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Lean Management support with an OEE App

**Automatic data and manual data entry with Microsoft
PowerPlatform - Bell Food Group**

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AVEVA

Presentation Bell Food Group



Business areas

Locations

64

Employees

12'333

Countries

15

Bell Switzerland

Bell International

Convenience

Locations

13

Locations

23

Locations

28

Employees

3'571

Employees

3'529

Employees

5'233

Product ranges

**Meat, poultry,
charcuterie, seafood**

Product ranges

Poultry, charcuterie

Product ranges

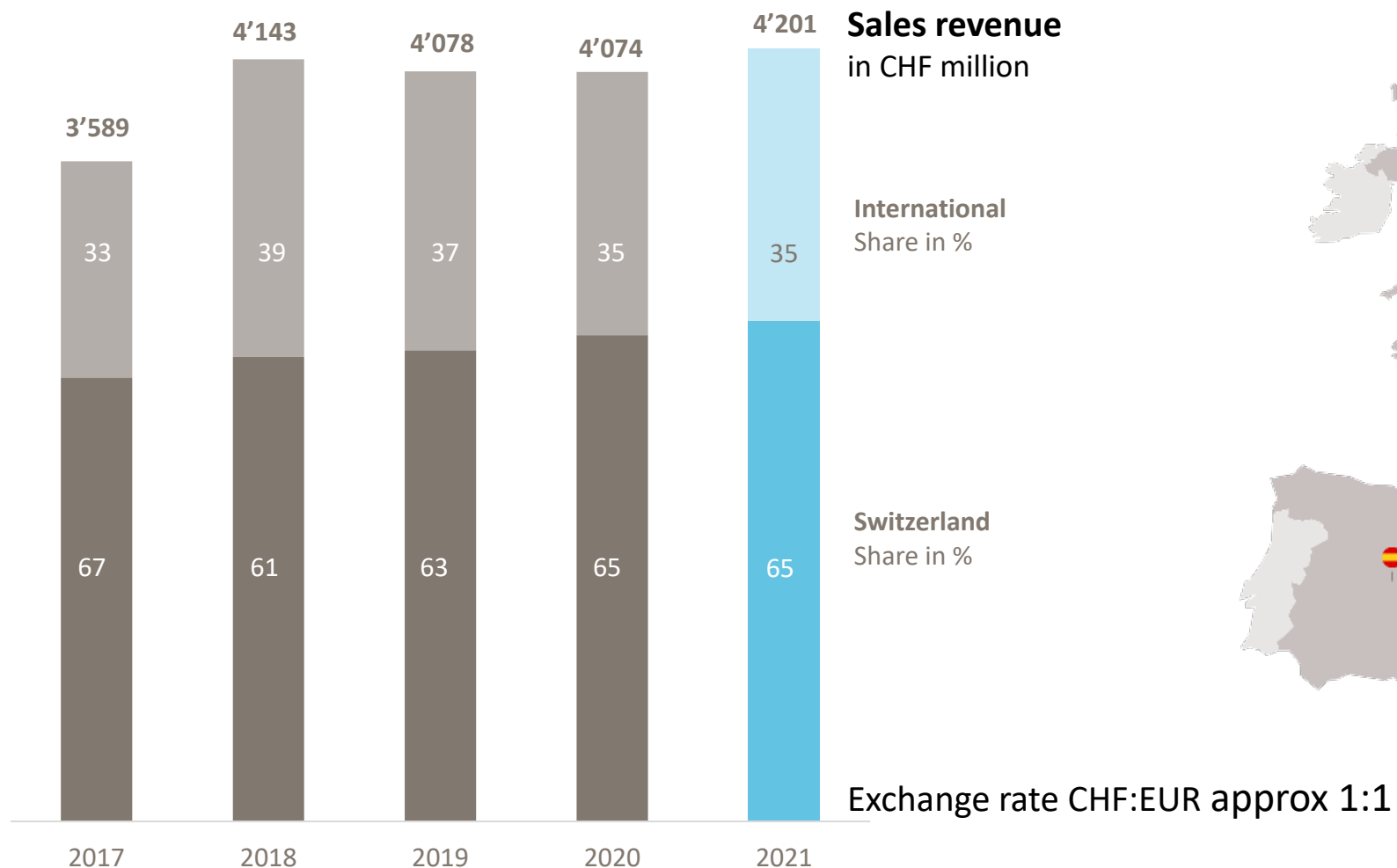
**Ultra-fresh, fresh and
non-perishable convenience**



