



Innovarpel 2025

TECHNICAL DAYS

**DIGITAL TRANSFORMATION
& INDUSTRIAL CYBERSECURITY**
IN THE OIL&GAS INDUSTRY

arpel 
YEARS

JUNE, 24 & 25
Rio de Janeiro, Brazil



GEOARK

GeoAI: Harnessing AI for Geological Evaluation

Cinthya Sánchez | GeoPark



AI Business Cases - Types of initiatives

The 3 Business Cases of Generative AI Value, Gartner, June 2025

Defend

Enhancing individual productivity to maintain competitiveness, delivering tangible value to employees.

- AI assistants
- Copy generation
- Coding assistants

Extend

Transforming existing processes or teams to drive differentiation from competitors, generating a clear return on investment.

- GenAI corporate risk agent (2 months to 2 weeks)
- Automation Hackers team
- GenAI document search and summary

Upend

Enabling disruption through the creation of new propositions, products, or markets, generating long-term returns and value.

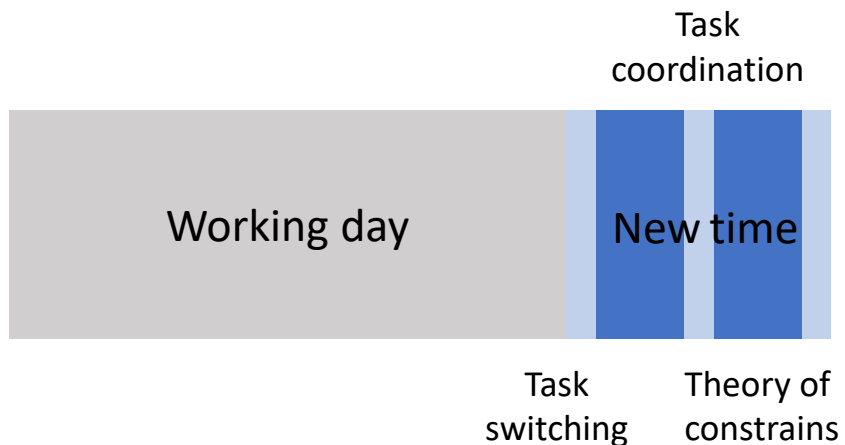
- Industry/domain GenAI enabled applications:
- Unsafe conditions
 - Drilling



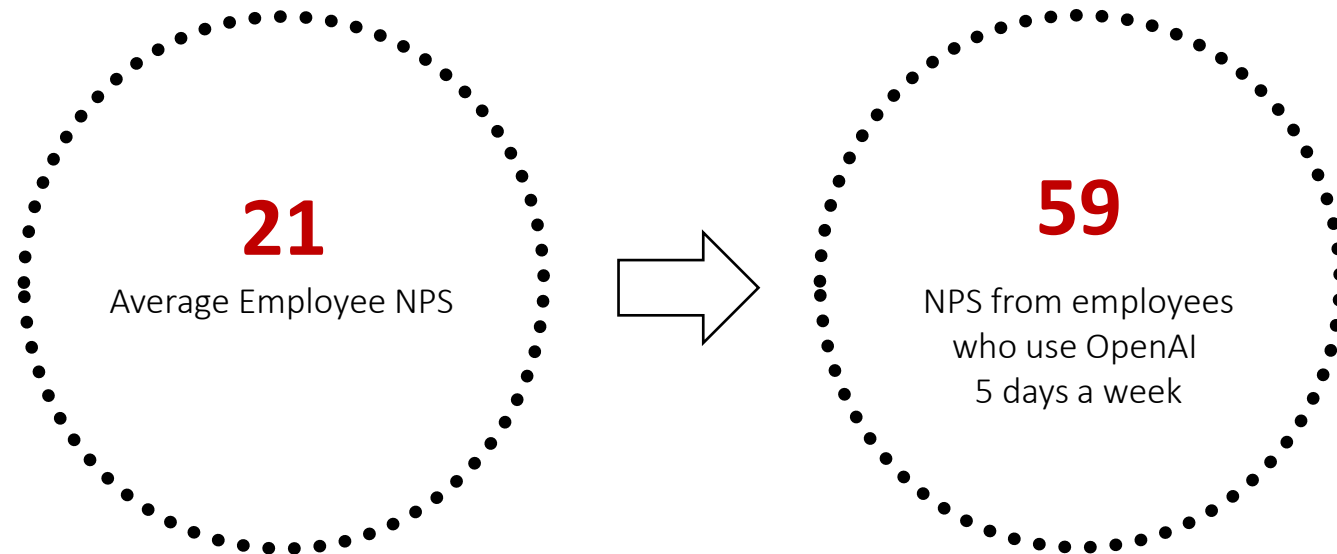
Types of initiatives – Defend

Productivity Gains

Microsoft OpenAI users save an average of 14 minutes per day, but perceive a 2.5 times higher increase.



Copilot was not fully aligned with our needs, whereas the acceleration we've achieved has primarily been driven by OpenAI's solutions.



