



AI and IAGEN Application Use Case

Documentation Automation in Vaca Muerta, Neuquén, Argentina.

Executive Summary – IAGEN Application for Automation

Documentation in Vaca Muerta

This executive summary presents a strategic application of generative artificial intelligence (IAGEN) in the energy sector, specifically aimed at automating operational and logistical documentation in Vaca training.

Dead. This is a key opportunity to digitally transform energy operations and strengthen administrative and regulatory efficiency in a of the main hydrocarbon producing regions of Argentina.

Use case classification

The report classifies this IAGEN application according to four axes:

1. By main resource: oil, gas, water and energy (comprehensive approach).
2. By activity: information management and decision-making.
3. By technology: generative AI models, natural language processing (NLP), intelligent agents, and data integration platforms.
4. By strategic impact: improvement in strategic decision making and data analysis.

1. Opportunities for using AI and IAGEN in the sector

The proposal focuses on automating the generation, validation and distribution of key documentation, such as transport guides, security records, reports environmental and logistics forms. IAGEN allows you to integrate captured data by IoT sensors, process them using RPA and generate documentation in real time

real using models such as GPT-4, with the ability to adapt to regulations current regulations.

2. Expected benefits

The solution brings concrete benefits to the Vaca Muerta energy sector, among which stand out:

- Elimination of manual errors when capturing and writing documents automatically.
- Immediate generation of guides, reports and forms, streamlining processes critics.
- Document uniformity aligned with technical and regulatory standards.
- Reduction of administrative burden, allowing staff to focus on strategic tasks.
- Greater document traceability for internal and external audits.
- Improved decision-making through automated analysis of real-time information.
- Strengthening environmental management through automatic reporting of emissions and resource consumption.

3. Application of AI

AI is applied in an agentic flow integrated by IoT sensors that capture operational data (such as weight, routes or temperature), RPA agents that validate that information against ERP systems, generative models such as GPT-4 that draft documents in accordance with current regulations, and distribution agents which automatically deliver these documents to the relevant actors.

In addition, natural language processing techniques are used to analyze the generated documents, detect anomalies, classify information and facilitate decision-making in complex environments.

4. Proposed AI Agent

The report proposes the implementation of an artificial intelligence agent composed of a sequence of interconnected components: IoT sensors that

They capture real-time logistics data (weight, temperature, schedules); RPA agents validate this information against ERP systems; and a document generator based on GPT-4 that automatically drafts waybills, safety reports, and regulated forms; and a distribution agent that sends the documents to recipients (drivers, supervisors, administrative bases) through internal digital platforms.

The main function of this agent is to fully automate the cycle operational documentation, ensuring speed, accuracy, and regulatory compliance. Its key benefit lies in the ability to free up administrative staff from tasks repetitive, reduce errors, and improve environmental and legal compliance, while that provides structured information for data-driven strategic decisions in real time.

5. Conclusion

Document automation through IAGEN in Vaca Muerta represents a transformative opportunity for the Argentine energy sector. This solution substantially improves operational efficiency and environmental management, strengthens the traceability and regulatory compliance, and positions Vaca Muerta as a regional benchmark in technological innovation applied to the energy industry. If While technical, regulatory and cultural challenges are identified, the report details viable strategies to overcome them and consolidate a successful digital transition, collaborative and sustainable.