Presentation Bell Food Group



Growth history



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BELL
FOOD
GROUP



Broad product portfolio



Meat

- Fresh meat
- Poultry
- Seafood
- Charcuterie



Super fresh convenience

- Prepared salads
- Ready-cut salads, fruit and vegetables



Fresh convenience

- Pasta
- Sandwiches
- Ready-to-serve meals
- Pizzas



Long-life convenience

- Soups
- Sauces & dressings
- Desserts
- Ingredients

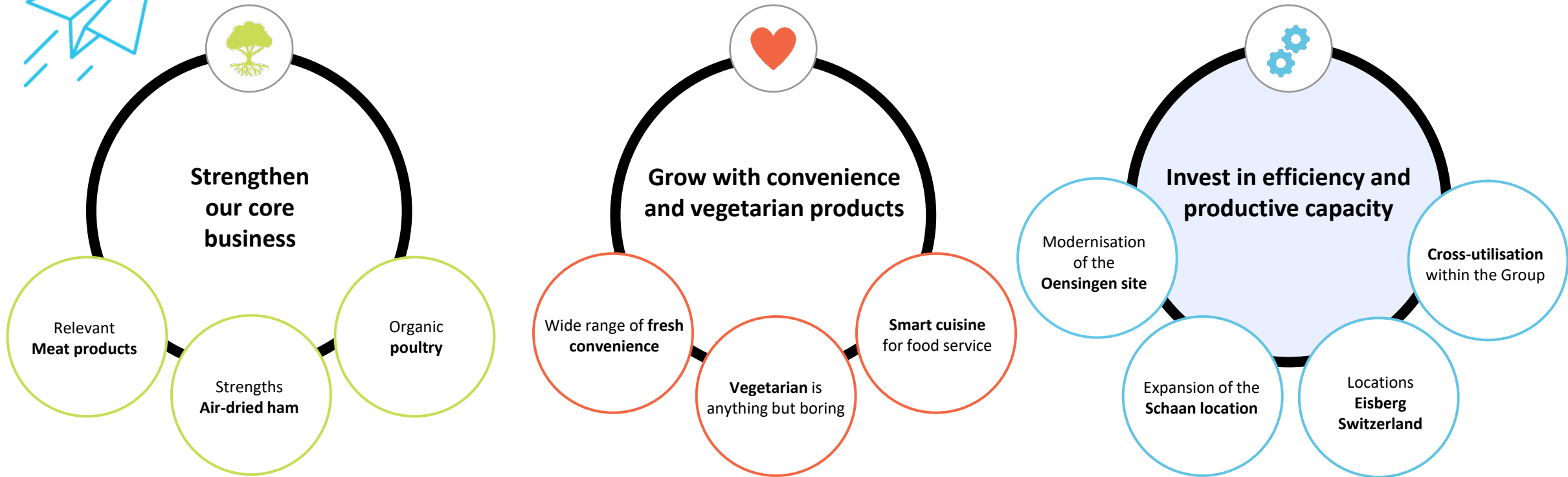
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GROUP



