
AVEVAWORLD
PARIS

Celebrating local flavours

GBfoods

‘Decarbonizing GBfoods through Digitalization’

16/10/2024 | Oriol Mesià Segura

Edge platform with PI System combined with PME from Schneider Electric to drive sustainability and efficiency

IT Digital Hub Manager

Responsible in IT for the Digital Transformation strategy of GBfoods factories as a competitive advantage for the business. Our mission is to define a global strategy for the deployment and implementation of solutions across all factories with the main objective of generating efficiencies and reducing costs.

CONTENTS

GB FOODS

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GBfoods Introduction

GBfoods Introduction

Who we are: Highlights

GBfoods is a multinational company based in Barcelona, Spain, specializing in the production of food and condiments. The company has a wide range of internationally recognized brands, such as Gallina Blanca, Star, Jumbo, and Grand'Italia, among others.

MORE THAN

50

Countries

MORE THAN

30

Local Brands

AROUND

3.500

Employees

TURNOVER 2022

1.426 mil.

Euros

GBfoods Introduction

Who we are: Geographies

EUROPE

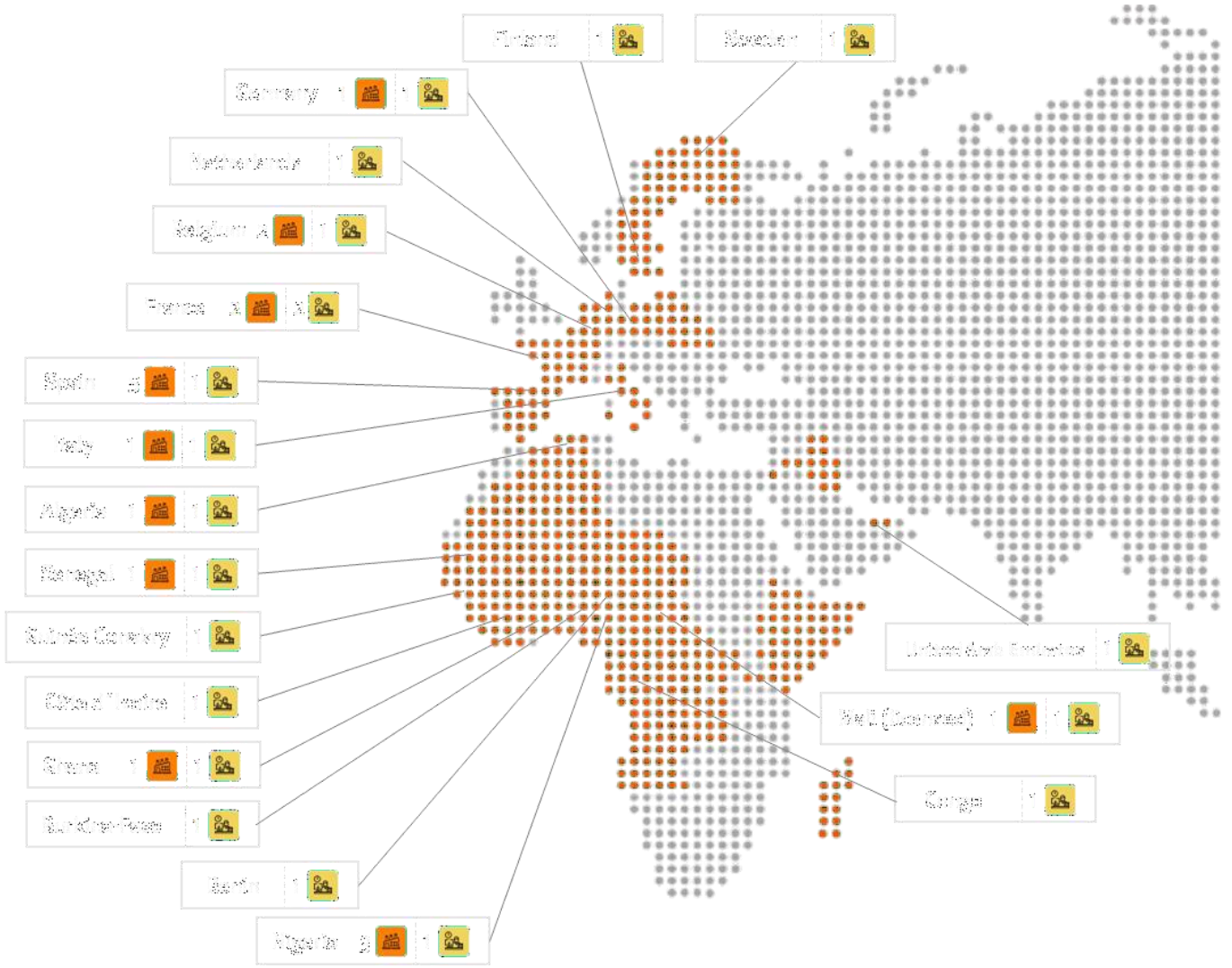
11 Factories

9 Offices

AFRICA

6 Factories

11 Offices



JUMBO · Gallina Blanca · Erasco · Gino · Liebig · STAR · BAMA · dl · Grand'Italia · Blå Band

GBfoods Introduction

Who we are: Our Brands

We have historic local brands that are well known in Europe and Africa: some have been in consumers' kitchens for more than 150 years, deeply rooted in the local culture.

Europe

Spain

Italy

Germany

Belgium

France

Netherlands

Nordics

Africa

Nigeria

Ghana

Algeria

West Africa*

Central & East Africa*

Angola, Kenya.

02

Energy Monitoring Summary

GBfoods | Europe & Africa

GBfoods is committed to leading the way towards a more sustainable future in the food industry

Optimizing the use of resources is a relevant pillar on which the Project has been defined

Before the Project

- Lack of visibility into detailed energy consumptions of operational processes to identify potential efficiency points.
- Data collection, sharing, and analysis were a big challenge, as well as implementing a standard and scalable solution to be replicated in all our factories.

Solution

- Deployed AVEVA™ PI System™ to streamline data collection, access, analysis, and reporting.
- Power Monitoring Expert to manage energy information from metering and control devices installed and to ensure **ISO-50.001 compliance**.

