AG Solution
Smart Automation & Industrial ICT

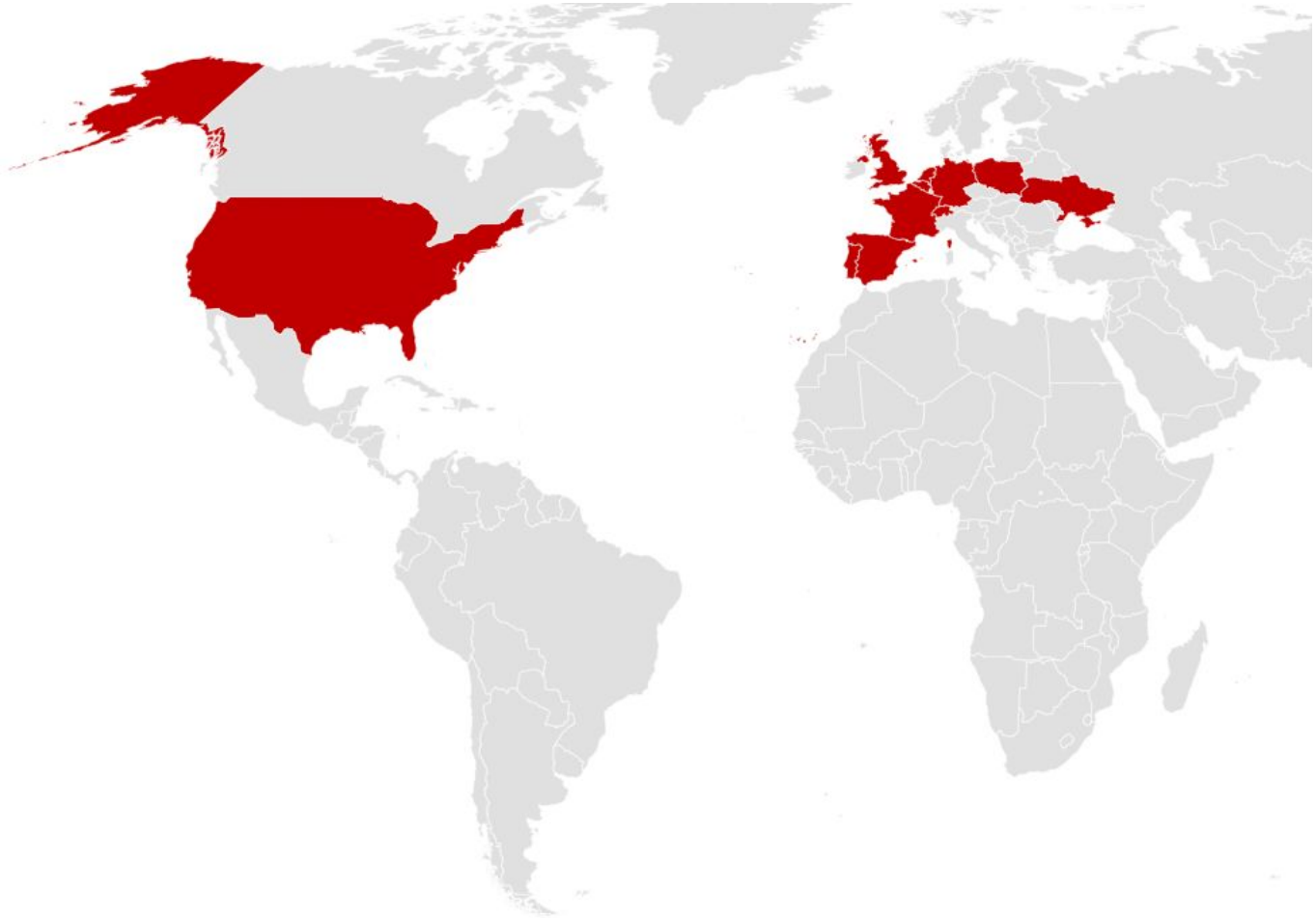
European food manufacturing summit

FROM DIGITALIZATION TO DIGITAL MASTERY: SCALING AI IN FOOD MANUFACTURING

AG Solution Group

European food manufacturing Summit

Hi everyone!