Growth strategy at a glance

We shape the future

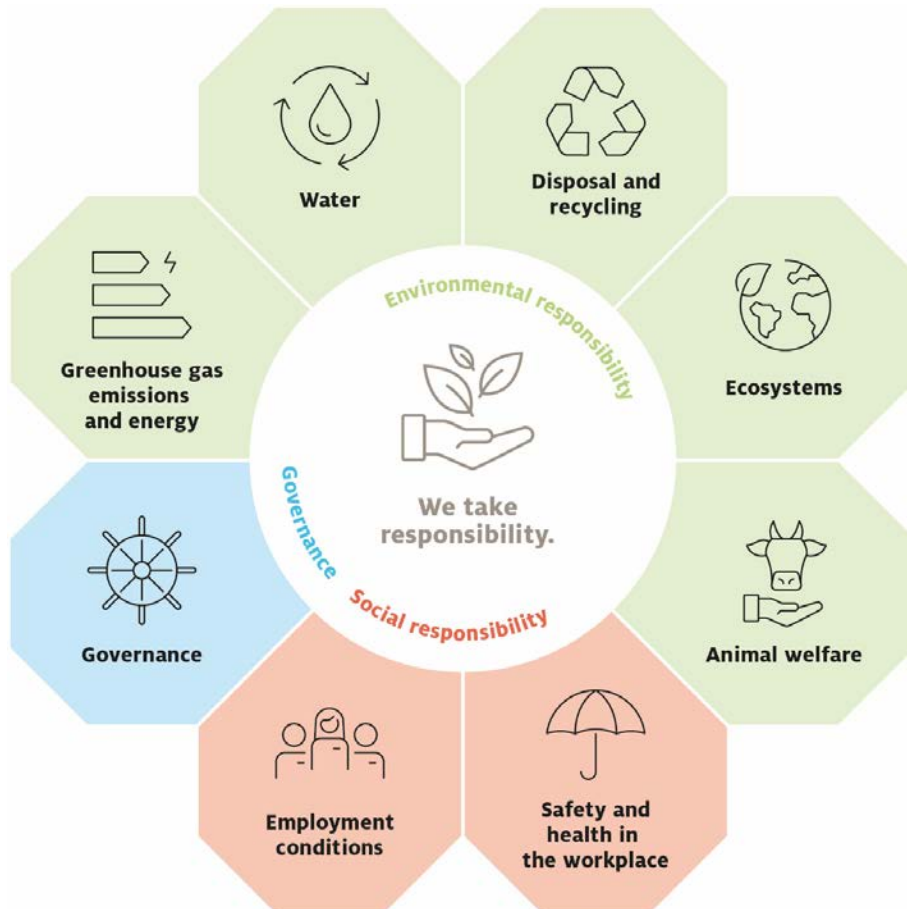


> Secure long-term earning power and productive capacity

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We take responsibility



0

Climate neutrality

GHG-neutral by 2050 across the entire supply chain

< 1 %

Food waste

Operational food waste by 2026

-10 %

Water consumption

Reduction of water consumption in non-risk areas by 2026

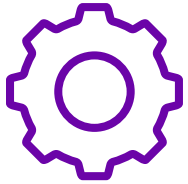
> 60 %

Animal welfare labels

Animal raw materials from Switzerland to be certified with an animal welfare label by 2026



Lean Management support with an OEE App



Challenge

- The challenge is getting the data out of the process
- Automatic connections to the plants are often not possible
- Manual data entry is needed with a user friendly interface



Solution

- Standardized calculation for OEE in the PI system
- PI System combined with Microsoft Power Apps for manual data entry



Benefits

- Time savings through scaling
- The business gets a tool to initiate measures for improvement and also to check them
- Fast rollout on further production lines with the possibility to start with manual data and later to make automatic connections



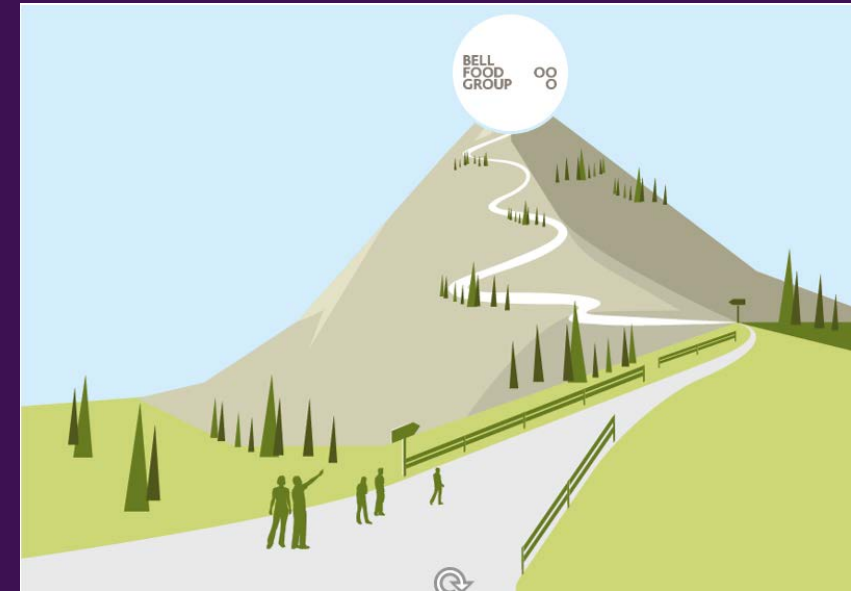
Challenge

AVEVA

Together to the top

TopX @ Bell Food Group

