



Deliverable report 19

AI and IAGEN Application Use Case

Design, Planning and Coordination - Maps, profiles, logistics and communication in the Oil, Gas and Energy Industry in Vaca Muerta, Neuquén, Argentina

Classification of deliverable report 19: "Design, Planning and Coordination - Maps, Profiles, logistics, and communication in the Oil, Gas, and Energy Industry in Vaca Dead, Neuquén, Argentina":

Classification 1: By Main Resource

- Selected option: Oil and Gas (main), Water + energy (secondary).
- Justification:

The report specifically emphasizes optimization in petroleum processes and gas in Vaca Muerta, detailing activities related to drilling, exploration, logistics, and operational management. Although it also mentions resources such as water and energy from a secondary approach oriented towards the Sustainable optimization, oil and gas are clearly the main resources addressed in depth.

Classification 2: By Activity within Vaca Muerta

- Selected option: Information Management and Decision Making
- Justification:

The report focuses primarily on the automated generation of operational maps, logistics profiles, coordination and communication strategies. efficient in real time. These tools significantly improve the management of critical information and facilitate better decision-making operational and strategic within the oil and gas sector.

Classification 3: Type of AI Technology Used

- Main selected option:
 - 1) Generative AI Models,
 - 2) Machine Learning Algorithms, 6) AI Platforms for Data Integration and Big Data.
- Justification:

The document explicitly mentions the intensive use of AI technologies generative to automate planning, generation of dynamic maps, logistics profiles, and predictive optimization. It also emphasizes integration advanced with GIS, ERP, and IoT sensor systems, indicating a strong Presence of data integration platforms and Big Data for analysis deep information and intelligent decision-making.

Classification 4: By Strategic Impact on the Industry

- Selected option: Strategic Decision Making and Data Analysis
- Justification:

The report specifically highlights the strategic contribution of generative AI in key aspects such as logistics optimization, precise planning of drilling, predictive maintenance, administrative management automated and the strategic management of fluctuations in market demand and prices. All of this provides a significant competitive advantage in terms of operational efficiency, cost reduction, improved safety

operational, and better-founded strategic decisions.