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AG Solution
Smart Automation & Industrial ICT

Founded in
2007

Engineers & consultants
400

Offices
17

AGENDA- Foundations for scaling for unleashing AI at scale

- Process standardization
- MES productization
- Unified namespace
- EUDR

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From Digitalization to Digital Mastery: Scaling AI in Food Manufacturing

WHAT'S GOING ON HERE?

CAGR expected for AI in the food industry

Sources: BCG, Reuters, Grand view research

What are the foundations for unleashing AI on a large scale?

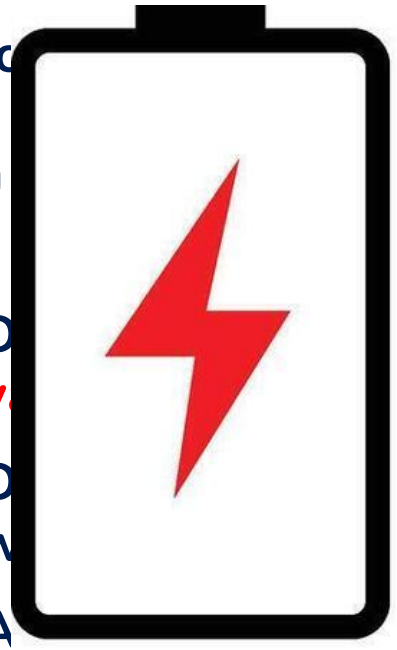
Operations governance	Operations standardization	Cybersecure and exploitable data	Compliance
✔ Processes Standardization	✔ MES productization	✔ Unified data model (UNS)	✔ EUDR

Ask the right questions

Poo landscape result in:

