



CASE STUDY

Ecopetrol consolidates its digital transformation for capital project management

The company consolidates a single source of information and standardizes their integrated project management cycle

Key facts:

Company: Ecopetrol

Website:
www.ecopetrol.com.co

Industry: Energy,
oil & gas

Country: Colombia

Octave products used:

Forte 3D (*Intergraph Smart 3D*), Forte Reference Data (*Intergraph Smart Reference Data*), Facets Electrical (*Intergraph Smart Electrical*), Facets Instrumentation (*Intergraph Smart Instrumentation*), Facets P&ID Design Validation (*Intergraph P&ID Design Validation*), InConcert Core (*HxGN SDx*), OnSite Construction Planning (*Intergraph Smart Construction*), OnSite Completions (*Intergraph Smart Completions*), Sequence Enterprise (*EcoSys*), SmartPlant® Foundation

Ecopetrol is the largest energy company in Colombia and one of the leading companies in Latin America. With operations throughout the oil, gas and energy value chain, it has intensified its commitment to digital transformation through its digital agenda as a key strategy for achieving its annual goals, aiming to improve efficiency, sustainability and data-driven decision-making.

Project challenges: Integrating information and trusting the data

Before the project, Ecopetrol faced a dispersion of data housed in non-integrated systems, with different structures between plants and technical project disciplines. This made it difficult to standardize processes and ensure information governance. Furthermore, the lack of a single source of truth limited the implementation of corporate metrics and analytical models based on reliable and consistent data.

The solution: Revolutionizing project management with Octave solutions

Ecopetrol implemented the SmartEDP project, a transformative initiative to revolutionize project management in the oil and gas industry. This project established a comprehensive digital solution that spans the entire project lifecycle, from planning to execution. To achieve this, it adopted a robust suite of Octave solutions, including InConcert Core, Sequence Enterprise and a variety of design applications Forte 3D, Forte Reference Data, Facets Electrical, Facets Instrumentation, Facets P&ID Design Validation, OnSite Construction Planning and OnSite Completions to manage its capital investment portfolio of more than 300 projects.

The initiative began with pilots, which allowed the approach to be validated and adapted to different operational realities. Data was integrated with SAP and MS Project, legacy sources were migrated and structures were harmonized across different facilities.

“Octave was instrumental in helping us structure and realize our vision of a Corporate Digital Twin. It not only provided the platform, but also the knowledge to transform disparate data into a single, standardized and reliable source.”

Josue Romanos Zapata
General Manager of
Projects, Ecopetrol



Results: Reliable data, standardized processes and an integrated vision

The SmartEDP project is already showing concrete results for Ecopetrol:

- More reliable and centralized data for critical decisions
- Progress in standardizing processes across plants and technical disciplines
- Integration with SAP for a unified view of project costs and budgets
- A solid foundation for KPIs, advanced analytics, and governance
- A model that can be expanded to other company units

With SmartEDP, Ecopetrol is taking a firm step toward a robust digital ecosystem prepared for the energy challenges of the future, not only by implementing the software, but also by harnessing its potential to revolutionize the way we work.

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we’ve partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what’s possible from day one onward.

©2026 Intergraph Corporation and/or its affiliates. All rights reserved.