Results

- **Energy Consumptions being analysed in 4 Factories to identify efficiencies and define new improvements backed by Business Cases with reliable data.**
- **¡GBfoods is now on track to achieve its initial target to reduce Co2 emissions and energy costs!**

03

Energy Monitoring Challenges

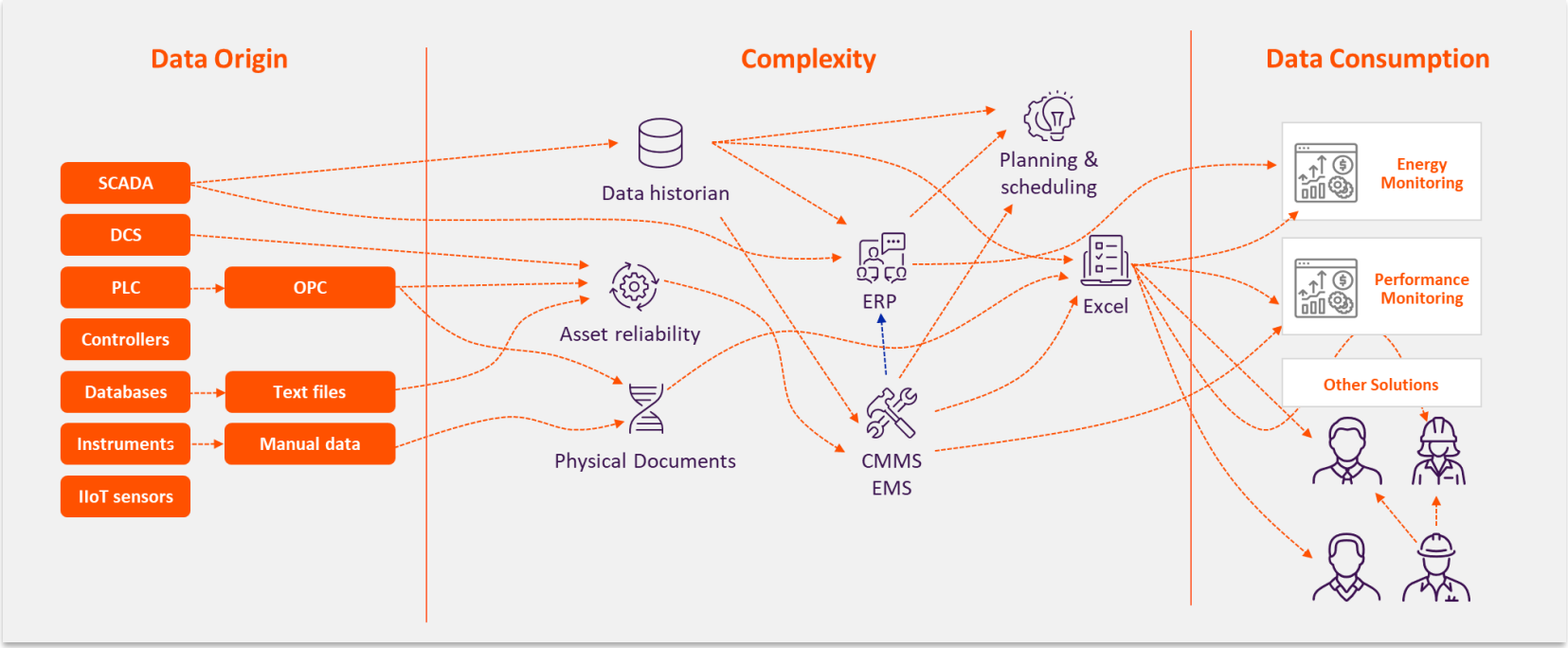
Energy Monitoring Project

Data Collection & Access Challenge

Main Challenges

1. Access and collect data generated in industrial processes.
2. Global and secure architecture to ensure access to consumer data.
3. Identify points of energy efficiency or optimization.

1 **Extracting factory data is a complex process.** The equipment deployed in industrial processes generates a wide variety of data and works with different industrial protocols to communicate with the solutions that consume it.



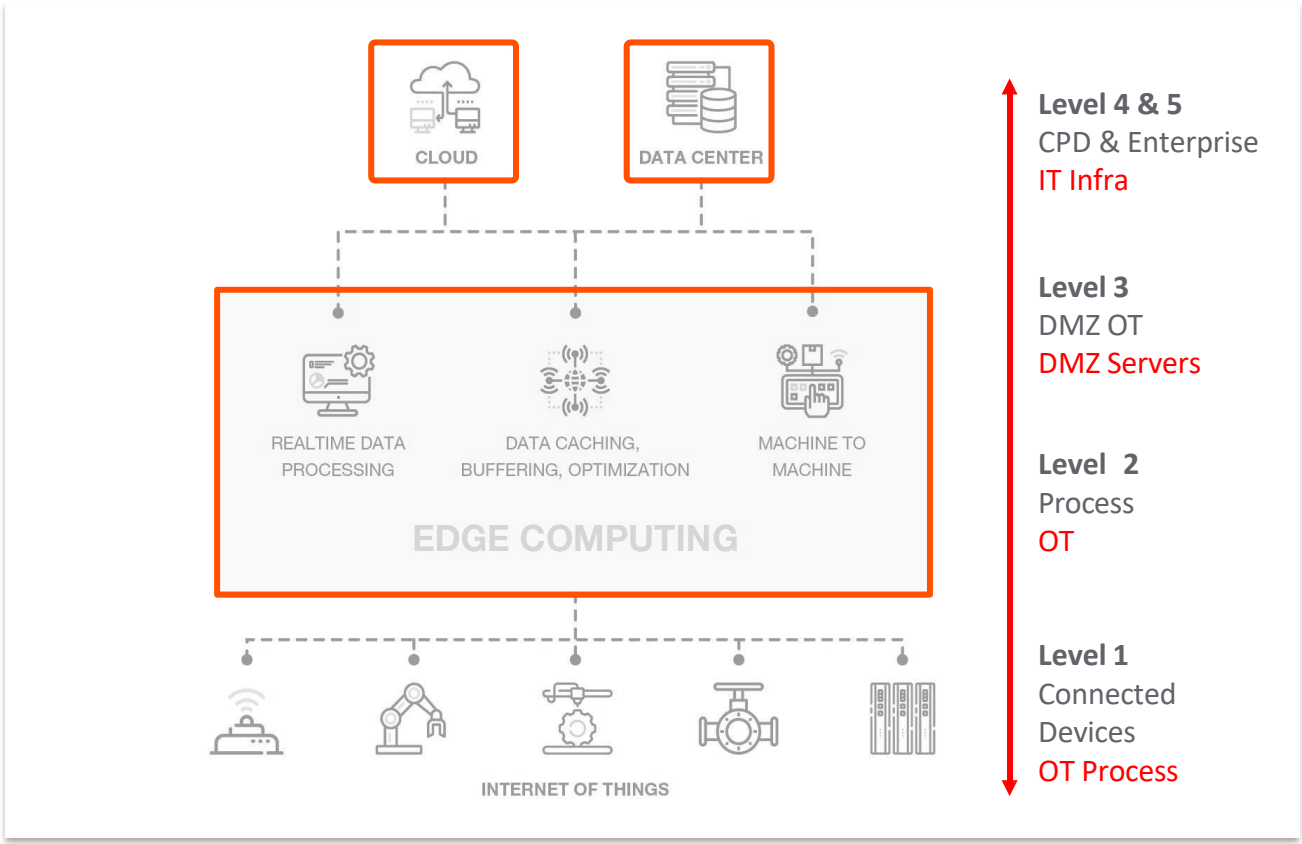
Energy Monitoring Project

Global & Secure Architecture Challenge

Main Challenges

1. Access and collect data generated in industrial processes.
2. Global and secure architecture to ensure access to consumer data.
3. Identify points of energy efficiency or optimization.