Higher Costs

Technology

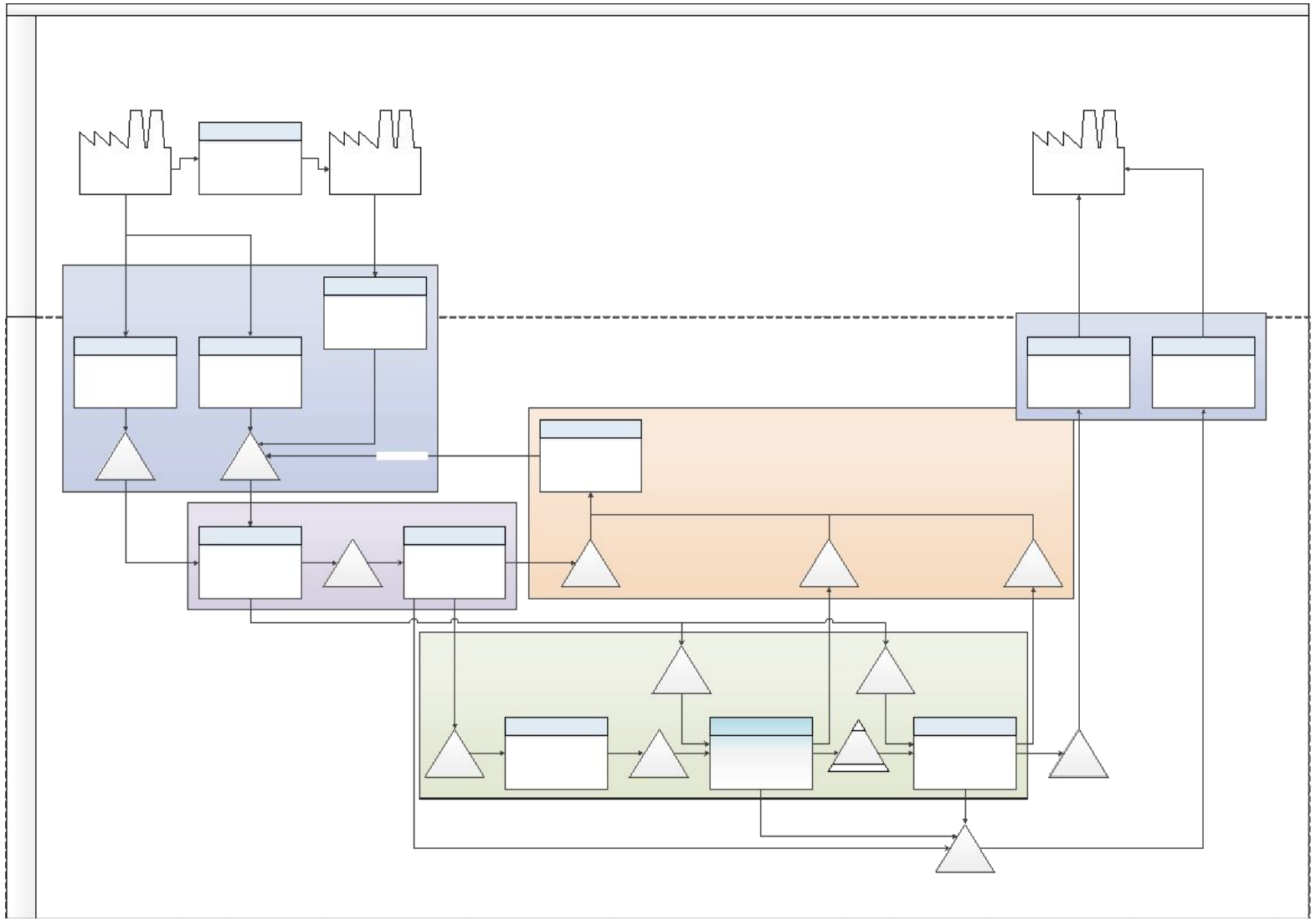


AI

POWER

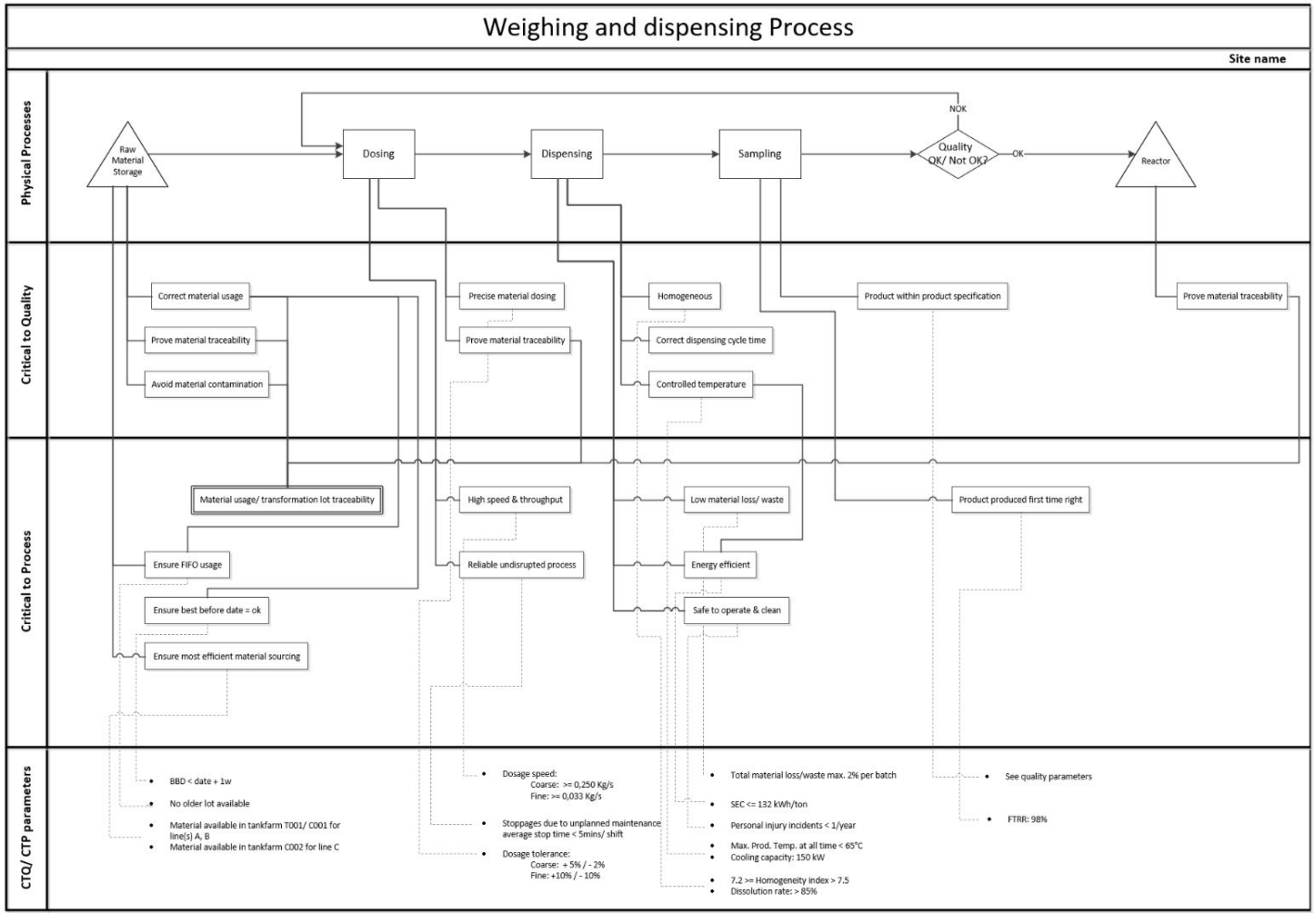
- D roce
  v
- D ar view on what matters to
  w ?
- A ations harmonized at a process/operations level?
- Is my OT landscape defined and common for my manufacturing sites?