With the implementation of OpenAI and the adoption of its tools, we've achieved significant improvements in operational agility. For instance, our licensed users engage in ~195 ChatGPT conversations and 36 agent interactions per user each month.



Types of initiatives – Extend AutonomIA – AI Automation Hackers

Where there is inefficiency, we intervene. Where a process stalls, we reimagine it. When someone says, “this is how it’s always been done,” we ask, “what if we did it differently?”

Our goal is clear: to smartly automate friction points that limit the organization’s impact, unlock strategic thinking, and drive GeoPark toward a more agile, accurate, and intelligent operation.

Objectives:



Transform with real impact



Foster a culture of technological thinking



Experiment and scale with speed



Use technology responsibly

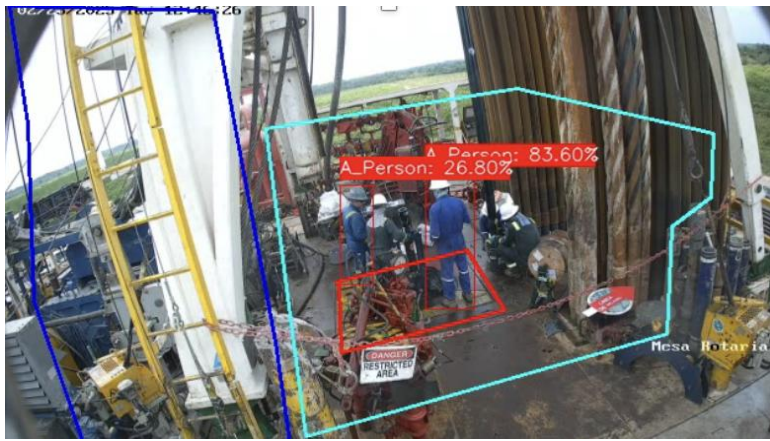
Some of the tools we use to drive transformation:



From Monday in prototype,
to Friday in production

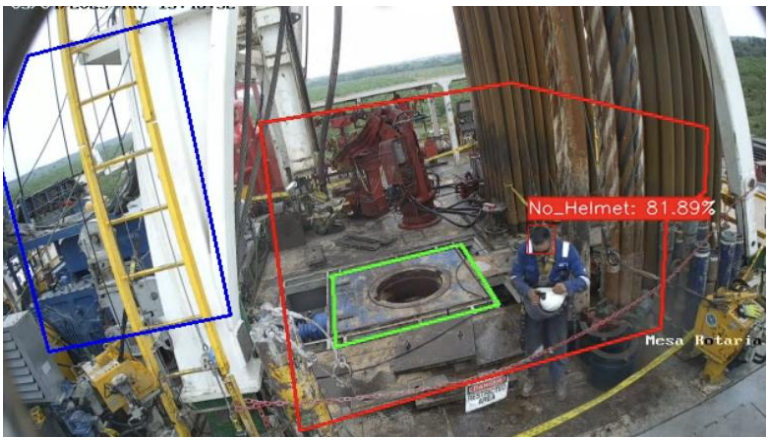
Types of initiatives – Upend

We are currently operating through external providers, utilizing specialized applications for the identification of unsafe conditions.




• People in the Buffer Zone

• Helmet non-compliance detection




**Detección de No Arnés**

**Detección de Casco Verde**


**Detección de Sin Casco**


**Detección de Casco Amarillo**

**Detección de Personas**



PERFORACIÓN
Reducción de tiempos y costos récord

**37%** menos en tiempos (2023-2025)

**38%** menos en costos de perforación y completamiento
[USD 4.5 MM → USD 2.8 MM]

GeoAI: How it all began



GeoAI was conceived as a suite of intelligent agents designed to accelerate and enhance subsurface data interpretation in the oil and gas sector. It integrates advanced geoscientific capabilities with modern AI tools to support exploration and development workflows.

Key functionalities include:

- Log curve analysis to interpret drilling data such as gamma ray, resistivity, and density
- Petrophysical calculations for porosity, permeability, water saturation, and shale volume
- Net Pay and Net Reservoir identification using technical evaluation criteria
- Data quality control to detect errors and ensure reliable information
- Access to technical manuals, embedding industry standards and best practices
- Curve behavior analysis to detect trends, anomalies, and zones of geological interest
- Seismic image interpretation, including legacy datasets
- Python support to automate data processing and generate interactive maps





AI at GeoPark: From Vision to Scalable Impact

The integration of Generative AI at GeoPark is not theoretical — it's operational, measurable, and transformative. From improving daily productivity and decision-making through OpenAI tools, to automating processes with AutonomIA and enabling breakthrough innovations in safety and subsurface data analysis, our initiatives span the full AI value spectrum: **Defend, Extend, and Upend.**

With agile deployments from **prototype to production in a week**, and specialized AI agents like **GeoAI**, we are reshaping how energy is explored, developed, and operated: faster, smarter, and more responsibly.

THANK YOU!

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