2 Deployment of an **IEC62443** compliant **Global Architecture** to secure communications between OT/IT **including Infrastructure at the Edge**.



Energy Monitoring Project

Improvements Identification Challenge

Main Challenges

1. Access and collect data generated in industrial processes.
2. Global and secure architecture to ensure access to consumer data.
3. Identify points of energy efficiency or optimization.

3 **Provide the tools and capacities** for consumption analysis, monitoring and reporting (energy management system) for **compliance with ISO-50.001**.

PME – Sanky Diagram

PME – Main KPI's Monitoring

PI – Advanced Analytics

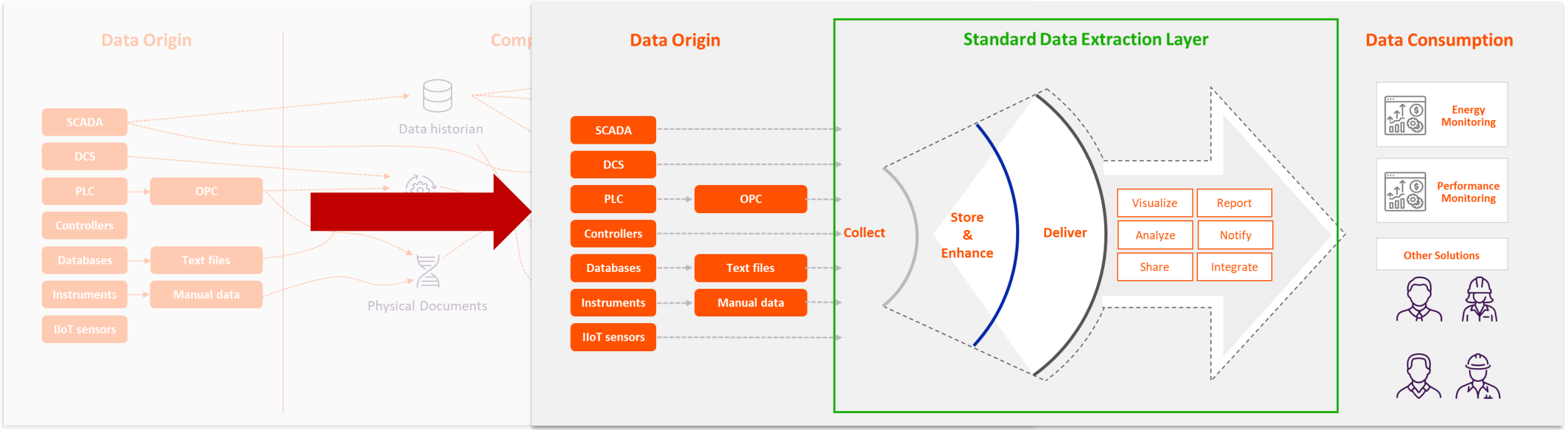
03

Energy Monitoring Solution

Energy Monitoring Solution

Architecture Introduction

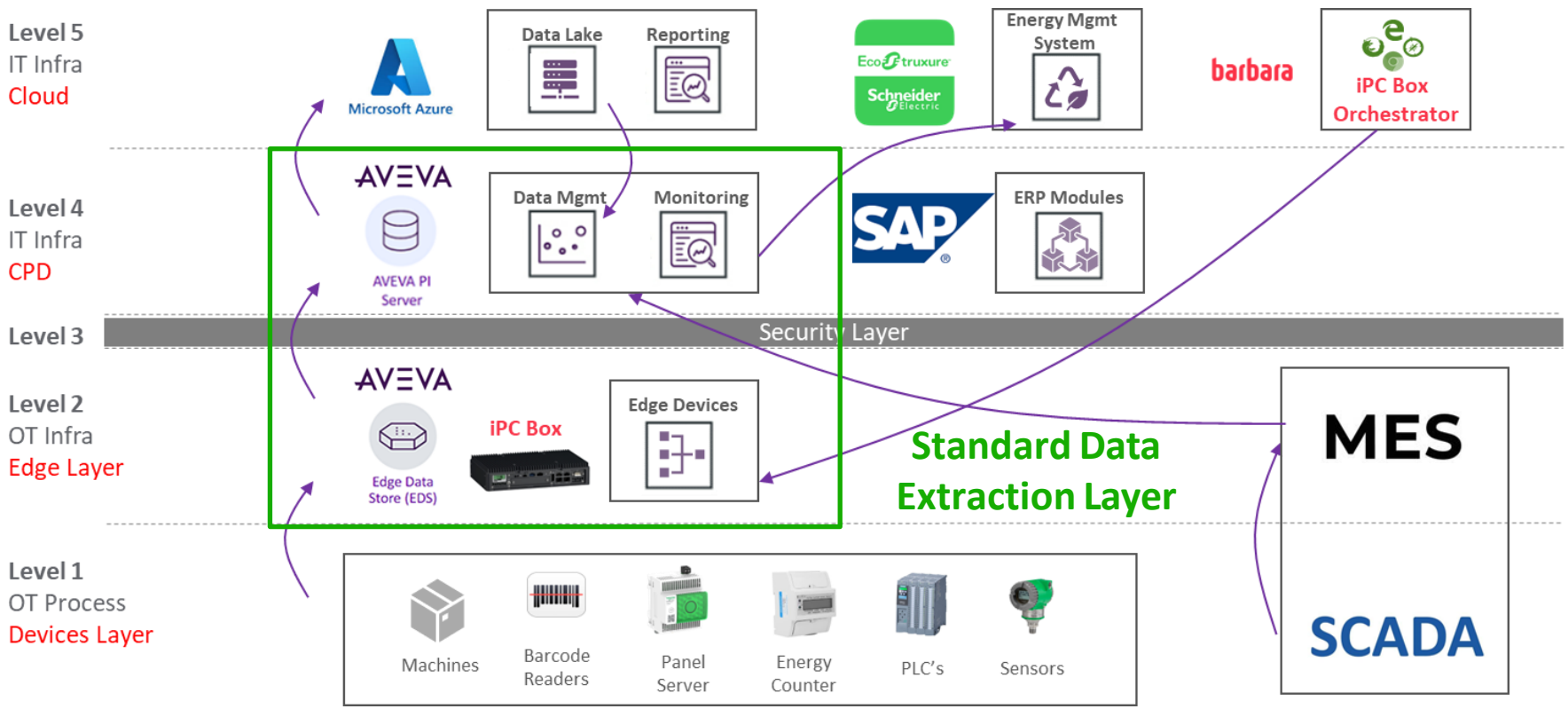
A global and standard architecture has been deployed for Energy Monitoring Project including Edge & IIoT innovative solutions to facilitate data acquisition and management.