Identify your key processes



- End-to-end overview of the manufacturing site
- Visualize all the material flows and process interactions
- Define process scope
- Identify Internal and External

Identify what matters

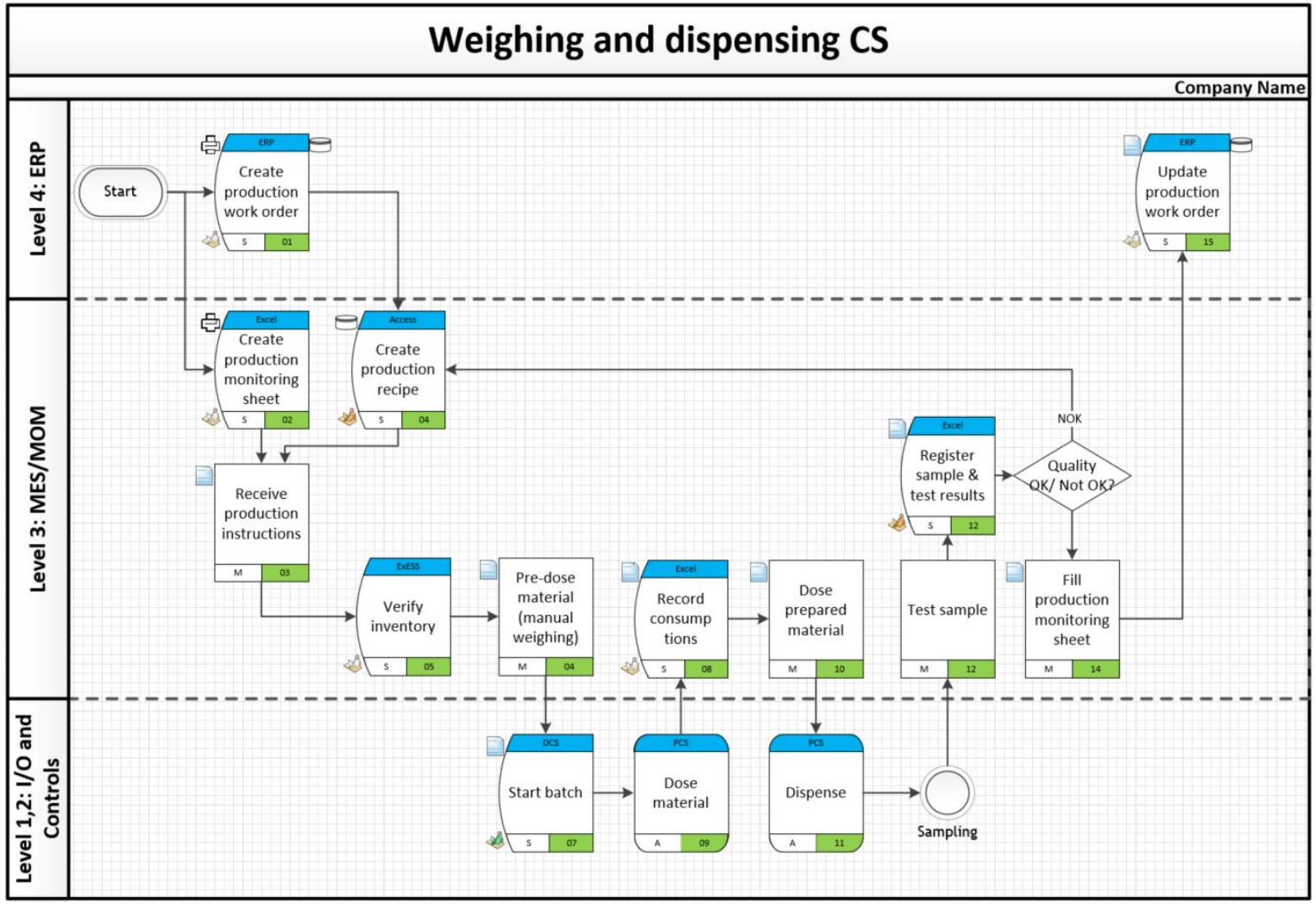


- Business process is driving
- Process narrative: thorough understanding of the process & business value drivers
- CTQ/ CTP
- Target to fulfil during design of the To Be state

ADVANTAGES :

- ✔ Better understanding
- ✔ Focus on critical aspects and value added activities
- ✔ Universally shareable information

