



Case study: Ecuador onshore operations

Petroecuador boosts production and operational visibility with Leucipa ESP optimizer

Customer profile

- **Operator:** Petroecuador
- **Asset:** Block 16-67
- **Production:** ~11,000 BOPD
- **Artificial Lift:** 97 ESP-equipped wells
- **Deployment Scope:** 71 active ESP wells connected to the Leucipa solution
- **Objective:** Increase production through automated surveillance, real-time optimization, and data-driven decision making

As assets mature, maintaining and growing production becomes increasingly complex. Gains are especially difficult in wells producing very high water cuts. Production teams must continuously balance reservoir constraints, artificial lift performance, operating limits, and equipment reliability while managing large volumes of field data.

Recently, Petroecuador sought to improve production performance across its ESP-equipped wells in Block 16-67 by increasing visibility into field operations, automating surveillance activities, and identifying optimization opportunities that could be efficiently executed by field teams. The operator required a scalable solution capable of integrating real-time field data, generating actionable recommendations, and supporting consistent optimization workflows across a large producing asset.

The solution

Petroecuador deployed **Leucipa™ ESP optimizer**, a part of the **Leucipa™ automated field production solution**, for a 3-month pilot across Block 16-67 to support digital production optimization initiatives. The project integrated field data through **Leucipa™ field connect** and deployed real-time surveillance, physics-based modeling, and automated opportunity management workflows across the asset.

The implementation incorporated 71 active ESP wells into the optimization program, providing continuous monitoring of ESP operating conditions, automated physics-based well model calibration, real-time virtual flow measurement, production optimization recommendations, trend-based alerts and exception management, and automated reporting and opportunity tracking workflows.

6%

production increase
where recommendations
were executed

4,273 bbls

confirmed production
value delivered

55

optimization opportunities
identified

~97%

virtual flow
measurement accuracy

By combining real-time operational data with advanced engineering models, the platform enabled production teams to identify opportunities, evaluate potential production gains, and support faster decision-making across the field.

The results?

The deployment enabled Petroecuador to move from reactive ESP surveillance to a proactive, data-driven production optimization workflow across Block 16-67. By combining continuous monitoring, automated physics-based modeling, and opportunity management within Leucipa ESP optimizer, field teams gained greater visibility into well performance and a repeatable process for identifying and executing production improvements.

The solution identified 55 production optimization opportunities across participating wells, with 10 opportunities implemented and validated in the field. These actions identified 5,200 BOPD of potential incremental production across assets that had historically produced high water cuts (95%). Following implementation of recommended actions, the measured production increase averaged 6% – equivalent

to 4,273 BOPD, demonstrating the successful realization of a significant portion of the identified opportunity.

In addition to production gains, the Leucipa solution achieved ~97% virtual flow measurement accuracy compared with well test data, providing engineers with greater confidence in production insights and optimization recommendations.

The deployment also established a scalable digital foundation for ongoing optimization, with all 71 wells participating in the pilot successfully calibrated with live physics-based models that automatically update as operating conditions change.

Looking ahead

The Block 16-67 project demonstrates how digital production optimization can help operators unlock additional value from mature ESP-operated assets. By combining real-time data connectivity, automated surveillance, physics-based modeling, and optimization workflows within the Leucipa solution, Petroecuador established a scalable foundation for improving production performance, increasing operational visibility, and supporting continuous optimization across the field.