HUB TECH IA

## AI and IAGEN Application Use Case

# Optimization of Logistics Management in the Energy Sector of Vaca Muerta, Neuquén, Argentina

**Classification of deliverable report 29: "Optimization of Logistics Management in the Vaca Muerta Energy Sector through Generative Artificial Intelligence (IAGEN):**

Classification 1: By Main Resource

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

The report specifically addresses logistics optimization in the sector energy, with special attention to processes related to oil and gas in Vaca Muerta. It also explicitly mentions the associated logistics to water and energy resources used in key operations, such as hydraulic fracturing, clearly positioning these three resources in a comprehensive and strategic approach.

Classification 2: By Activity within Vaca Muerta

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

The document is mainly focused on the advanced use of data-driven technologies (IAGEN) to optimize logistics management, including predictive analytics, monitoring, automated route generation, inventory management, predictive maintenance, risk management and automation of logistics processes. This approach clearly corresponds to advanced information management and substantial improvement in decision making

operational and strategic decisions.

Classification 3: Type of AI Technology Used

• Main selected option:
  1ÿÿGenerative AI Models,
  2ÿÿMachine Learning Algorithms, 6ÿÿAI
  Platforms for Data Integration and Big Data, 5ÿÿAI
  Systems Based on Intelligent Agents.
• Justification:
  The report clearly specifies the intensive use of generative AI for predictive analysis and automated generation of logistics solutions. It also makes explicit reference to advanced learning algorithms. automatic for predictions and predictive maintenance, Big Platforms Data for processing and analysis of logistics information in real time, and the use of automated intelligent agents for supervision, monitoring and continuous adjustment of logistics processes.

Classification 4: By Strategic Impact on the Industry

1. Selected option: Strategic Decision Making and Data Analysis
2. Justification:
  The main strategic impact mentioned lies in the optimization of the logistics, significant reduction in operating costs, increase in operational efficiency and safety, and continuous improvement in decision-making through accurate information and detailed predictive analysis. Strategic use of these technologies positions companies in Vaca Dead as leaders in logistics efficiency and operational sustainability.