- We have **grown strongly**, and each company contributes its **own identity, methods of operation** and **history**
- **Competitive pressure** will **increase** in all markets
- By **harmonizing** the way we think and work, we create **one** Bell Food Group **identity**
- **"Top"** stands for: up - **to the top**
- **"X"** stands for **excellence** - the **alignment** of all forces with our **corporate strategy**
- **"TopX"** is understood in all languages



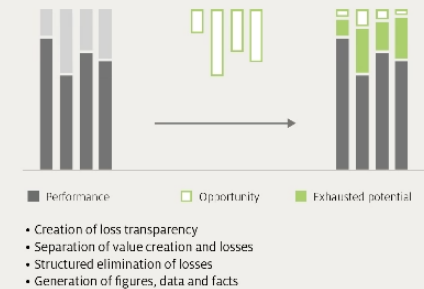
Lean initiative

Our recipe for success

- **Zero – loss**
 - Creation of **loss transparency** with generation of figures, data and facts
- **One – agenda**
 - We work **constantly** on our contribution
- **100% - involvement**
 - **Integration** of all processes and all employees
- **Continuous – improvement**
 - **Continuous** improvement of the way of working

Our recipe for success 0 – 1 – 100 – continuously

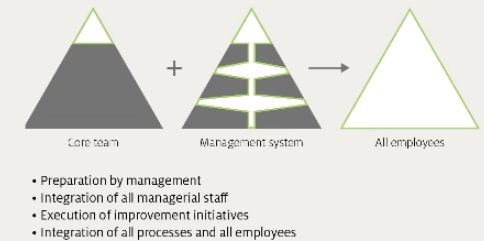
Zero loss



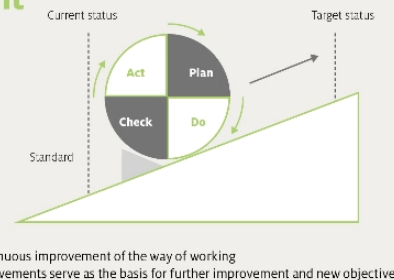
One agenda



100% involvement



Continuous improvement



OEE as a key figure for transparency

Overall Equipment Effectiveness (OEE)

=

Availability

X

Performance

X

Quality

“Normal OEE is all well and good but we want to know during the production day how things are going and where we stand. We need a realtime measure of the OEE”

Production engineer from a production site





And now, how do we do it?