Energy Monitoring Solution

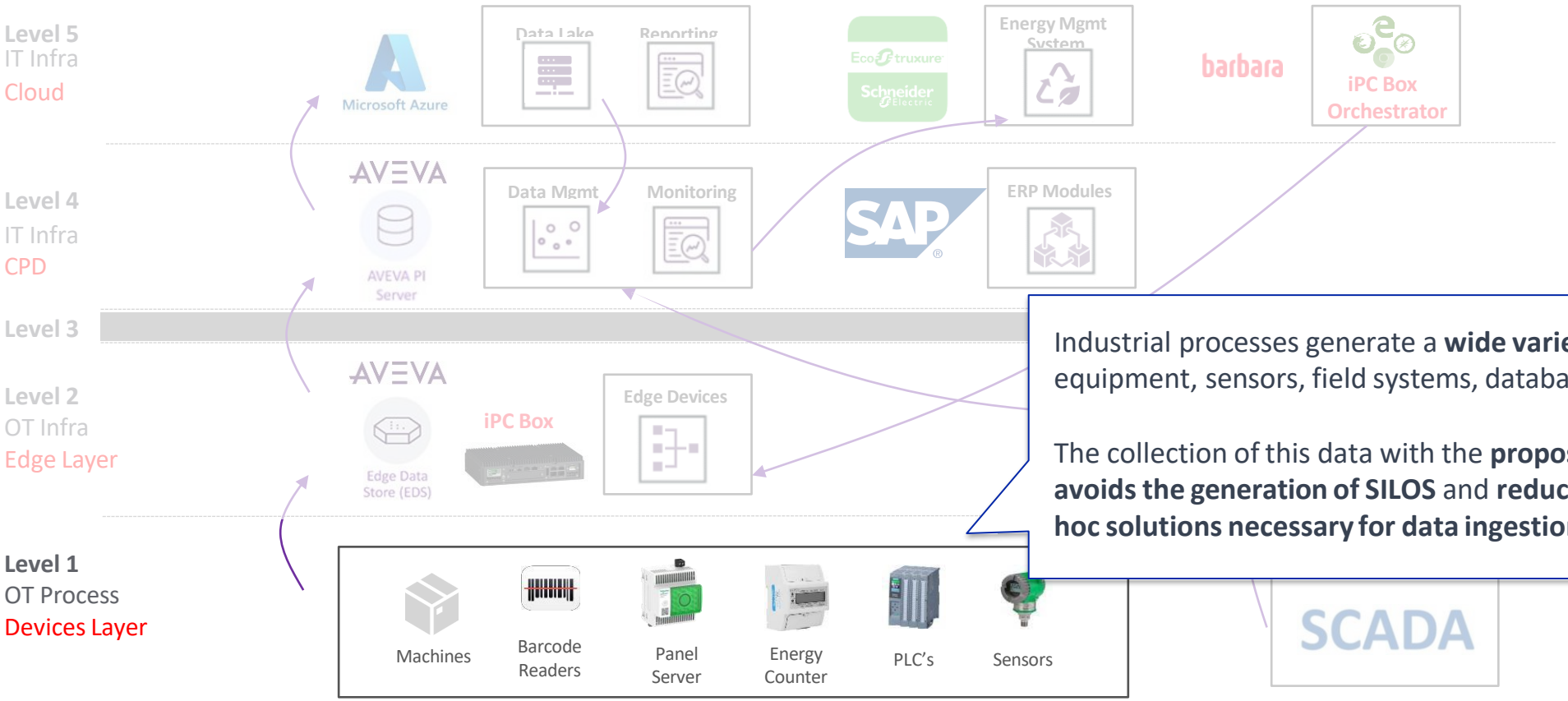
Architecture Introduction

The Architecture was deployed to fulfill our scalability requirements while being IEC62443 compliant to ensure the securitization between OT/IT layer including our infrastructure at the Edge.



Energy Monitoring Solution

Benefits of Innovative Architecture

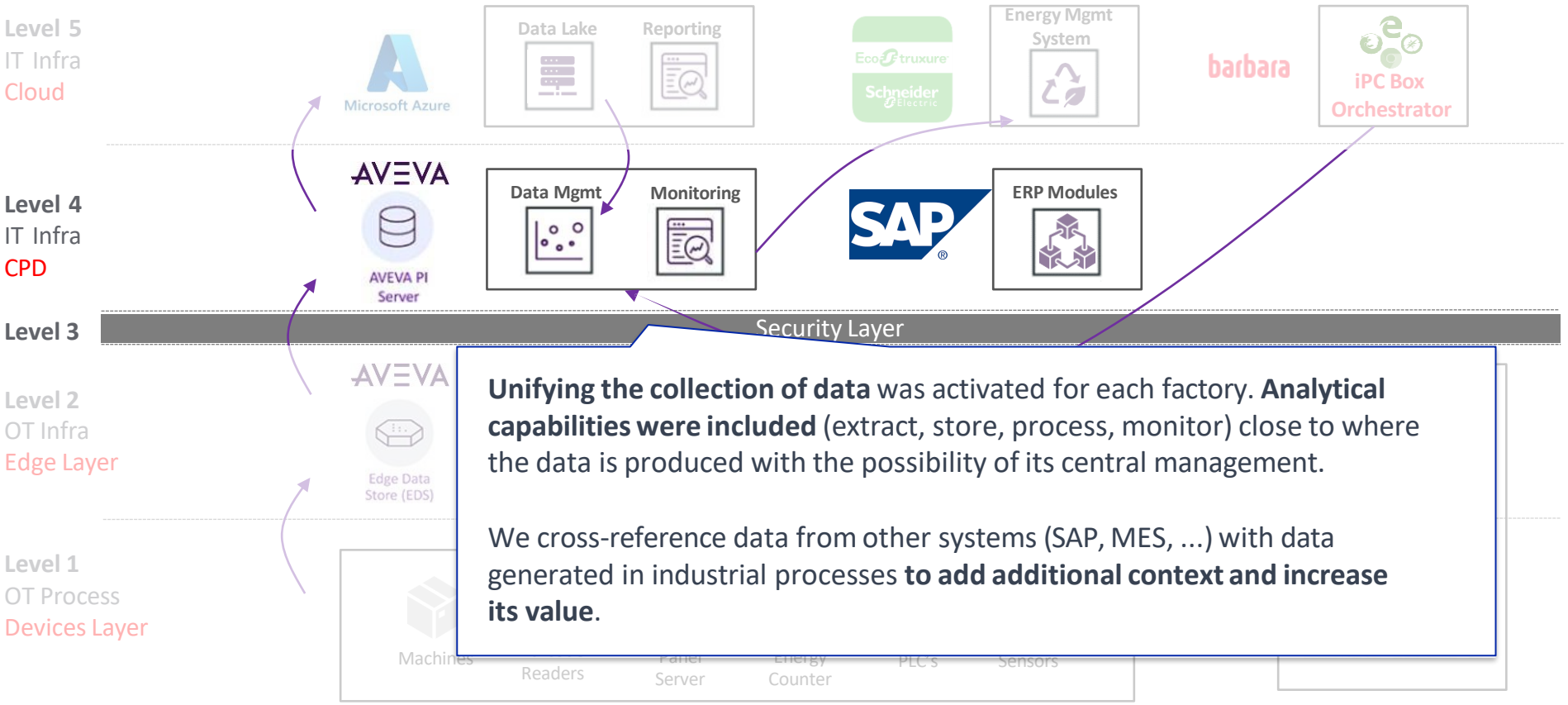


Industrial processes generate a **wide variety of data sources**, equipment, sensors, field systems, databases, etc.

