Deliverable report 55

AI and IAGEN Application Use Case

Artificial intelligence to optimize logistics and water transportation in Vaca Dead

Classification of Deliverable Report 56: "Artificial intelligence to optimize the logistics and water transportation in Vaca Muerta":

ÿ Classification 1: By Main Resource

Water + energy

- The focus of the report is water logistics in fracturing operations hydraulics, including supply, transportation, storage, Monitoring and reuse. The goal is to optimize water and energy use. associated with the movement of large volumes in critical areas.

Classification 2: By Activity within Vaca Muerta

Information Management and Decision Making

- The document proposes the use of AI to forecast water demand, plan transport routes, make strategic decisions about stockpiling, maintenance and reuse, and generate reports with key indicators. It is a layer of logistics intelligence applied to field and business decisions management.

Classification 3: Type of AI Technology Used

- 1ÿÿGenerative AI models (logistics scenario planning, generation of automated reports)
- 2ÿÿMachine Learning Algorithms (demand prediction, detection bottlenecks, well clustering)
- 4ÿÿArtificial Vision and Image Analysis Systems (for support to infrastructure decisions)
- 5ÿÿAI Systems Based on Intelligent Agents (real-time routing, predictive maintenance, fleet coordination)
- 6ÿÿAI Platforms for Data Integration and Big Data (telemetry, SCADA, GPS, tank levels, IoT)

Classification 4: By Strategic Impact on the Industry

AI for Production and Infrastructure Optimization

- The impact is manifested in: reduction of transportation costs, decrease emissions, greater operational safety, better fleet utilization, standardization of processes and preparation for scaling operations. It is also linked to sustainable logistics and operational intelligence. distributed, key in the new scale of Vaca Muerta activity.