1. We have **gathered** the requirements
2. We have **checked** how we can implement this
3. We have **adapted** the calculation model for the OEE
4. We have **discussed** our solution with the production engineering
5. We have **defined** a standard for the calculation and the approach
6. We have **started** with an agile implementation

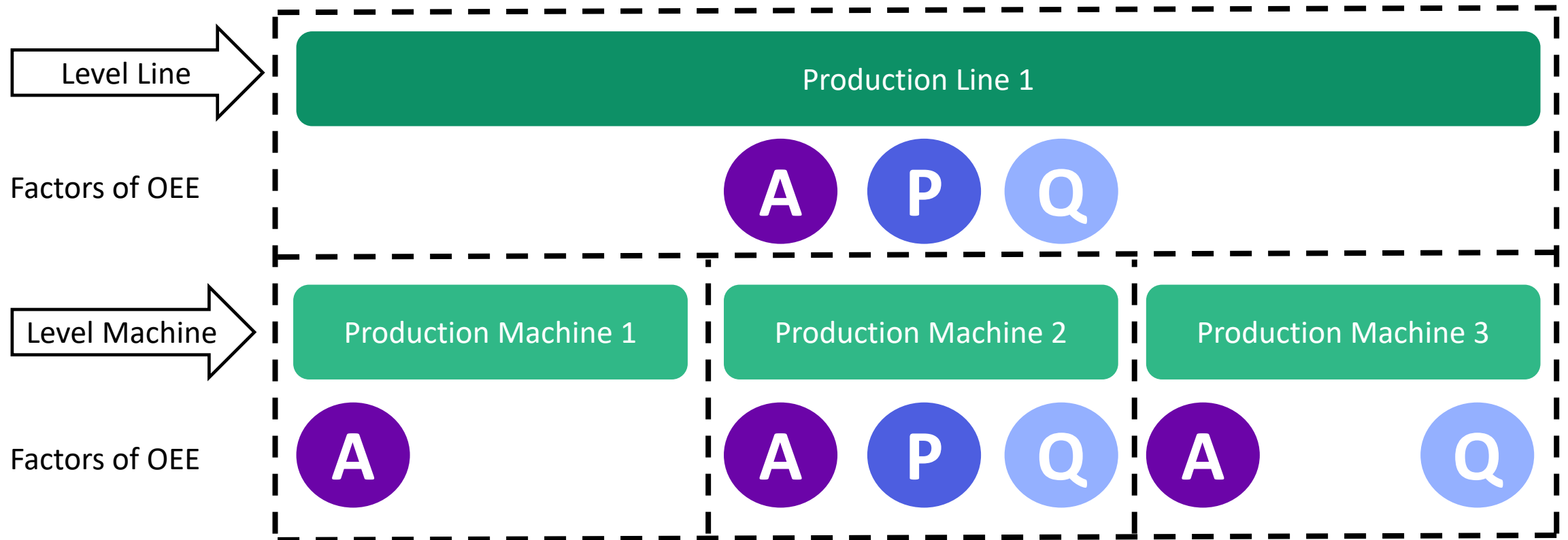


Solution

AVEVA

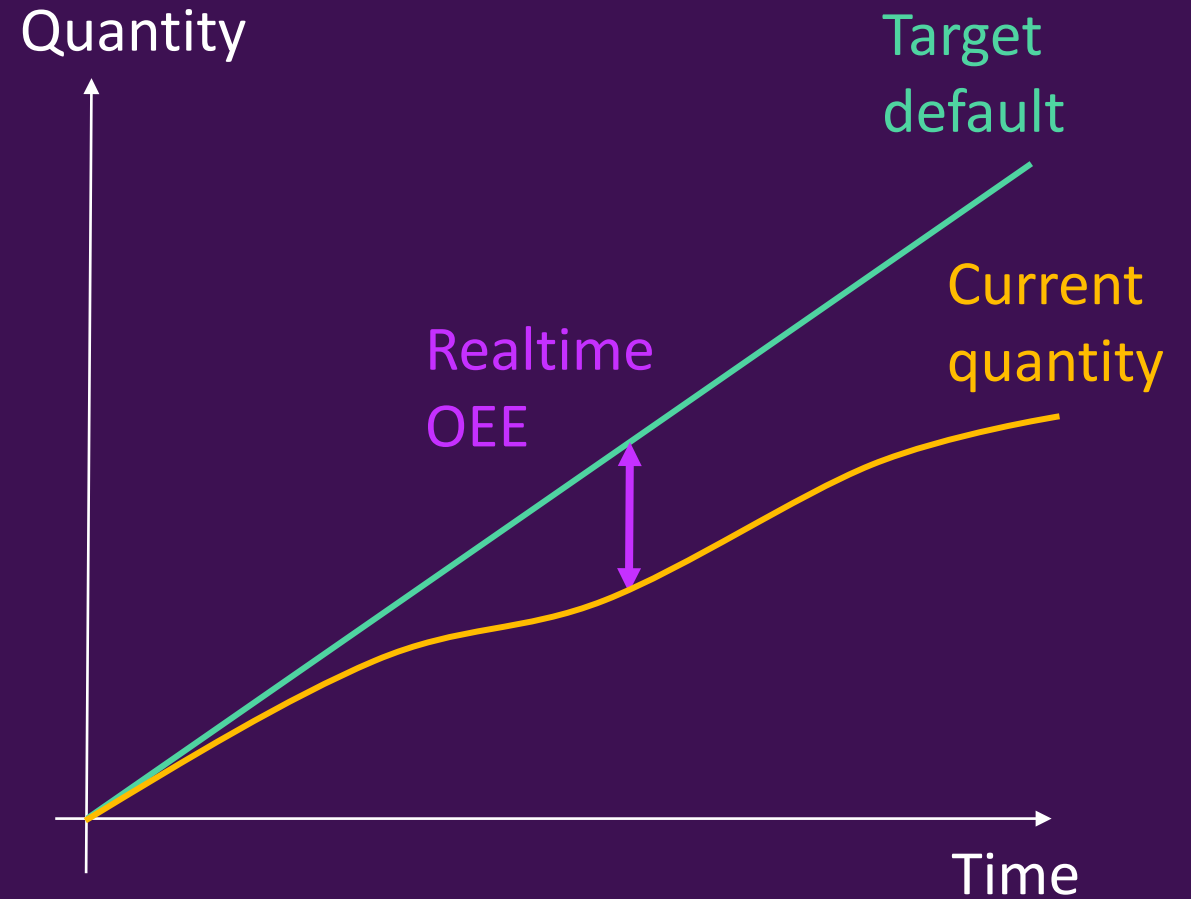
Example of a typical production line

- For each machine we define which factors of OEE we need, and combine them on the level Production line