The collection of this data with the **proposed architecture avoids the generation of SILOS** and **reduces the number of ad-hoc solutions necessary for data ingestion** in other use cases.

Energy Monitoring Solution

Benefits of Innovative Architecture

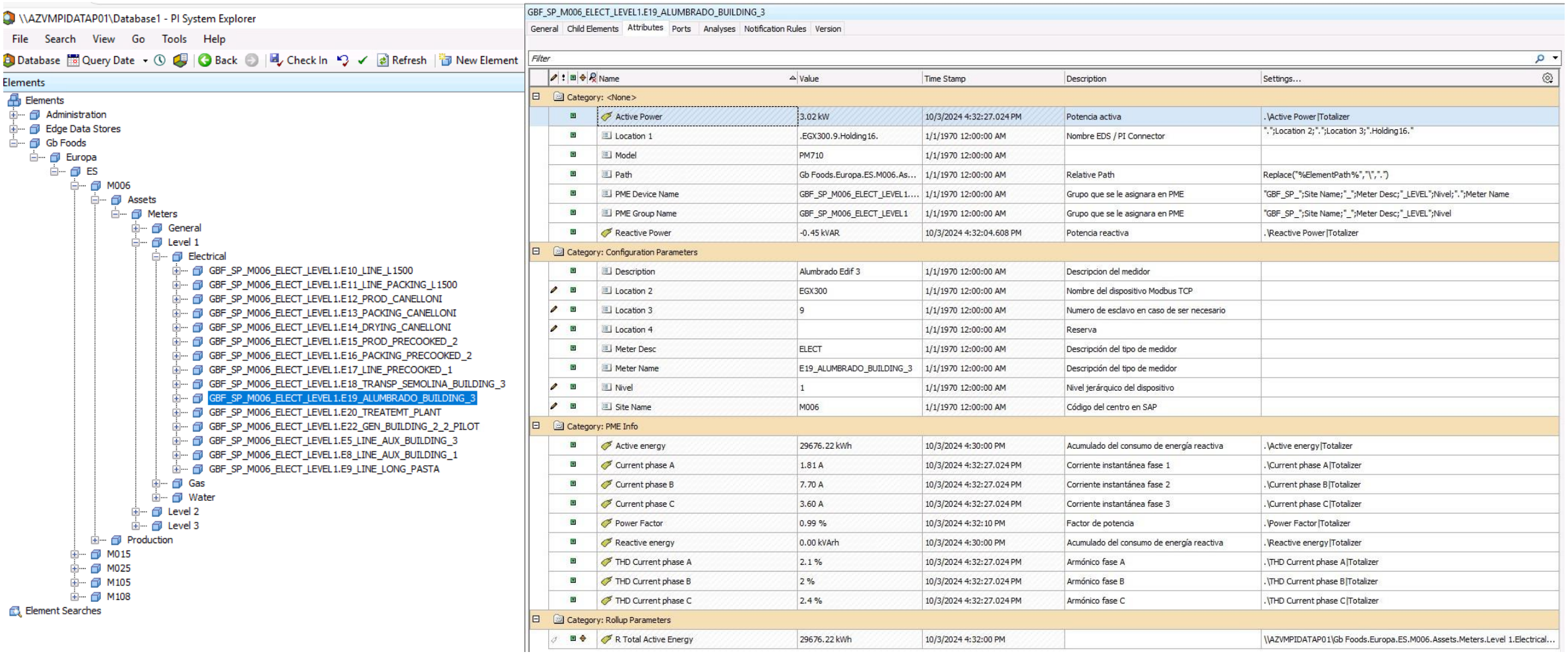


Unifying the collection of data was activated for each factory. **Analytical capabilities were included** (extract, store, process, monitor) close to where the data is produced with the possibility of its central management.

We cross-reference data from other systems (SAP, MES, ...) with data generated in industrial processes **to add additional context and increase its value**.

