improve operational certainty
• Increase reliability and uptime
• Optimize asset utilization
• Improve safety
• Increase output
• Extend life
Bring the Gas Lift Operations to the Digital Era!
Simplified Gas Lift Network

Objective:
- Optimise and Automate the quantity of gas that is injected.
- Take advantage of Technology:
  - Right Quantity of Gas
  - In the right Well
  - In the right Time
  - Depending on operating conditions
+ Integrated Gas Lift Automation and Optimization Solution

MODEL & Work Flow O/P

Manual Solution

- Typically this may have been completed Manually
  - Continuous Injection via manually operated valve
  - Intermittent injection via regulator
  - Collect the Model from Packages (PIPSIM/PETEX)
  - Delivery Manually to Engineer in Field
  - Engineer in Field will setup the injection point.
Integrated Gas Lift Automation and Optimization Solution

**Instrumentation:**
- Well Head or the Injecting Manifold
- Cone Meter
  - Measures Gas Flow into the Well (differential pressures)
- Multivariable / Flow Computer Transmitter
  - Compares & corrects current Injection Rates
  - Automatically corrects the Gas injection based on set points
- Measure Temperature and Pressure

Update Pipesim Model & execute Optimization workflow
Output to AVOCET
Integrated Gas Lift Automation and Optimization Solution

- RTU & Telemetry Solution
- Real Time / In Context Data from field to modelling solution
- Automated modelling – systemic or exception based
- Download the Modelling set points to Controller
- Controller connect to Flow Computer
- Maintain Cyclic Control of Gas Injection

Optilift GL - RTU and Application Software Solution

- GSM Private APN Secure Network/WIMAX WIFI/UHF
- Update Pipesim Model & execute Optimization workflow
- Output to AVOCET
VFM

Field Facilities and Real Time Data
- Real Time I/P
  - Well, P, T, downhole sensors, gas injection signals
- Static Data
  - Well Test separator results: Oil, gas and water flowrates, P, T
- Wellhead Lab samples
  - Results for well phase fraction trend analysis
  - Quality, Type & Properties

Virtual Flow Metering System

Virtual Flow Metering Results
- Online:
  - Well Multiphase flow rate and performance calculations
  - Flow / Performance data historian and reporting
- Offline:
  - Well “What if” and performance analysis
  - Separator calculations
  - Wellhead trends analysis
  - Wellhead Sample conversion to equivalent well separator test

Base PVT and Well Configuration Data

- Real Time Feedback
- Computes oil, gas and water flow rates
- Model Validation
- Model Deviation
- Water Breakthrough
- Gas Circulation
- Low Flow
- Reduced Well Test
Integrated Gas Lift Automation and Optimization Solution

- Unified DOF Platform
  - High Frequency
  - PDMS & Workflow
- Update Pipesim Model & execute Optimization workflow
- Output to AVOCET

Gas Injection Control Valve
- Gas Flowmeter
- Optilift GL
- Optilift GL

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Intelligent Assets
- 44 Existing Sensia
- 77 GOFS/CO
- 80 New
Optimisation the injection rate at Well Heads / Network

- RTU (PID) Injection Rates Calculation
- Connected Production Fast Loop control VFM
- Avocet Read data from field, Workflow management Estimating total production
- PIPESIM/PET EX (Optimization, diagnostic, VFM estimation)
- AL (GL, ESP, SRP) surveillance, diagnostic and Optimization using PIPESIM, Avocet, Asset Overview

GL Control using Lookup Tables or set points from Workflows

Update the injection point coming from PIPESIM via Avocet-CP.
Sensia Digital Solutions

- Well & Network Optimization
- Workflow integration from measurement & model
- Produces a Automated Outputs (Linking PIPESIM to Optilift)
- Rate Estimation for Model Validation
- Reduced trips to field
- Modelling by exception / systematic
- Increased productivity
Thank You