Current plant Operations flow

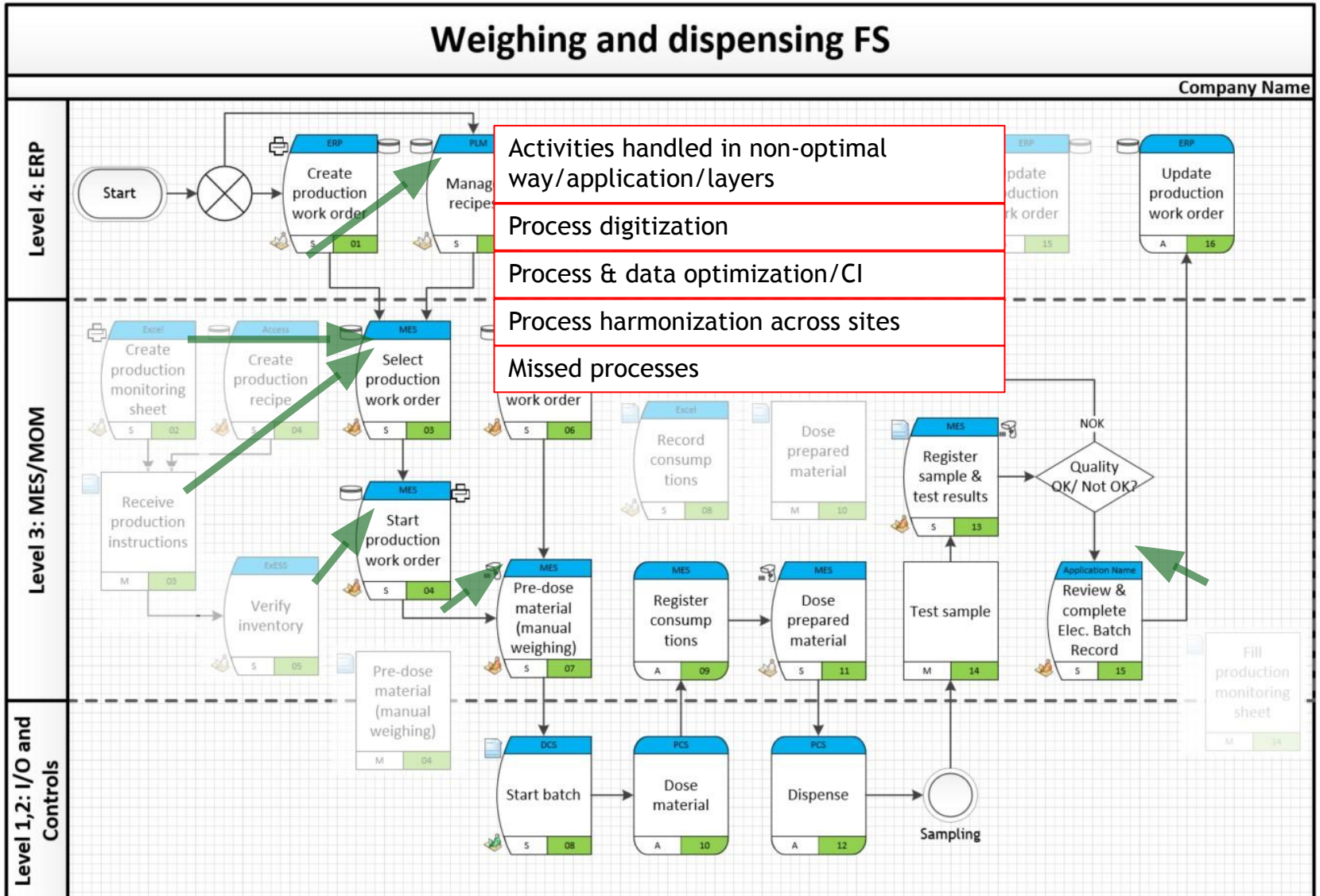


- ISA-95 model
- Workflow
- Applications/ interactions/ interfacing
- Activity documentation:
- Steps
- Requirements
- Responsibilities
- Documents/Files/ Data
- Triggers/ dependencies/ prerequisites

ADVANTAGES :

- ✔ One single source of truth
- ✔ Universally comprehensible documentation as collaborative communication tool
- ✔ Effective Digital Knowledge base

Future state plant operations flow



- Bringing together:
  - Customer improvements
  - ISA-95 best practices
  - Lean/Six Sigma process improvement
  - AG Solution industry expertise
- Identify variations within different plants & drive process harmonization across sites.
- Govern Business Process requirements & their relation to standardised solution components.

ADVANTAGES :

- ✔ **Single process oriented source of truth, driving:**
- ✔ **Digital transformation**
- ✔ **Process optimization**
- ✔ **Continuous improvement**