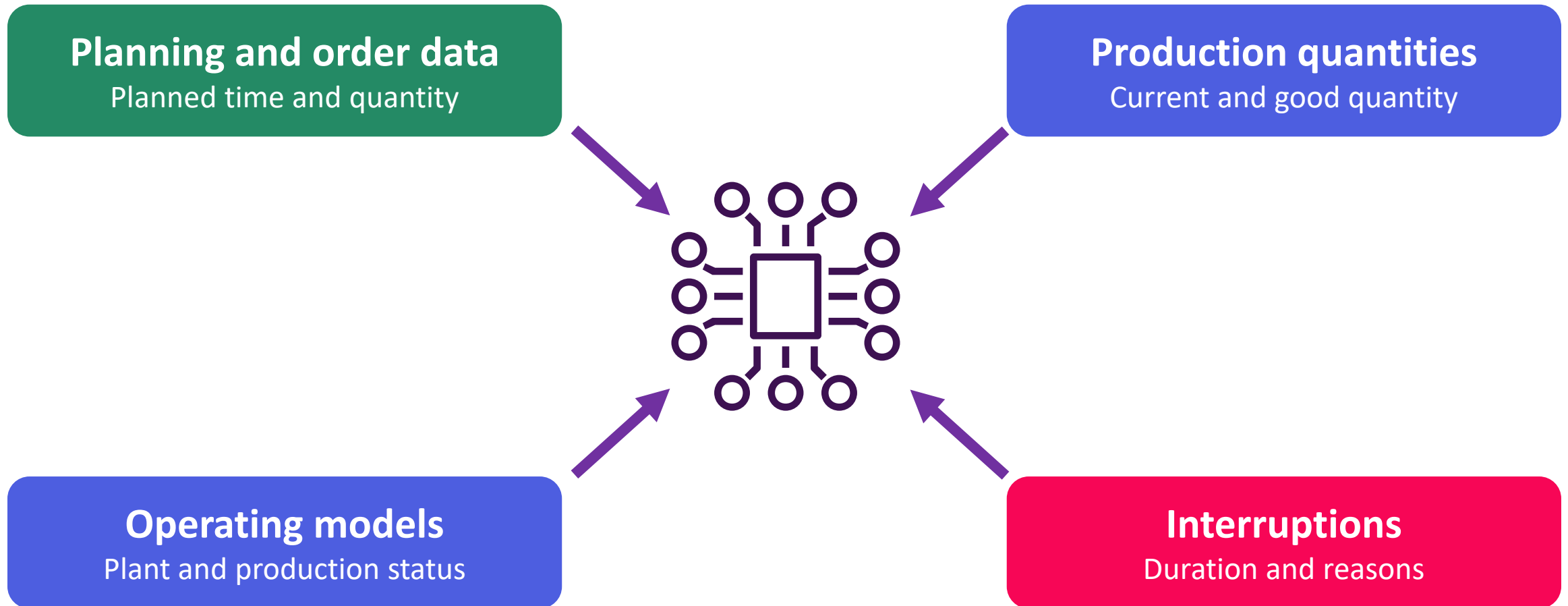


Calculation in the PI System

- The calculation is always **depending on target and current**
- The whole **calculation** is done **in the PI System**
- For the calculation we use **analysis** with **Event driven - Change of a value** and **Time driven - Continuous time** events
- All this information is stored also as an **event frame**



Input values for the calculation



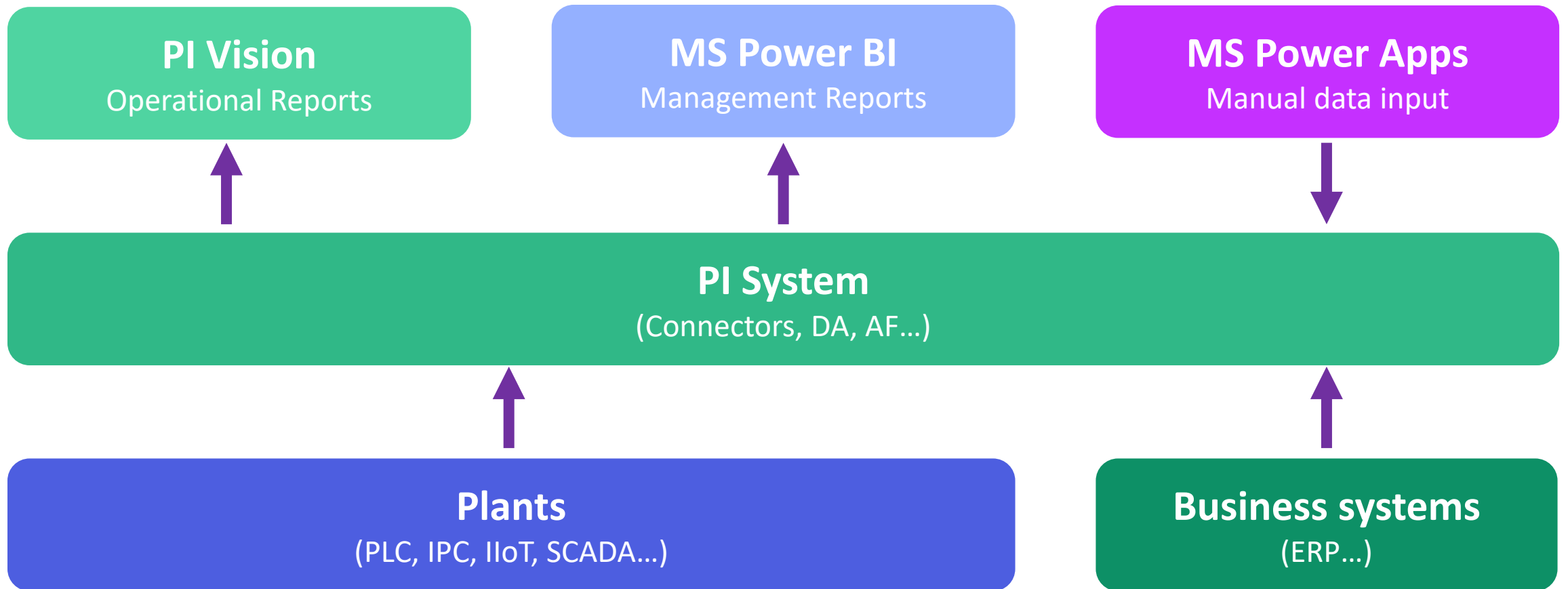
Challenge with automatic data from the plants

- We have **recent** and **old machines** in our plants
- A lot of older machines are often **not integrated in the network**
- **Information** can not be provided by the equipment because it is **not available**
- **Heterogeneous diversity** of equipment and suppliers
- Large **variety** of **solutions**
- **Resource needs** for these adaptations are **very high** and **not available**
- **We need manual data from the process because we want to have an overall view with OEE**



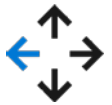
Calculation in PI System and manual input with Power Apps

Just keep it simple in the visualization



What is Power Platform?

