Expand Your Field of Vision
The Smarter Way from Oil Flow to Cash Flow

OneSurface™ reservoir-integrated production system is equipped with leading process technologies, connecting subsurface and surface expertise from design through operations.

- Reduced opex
- Maximized recovery
- Early cash flow

Shift your production performance for the better.
Your challenge

Conventional production facilities require significant time and investment to reach startup, and then they often lack the operational flexibility to adapt to reservoir dynamics:

- Gaps and overlapping multiple providers
- Cash flow delay and capex intensive
- Oversized or undersized due to reservoir uncertainty
- Capital locked up by asset underutilization

Our solution

The OneSurface system is fully connected and responsive—from the reservoir through the process facilities—for optimal performance and maximum recovery:

- Streamline through a single agile multidisciplinary interface
- Accelerate production startup for faster cash flow
- Manage risk with petrotechnical domain expertise
- Deliver export quality oil and gas using adaptive modular technology
Connect with Your Reservoir to Maximize Recovery

Accurate reservoir characterization is the driver to optimize production performance throughout the life of the field.

Schlumberger provides this necessary depth of insight through our innovative technologies and their digital answer products integrated within the reservoir model. This seamless connection of data and domain expertise drives surface facility design and process improvement to the next level—ultimately maximizing reservoir recovery.

**Enrich the reservoir model**

- See the reservoir in full geological detail by imaging the subsurface with Quanta Geo* photorealistic reservoir geology service.
- Analytically ground truth reservoir understanding using rock samples acquired by XL-Rock* large-volume rotary sidewall coring service.
- Quantify reservoir fluid properties early and accurately—even where sampling was not previously possible—by acquiring representative samples with the Saturn* 3D radial probe for the InSitu Fluid Analyzer* real-time downhole fluid analysis system.
Be more certain

Integrate understanding of the borehole and reservoir across multiple disciplines in the Petrel® E&P software platform populated with all wellbore-centric data collected and analyzed in the highly intuitive Techlog® wellbore software platform.

Increase confidence in your reservoir model and improve production forecasting by using GeoTesting® geology-based well test design and optimization services to integrate dynamic data obtained by the Quartet® downhole reservoir testing system enabled by Muzic® wireless telemetry.

Maximize productivity by deepening your understanding through comprehensive analysis and targeted evaluation of reservoir rocks and fluids, including digital simulation of pore geometry and fluid behavior to simulate flow performance for enhanced oil recovery (EOR), from Schlumberger Reservoir Laboratories.
Design Your Facility with Reservoir Certainty

Our holistic approach combines industry-leading process technologies and production chemicals with your reservoir characteristics to optimize production system performance.

The OneSurface system is not confined to surface facilities but expands the operational scope to encompass the reservoir petrophysics and fluids to address all domain challenges. The result is an optimally sized facility that manages and matches production by applying best-in-class process solutions from day one.

**Export quality oil economically**

Achieve required export quality with increased facility throughput at lower opex by efficiently removing water from produced oil with the **NATCO DUAL FREQUENCY** electrostatic treater while it significantly reduces washwater, chemical, and heat requirements.

**Recover, reclaim, reuse**

Maximize produced gas streams that meet pipeline specifications by removing CO$_2$ and H$_2$S with compact, modular **CYNARA** acid gas removal membrane systems. The CO$_2$ is separated to an extremely high purity for EOR reinjection, enabling further hydrocarbon recovery.

**Next-generation water treatment**

Meet oil-in-water removal capacity challenges as produced water levels increase with the **EPCON Dual** compact flotation unit’s unique internal design, which improves separation efficiency by 50% in a footprint half of that of conventional solutions.
Preventive chemicals and mechanical solutions are extensively modeled using the reservoir’s representative PVT data.

Testing and fine-tuning at our process optimization facility follow to ensure effectiveness and right-sized equipment deployment protect flow path structural integrity produce hydrocarbons at optimal levels.

**Chemicals with a purpose**

**Mitigate production risks**
**PREVENT technologies** maintain optimal production by preventing and inhibiting scale deposit formation and corrosion.

**Keep producing**
**PERFORM technologies** extend field life and enhance operating efficiency and cost effectiveness through the use of defoamers, demulsifiers, and flow improvers.

**Protect your hydrocarbons**
**CURE technologies** remove H2S and mercury from liquid and gas streams and eliminate asphaltenes, paraffins, and other organic deposits to improve flow performance and revenue.
Optimize from the Ground Up

Only Schlumberger has the industry-leading technologies, domain expertise, and digital enablement to conduct multidisciplinary projects that integrate reservoir characterization for optimizing facility design and operations across the life of the field.

Integrated remote monitoring

The OneSurface system globally connects the subsurface with the surface. Changes in production are proactively matched and managed, with the constantly updated reservoir model serving as the vital narrative guiding maximum recovery and optimization for any targeted production rate, effluent condition, or export quality requirement.

Digitally connected for optimization

The integrated production system is fully connected, digitally enabled, and software controlled. Integrating data analytics, process modeling, and automation of best practices ensures flow assurance and optimal production.
The integrated production system listens and responds in real time to its extensive network of process, surface, and downhole digital sensors providing accurate measurements of live events to operations via cloud communications.

Hone process adjustment, reservoir management, and production back-allocation decisions based on multiphase flow dynamics monitored with single-point, high-frequency measurements by the Vx Spectra™ surface multiphase flowmeter. Continuous remote monitoring is managed via the cloud using PRODcast Vx™ production testing monitoring software.
The Global Solution

OneSurface reservoir-integrated production system helps operators across the world obtain first oil faster, achieve early cash flow, stage investment decisions, reduce risk, and maximize reservoir recovery.

One Interface. One Solution. One Endgame.

**CASE STUDIES**

**First Oil in Less Than 5 Months, Indonesia**

An operator onshore Indonesia needed an approach to quickly achieve first production from a sour oil field while fully addressing the high H₂S levels, safety requirements, noise levels, and environmental impact. To meet an accelerated schedule for the demanding production conditions, Schlumberger deployed an early mobile unit design of an integrated production system and achieved initial 10,000-bbl/d production in less than five months from the contract award to plant startup.
In the Rasha field in Oman, Petrogas Rima sought to resolve water-in-oil emulsion challenges for effective reinjection to maintain reservoir pressure and assist production. Schlumberger engineered an integrated production system outfitted with EPCON CFU® compact flotation unit technology to separate oil from the produced water and meet the specified water reinjection quality requirements. This solution was delivered and operational in less than 10 weeks to successfully treat the produced water to 10 ppm, which exceeded the operator’s oil-in-water requirement.

On behalf of an operator, Schlumberger runs a West Texas facility processing more than 750 MMcf/d of natural gas. CO₂ is removed from feed gas streams at high purity levels using the CYNARA acid gas removal membrane system for use in EOR applications. The unique design of the membrane also allows the recovery of valuable heavy hydrocarbons, which are returned to the production stream. Over time, the CO₂ concentration is increasing, which would eventually pose a challenge to the CO₂ removal and NGL recovery capabilities of the system. Capitalizing on this challenge, our experts further optimized the facility with real-time monitoring of membrane performance and online controls of feed flow rate and temperature, resulting in a 20% increase in NGL production while concurrently maximizing CO₂ recovery at purity levels greater than 95%.