BPC & Applications Governance

FUNCTIONAL MODEL

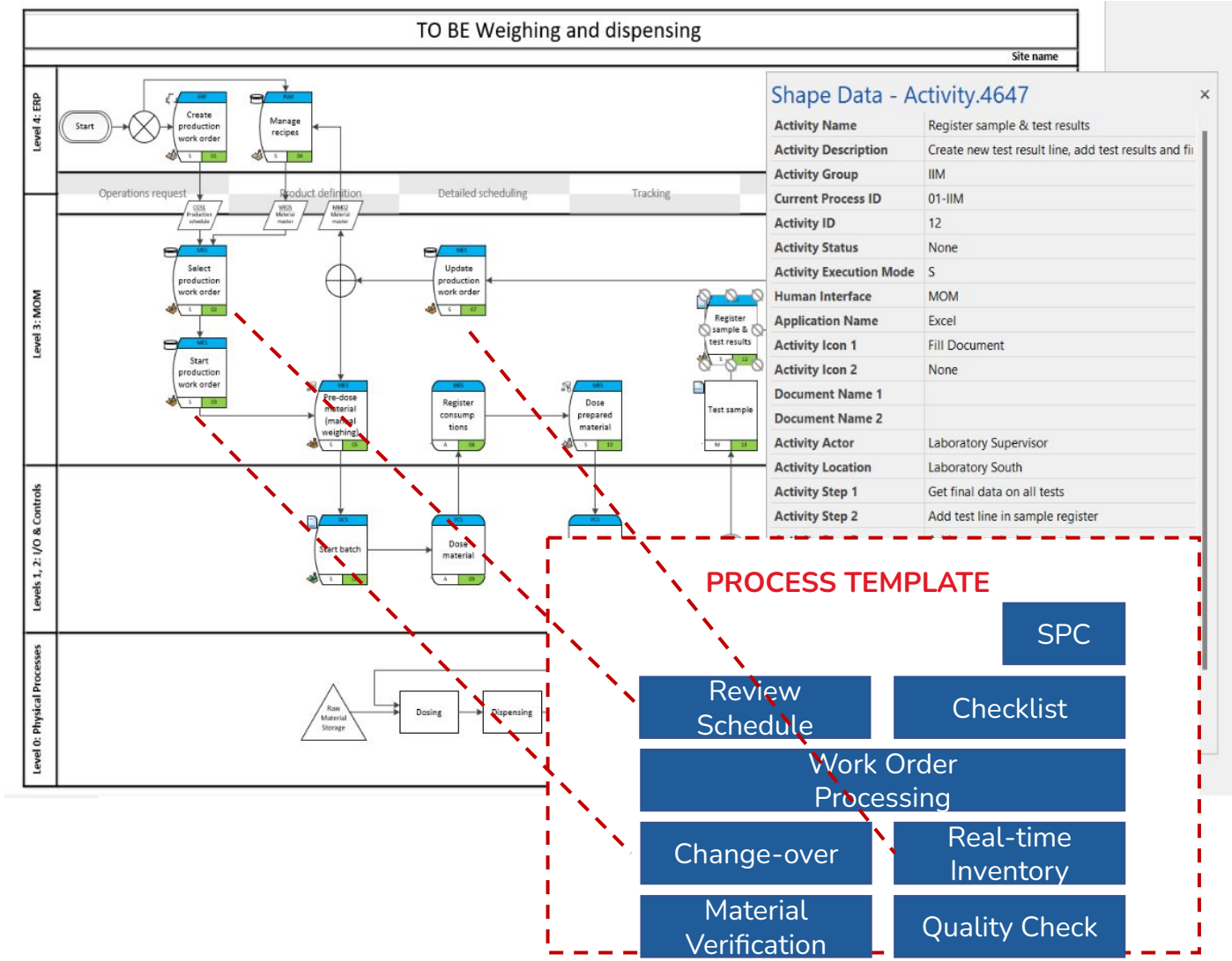
Business Functional Requirements

- Manage production
- Monitor performance
- Track & trace inventory
- Scanner for prod. movem.
- Scheduling assistance
- Manage samples & results
- Avoid contamination

GOVERN — RELATION

Solution Component Library

OEE	Recipe Management
Work Order Processing	Material Verification
Real-time Inventory	Quality Management
Material Handling	Work Order Sequencing



AI Readiness: Fully Charged or Just Plugged In?

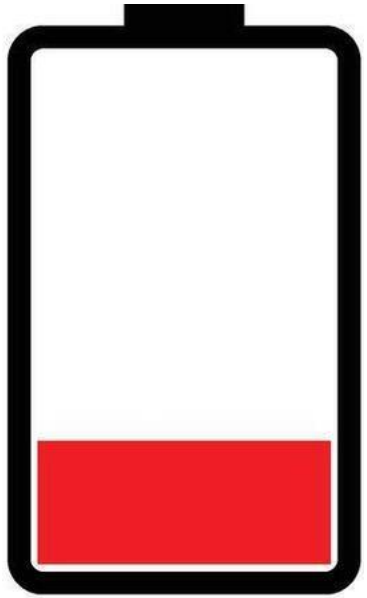
Value identified

Operations harmonized

?

?

?



AI POWER

What are the foundations for unleashing AI on a large scale?

Operations governance

Operations standardization

Cybersecure and exploitable data

Compliance

✔ Processes Standardization

✔ MES productization

✔ Unified data model (UNS)