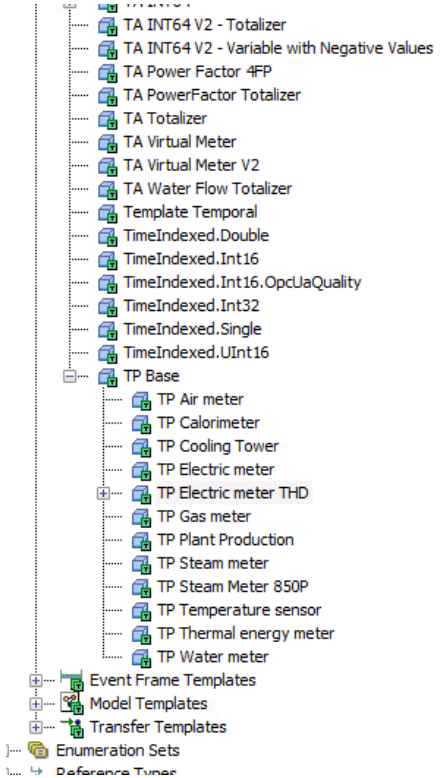
Energy Monitoring Solution

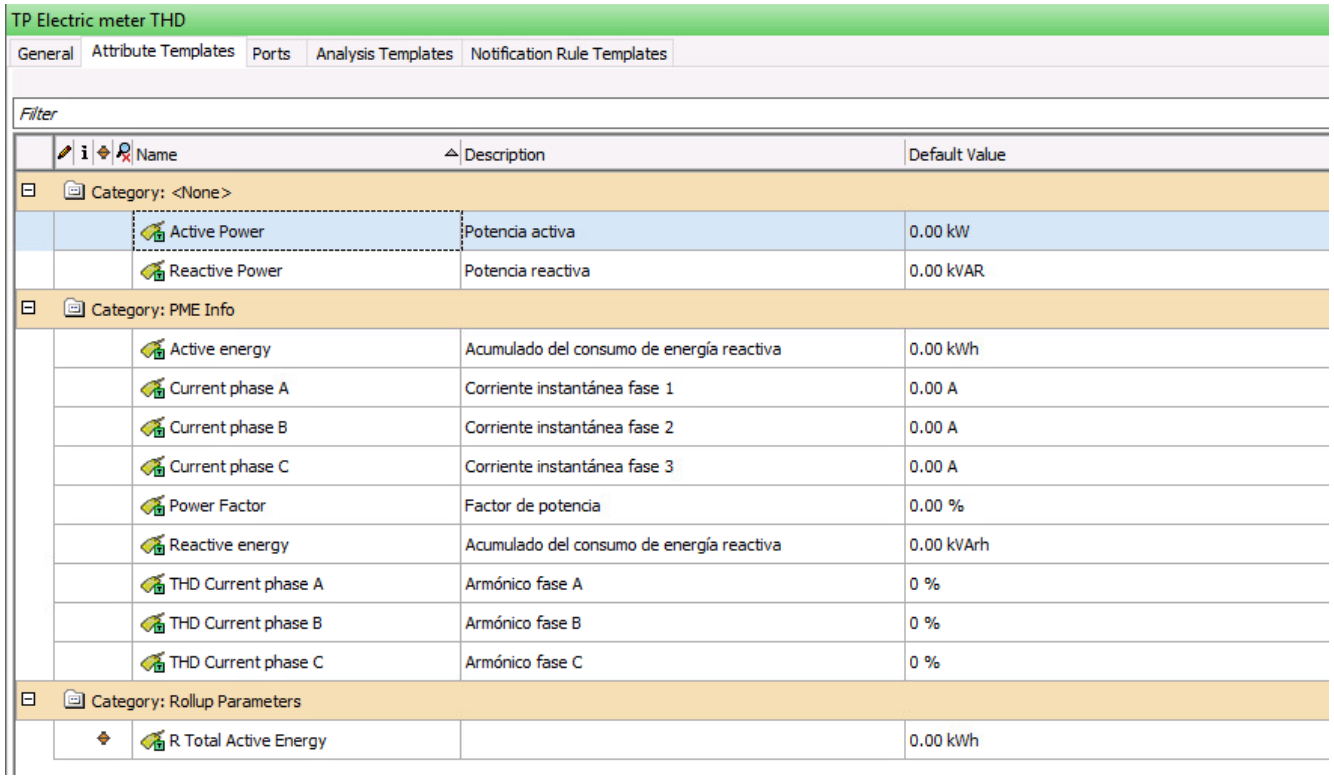
Data entries are organized by factory, process and device type to facilitate the future management of the information generated in each of the factories.



Energy Monitoring Solution

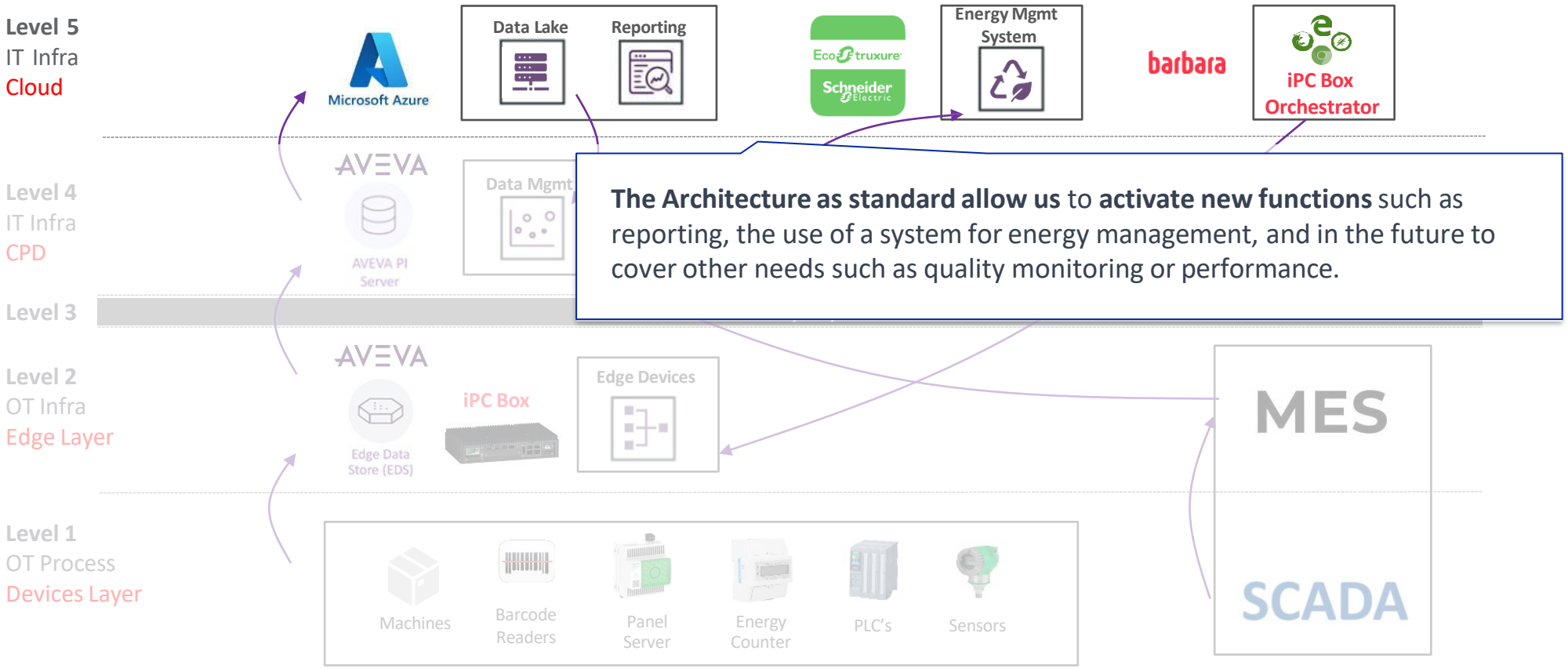
A new standard Data Model have been defined so that despite the great variety of brands, families and types of energy counters and other devices, the data to be read per each type of device will always be homogenized.