Everyone's platform for transformation



No Code

Drag and drop experiences that are like PowerPoint



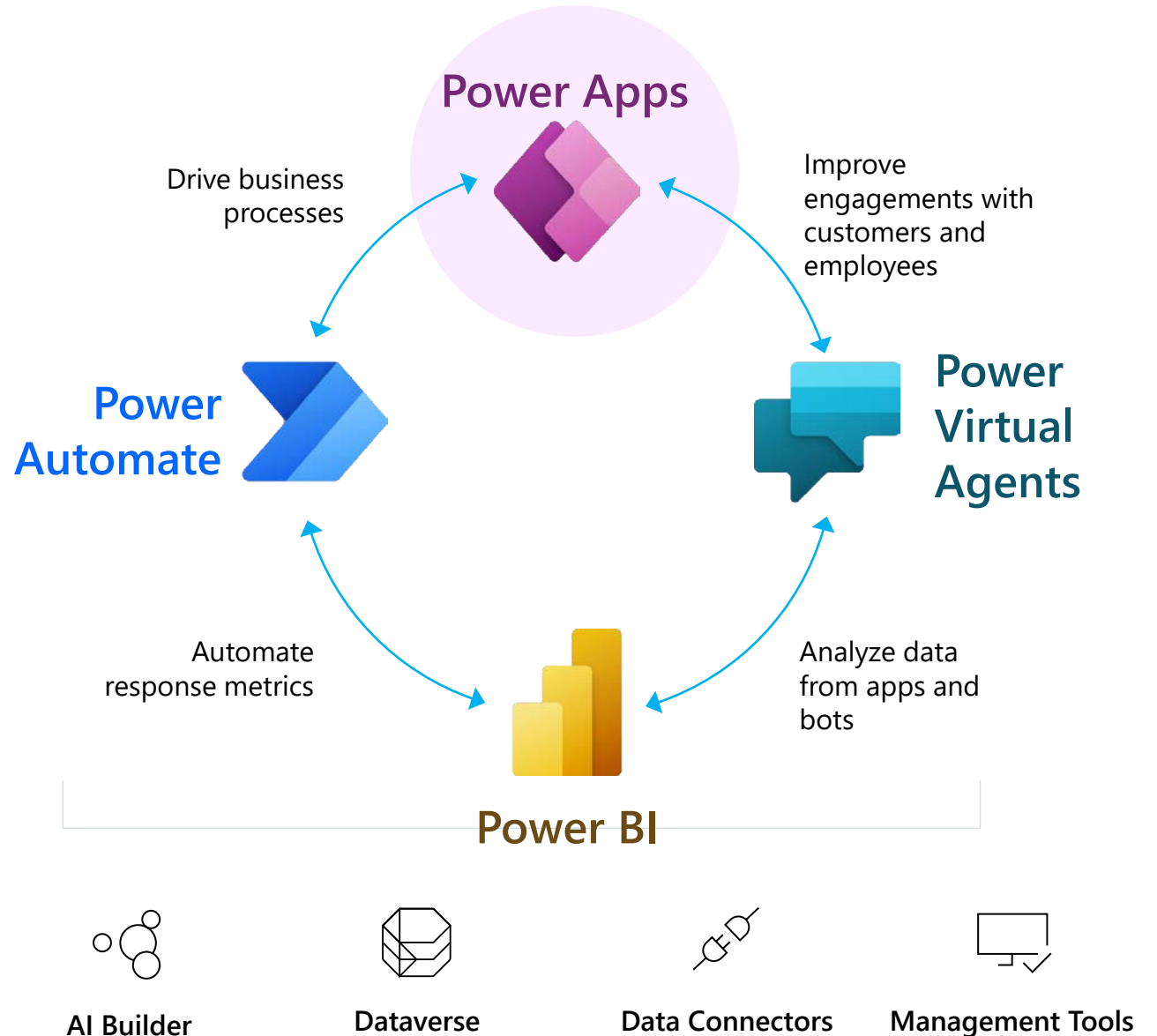
Low Code

Drag and drop plus Excel-like formulas for functionality



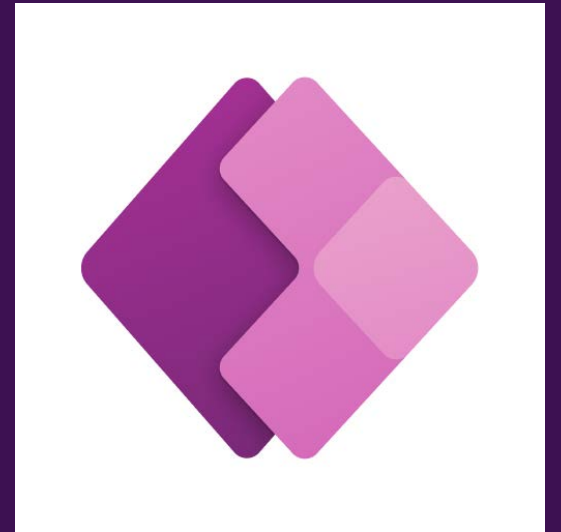
Code First

Professional development and extensibility across Microsoft



Why Power Apps?

