HUB TECH IA

AI and IAGEN Application Use Case

Distribution Optimization in Vaca Muerta: Process Design Data-Driven

Classification of Deliverable Report 28: "Optimization of Distribution in Cow Dead: Data-Driven Process Design:

Classification 1: By Main Resource

- Selected option: Oil, ÿ Gas, Water + energy (approach) comprehensive).
- Justification:

  The report focuses specifically on optimizing oil distribution and gas from Vaca Muerta, with special emphasis on the logistics processes related to hydraulic fracturing, including the distribution of large volumes of water and sand. These three resources are addressed as critical within the operational context of the report.

Classification 2: By Activity within Vaca Muerta

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

  The main activity mentioned in the report is the advanced use of data-driven technologies (AI, IoT, Big Data, TMS and WMS Systems) to optimize logistics planning and execution, allowing for better decision-making. of operational, predictive and strategic decisions in the distribution of resources from Vaca Muerta.

Classification 3: Type of AI Technology Used

• Main selected option:

1ÿÿGenerative AI Models,

2ÿÿMachine Learning Algorithms,

3ÿÿNatural Language Processing (NLP) Systems,

4ÿÿComputer Vision and Image Analysis Systems,

6ÿÿAI Platforms for Data Integration and Big Data, 5ÿÿAI Systems Based on Intelligent Agents.

• Justification:

The report explicitly details the implementation of technologies generative (IAGEN), predictive analytics with Machine Learning and AI for route optimization, monitoring with IoT, massive data analysis with Big Data platforms, advanced visualization using vision systems artificial and analytical models for demand prediction and management inventories, along with the use of automated intelligent agents for real-time monitoring and adjustments.

Classification 4: By Strategic Impact on the Industry

1. Selected option: Strategic Decision Making and Data Analysis
2. Justification:

The report particularly emphasizes how the implementation of solutions data-driven significantly improves logistical and operational efficiency, reducing costs and transportation times, optimizing risk management, and improving long-term strategic planning through Informed decisions based on deep and predictive data analysis logistics.