Energy Monitoring Solution

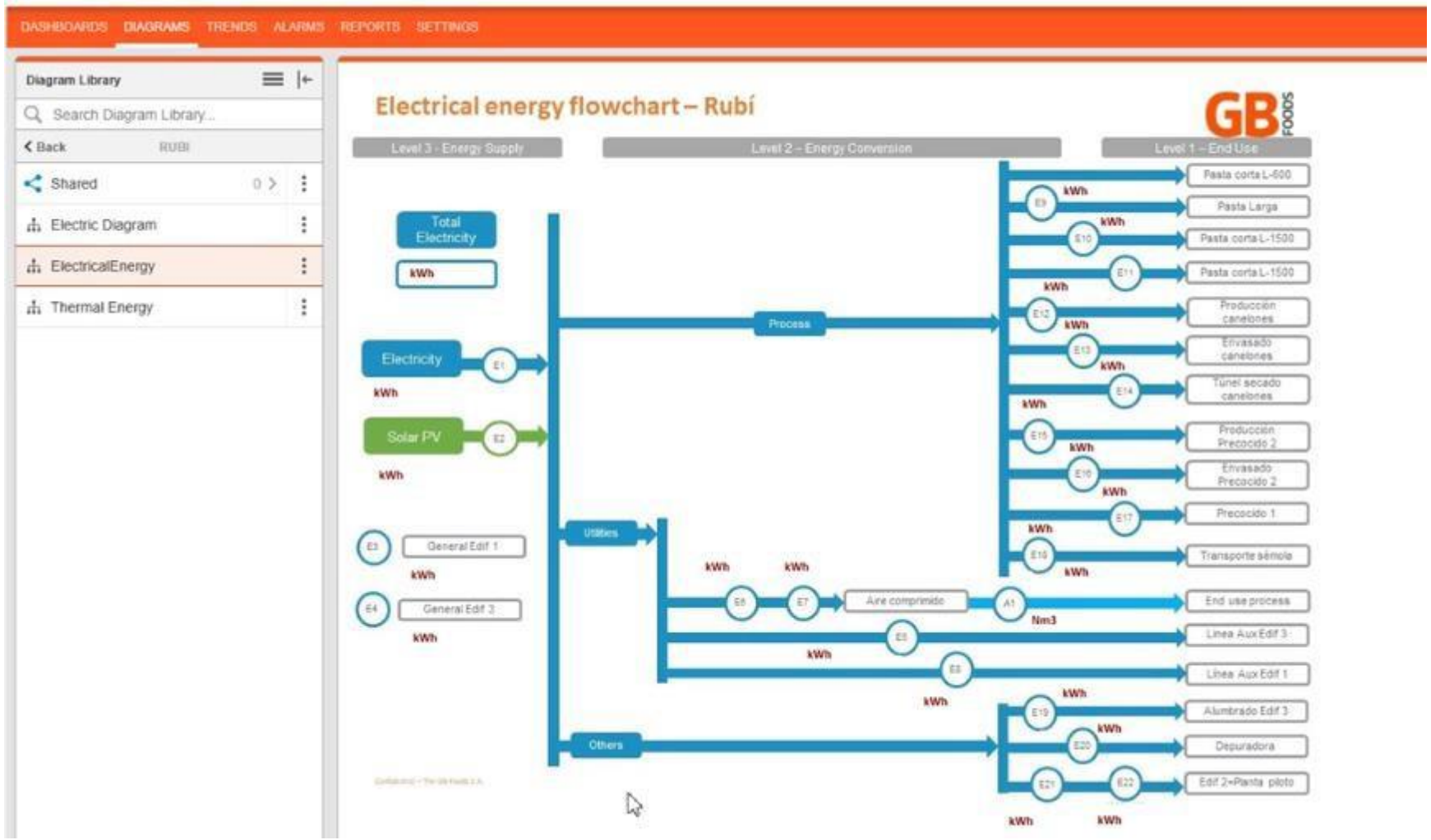
Benefits of Innovative Architecture



The Architecture as standard allow us to **activate new functions** such as reporting, the use of a system for energy management, and in the future to cover other needs such as quality monitoring or performance.

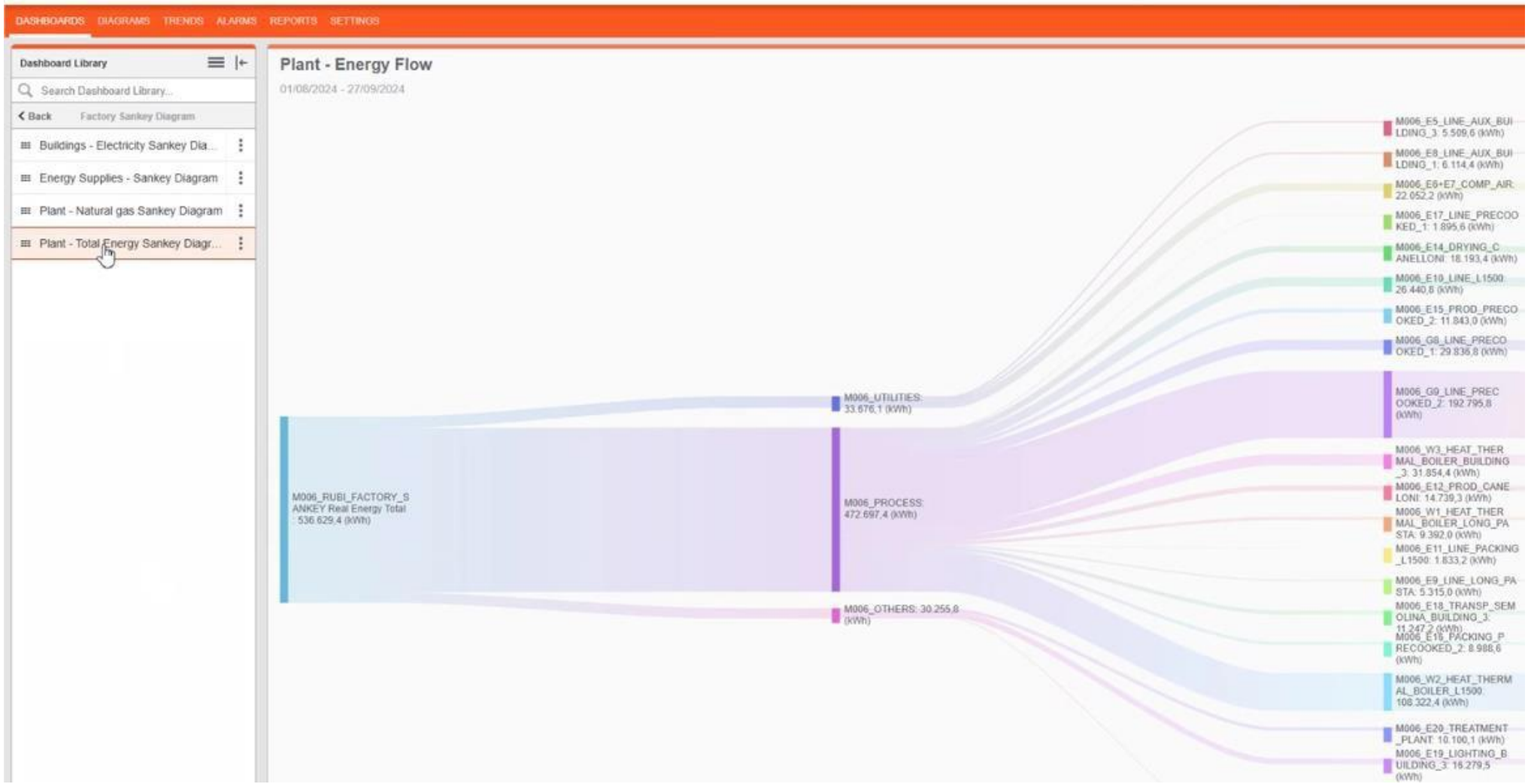
Energy Monitoring Solution

A Flow Chart was implemented to monitor our factory consumptions in real time.