- Power Apps is an **addition** to the PI System
- **Simple user interface** for workers on the line
- Good **integration** into the **IT landscape** including authorization management
- **Scalable** solution
- The app is only the **interface** to the **user**, the entire configuration of the Power Apps is in the PI AF
- Power Apps **communicate** with the PI system via **PI Web API**



Connecting two platforms

PI System & Microsoft Power Apps

- **Power App**
 - The app itself as the user interface
- **Custom Connector**
 - Provides the function for the Power App and routes the requests
- **Azure Function**
 - Prepares the logic of the query
- **Azure Relay**
 - Provides the query from the public cloud with an endpoint
- **Relay Server**
 - Is a reverse Proxy that receives the requests from the endpoint and forwards them
- **PI Web API**
 - API connection to the PI system

Communication



Power App



Custom Connector



Azure Function



Azure Relay



Relay Server

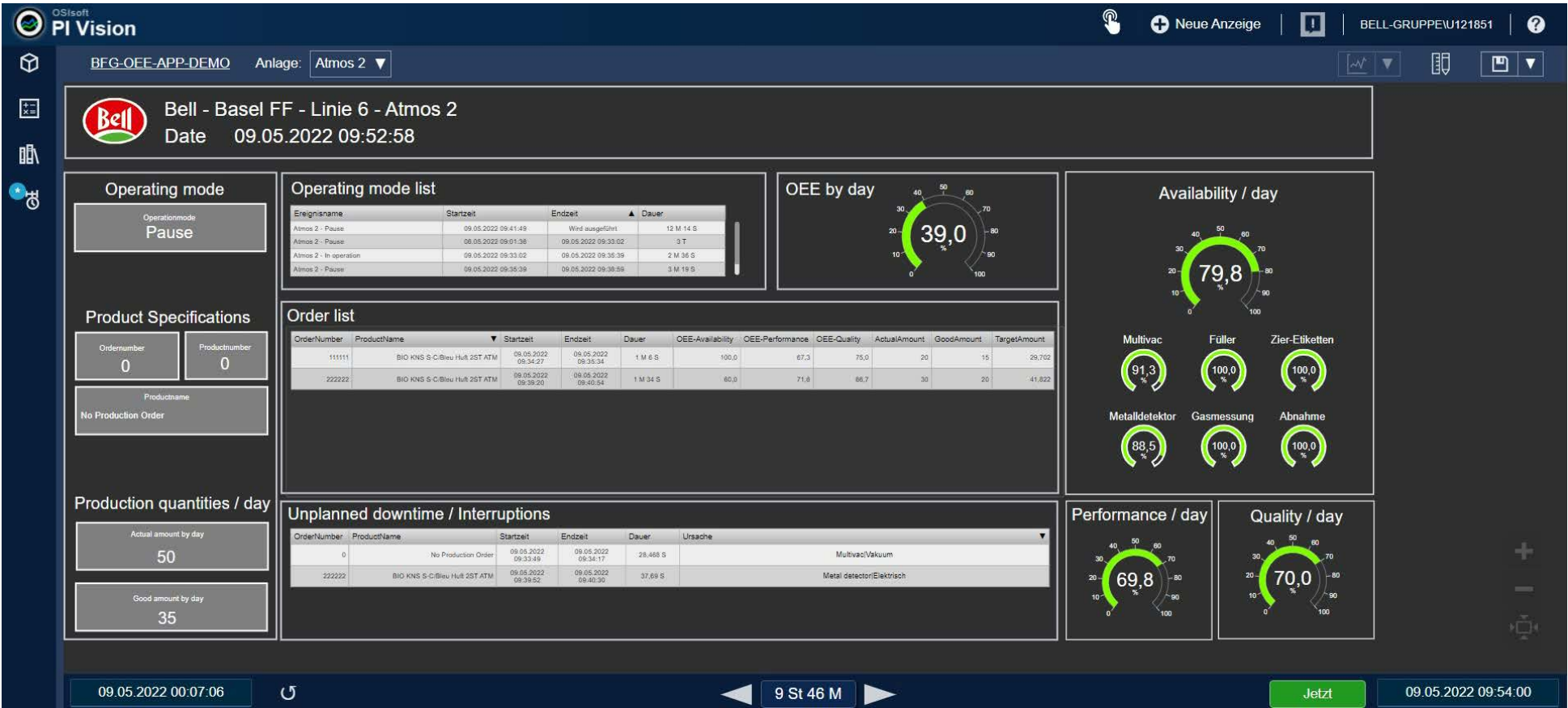


PI Web API

Azure Cloud

On premise

Live Demo with a Video





Benefits



Benefit with the technical capabilities

- **Time savings** through **scaling**
- Use of **templates** in PI AF to **reduce complexity**
- The **intelligence** for the solution is in the PI system, which is **known** and **established**
- Use of **standard components** from PI System and Microsoft
- **Authorization management** is integrated
- User **friendly** interface



Impact for the business

- Creation of **transparency** in the processes
- Creation of **key figures** for monitoring and controlling
- The business gets a tool to **initiate measures for improvement** and also to check them
- **Fast rollout** on further production lines with the possibility to start with manual data and later to make automatic connections





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