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TECHNICAL DAYS

DIGITAL TRANSFORMATION & INDUSTRIAL CYBERSECURITY
IN THE OIL&GAS INDUSTRY

arpel 60 YEARS

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SAP-FUELFACS: The challenge of integration

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Petropar
Ñanemba´e

🛠️ The Starting Point

Manual processes and isolated systems defined daily operations, creating information silos and limiting real-time visibility.

⚠️ The Critical Gap

The need for digital transformation clashed with operational reality: a gap between financial management and field fleet control.

🌉 The Solution: Uniting Two Worlds

A direct integration between SAP ERP and the FUELFACS system was implemented, creating a technological bridge to unify information.

📈 The Result: Impact and Benefits

The integration resulted in greater efficiency, inventory optimization, cost reduction, and decision-making based on accurate, real-time data.

🔮 Looking to the Future

This is just the beginning. The next steps include advanced data analytics, AI optimization, and expanding digitalization to new business areas.

Petropar Overview

- It is a strategic government company
- It holds the second-largest marked share in Paraguay.
- It has more than 275 service stations in Paraguay.
- It has a storage capacity of 320,000 m3 across 42 tanks
- It has 14 bays for the loading of tankers.
- It has a dock on the Paraguay River for receiving and distributing products.

Petropar

VENTAS / MARKET SHARE

VOLUMEN POR AÑO, MES Y DISTRIBUIDOR

The technological legacy of Petropar

- AS400 server with accounting, billing and HR system in DB2.

- It was considered reliable during its time.

Limitations

- Duplication of work by among departments.

- Limited access to records and data queries

DB2 system screen on AS400

1° AS400 Server

2° AS400 Server

After more than 30 years of use, this system was decommissioned in 2025.

Implementation of SAP S/4 Hana ERP

- Integrated system with modules for Commercial, Finance (Treasury and Costs), Logistics and Budget. Started in 2018.

- The focus was on administrative and commercial management areas. Between 2018 and 2023

- Many operational processes are managed outside the system.

The Critical Gap: Digital Transformation vs. Operational Reality

- Commercial management, orders, credit control, delivery, and invoicing

Manual Authorization

Manual load determination

Totalizer printing

Manual and Isolated Processes

6

Reimplementation of Fuelfacs

- Historically, Petropar already had Fuelfacs but it was working in isolation.

- For various reasons, such as version changes, sensor failures, and other components, it was discontinued.

- The complete system was updated, including servers, controllers, sensors, and other components to make the system operational.
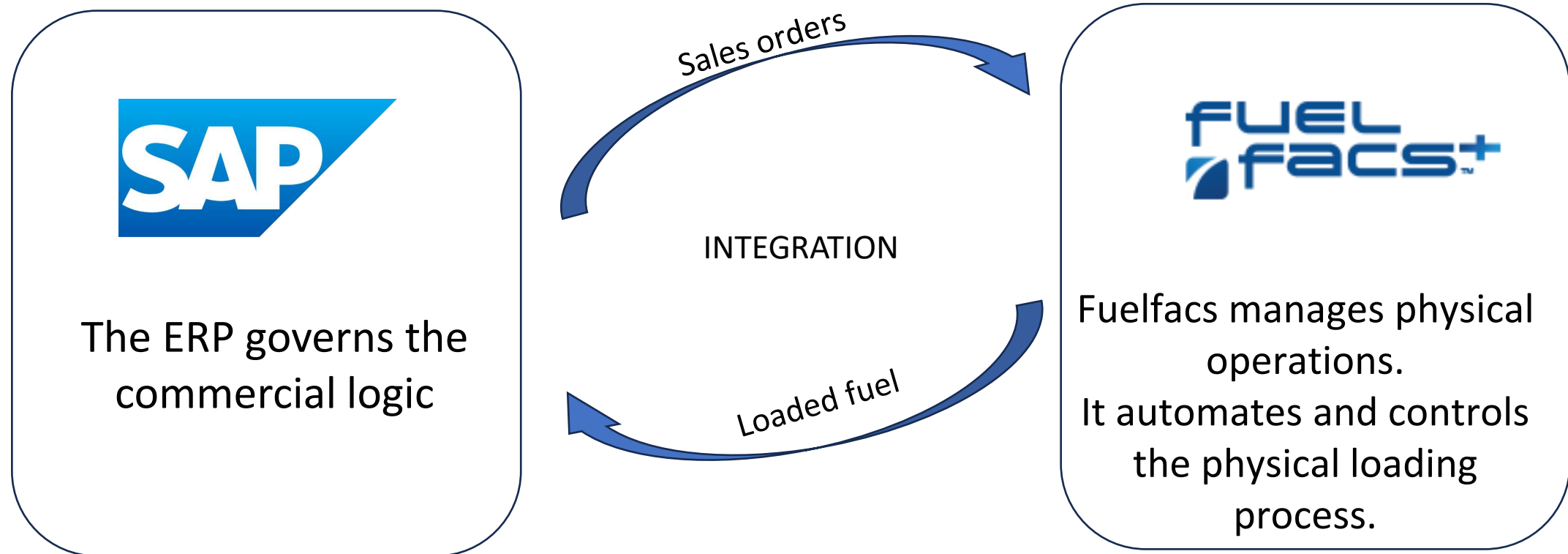

Truck loading stations

Load control system

Multiload II

The solution: Uniting two worlds, SAP ERP and Fuelfacs.

Sales orders

INTEGRATION

Loaded fuel

The ERP governs the commercial logic

Fuelfacs manages physical operations.
It automates and controls the physical loading process.

Challenges of integration

- **Technician:** Harmonize completely different protocols and architectures
- **Process:** Redefine the end-to-end workflow.
- **Cultural:** Train the staff and overcome resistance to change.

The results: Impacts and Benefits of Integration

- Operational Improvement: Drastic reduction in waiting time for truck dispatch.

- Accounting Precision: Complete elimination of manual discrepancies between what was dispatched and what was invoiced.

- 360° Visibility: Complete and real-time traceability of every liter of fuel.

Looking to the future: next steps

- Continue optimizing the supply chain

- Explore the data for predictive analytics

- Improve the customer experience with new digital services

- Start with a new stage of innovation

Integration IT and OT

Thank you so much!!

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