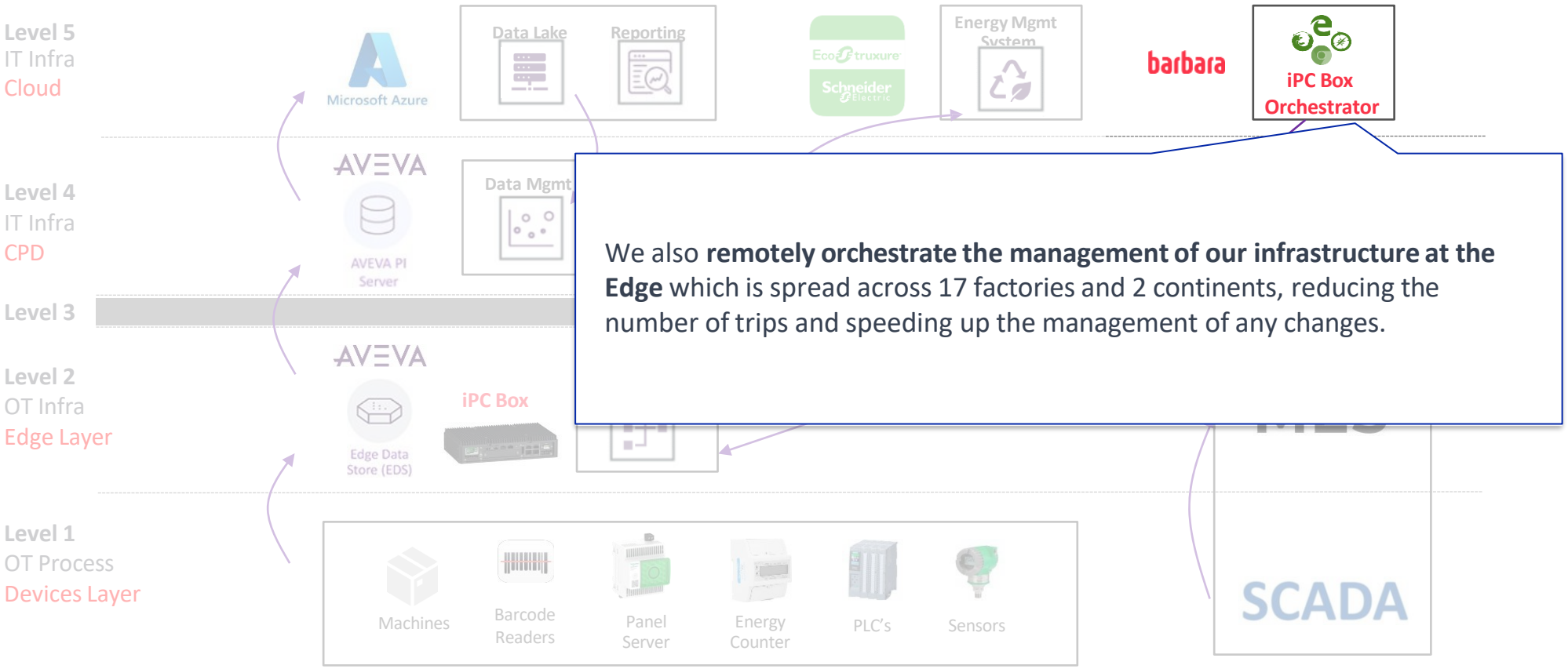
Energy Monitoring Solution

A Sanky Diagram was implemented to monitor the distribution of our energy consumptions at a different levels.



Energy Monitoring Solution

Benefits of Innovative Architecture



We also **remotely orchestrate the management of our infrastructure at the Edge** which is spread across 17 factories and 2 continents, reducing the number of trips and speeding up the management of any changes.

04

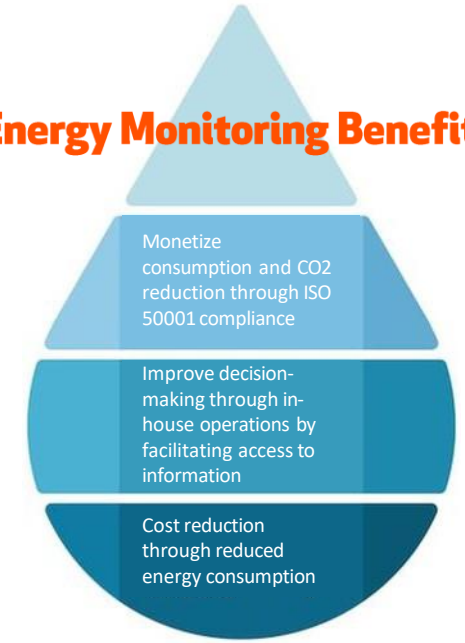
Benefits & Key Learnings

Benefits

From Business Benefits to Digitalization Benefits

Sometimes the business benefits are the most visible, but you should never overlook the benefits that a good architecture can bring.

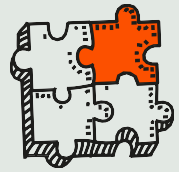
Energy Monitoring Benefits



Digitalization Benefits

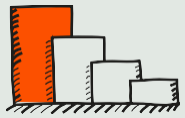
Scalability

Easy integration of new systems and equipment into the architecture for continuous business growth.



Continuous operations

Autonomous and independent deployments and executions, making processes more robust and efficient.



Cost reduction

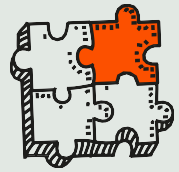
Lower investment because of using the same standard architecture to cover with new capabilities

Risk reduction

Increased data security against cyber-attacks due to the reduction in data being sent to other destinations outside the factory.

Improving communications

Improving network communications, reducing the amount of data transferred to the cloud for exploitation and decision-making.



Central Management

Efficient and safe maintenance, reducing start-up times, no displacement, and facilitating "reversing".

GBfoods | Europe & Africa

Key Learnings

- **Standardization of Shopfloor Data Gathering.** Time should be dedicated to defining a data model that allows for standardized data collection, regardless of the type of meters connected in the factory.
- **A multidisciplinary team should be created**, involving factory, engineering, and IT, along with a governance model that includes regular meetings to address all project needs and enable quick decision-making.
- **Having a partner with experience in PI & PME**, is key to meeting deadlines and standardizing scalability. A project leader with operational knowledge is required, who ensures alignment with the business and can identify other use cases during implementation with the factories, is essential.
- **The effort to create a data infrastructure is initially high**, both in terms of economic cost and the cross-functional management required, as these are new functionalities that demand learning and adaptation from the teams. However, at the same time, they represent a competitive advantage, opening many opportunities for continued improvement.
- **Testing time is necessary to ensure the quality and reliability of the data** before validating it in the final solution. The final solution and the accuracy of the data presented must be secured before involving the factory to guarantee the result and ensure engagement.

GB FOODS

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