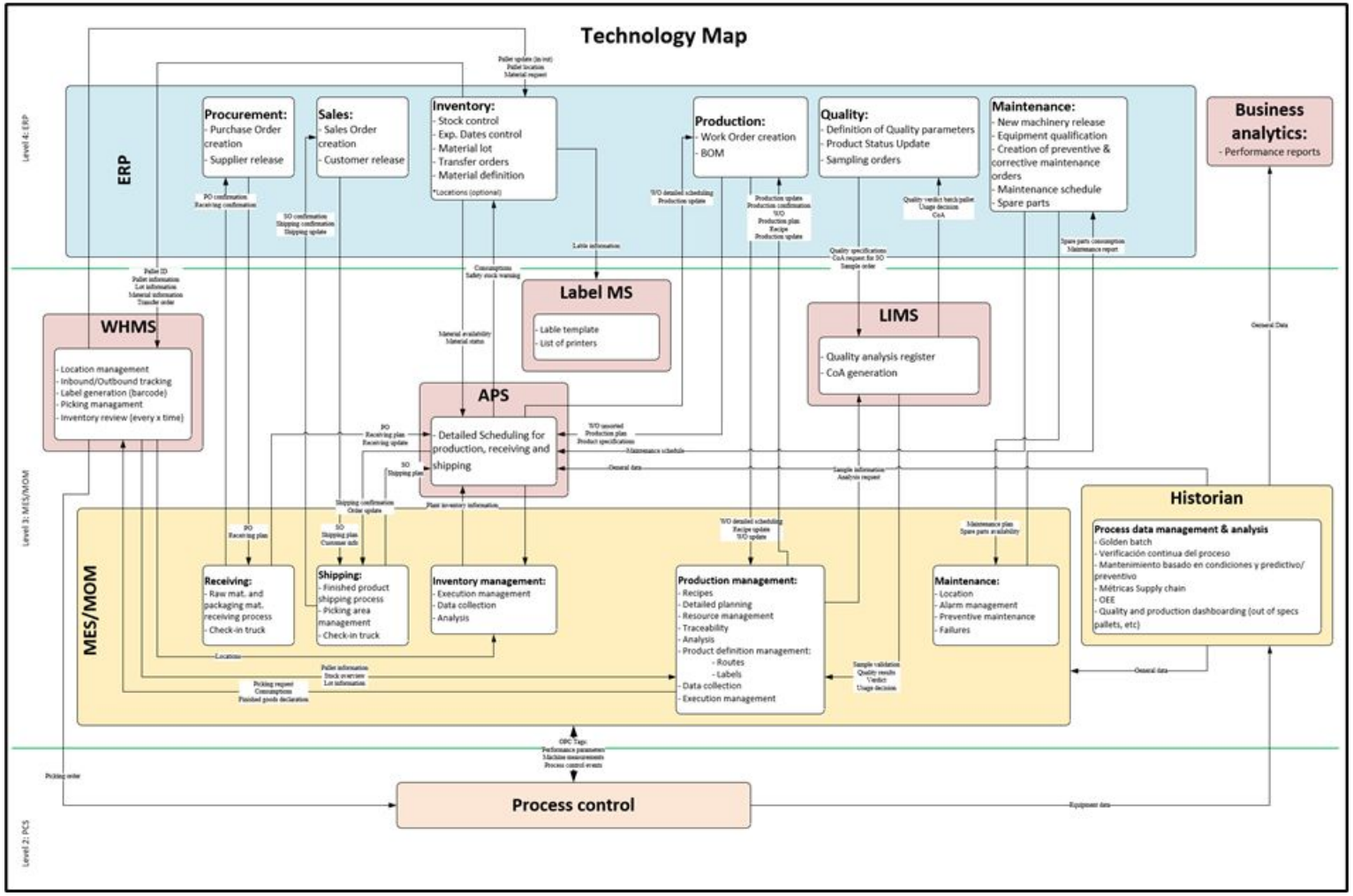
✔ EUDR

An Unmanaged and Unstandardized MES System prevents AI Scalability

- AI at scale require a solid foundation
- Standardized transactional data is a must
  (batch, product, recipe…)
- Investments are spent in adapting MES

AI READINESS INDICATOR

MES:A key technology in your functional landscape



- IT/OT Architecture
- Functional grouping business requirements
- Identify middleware
- Data flow & interfaces & data integrity

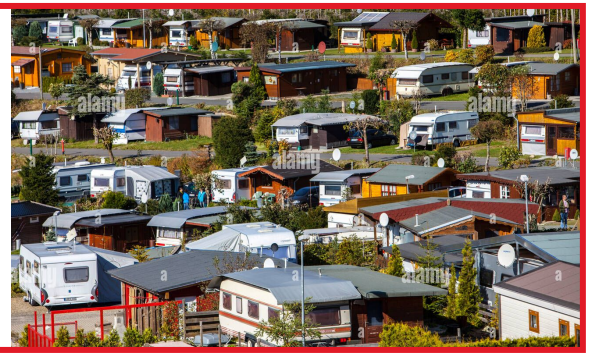
ADVANTAGES :

- ✔ **Optimal assignation of applications**
- ✔ **Clarity & transparency**
- ✔ **Avoid data duplication**
- ✔ **Maintainable living document linked to process flows**

The vision for MES

Common landscape

All existing systems have the same function but all are a bit different



What we didn't want

"Any customer can have a car painted at with any colour they want as long as it is black" – **Henry Ford**

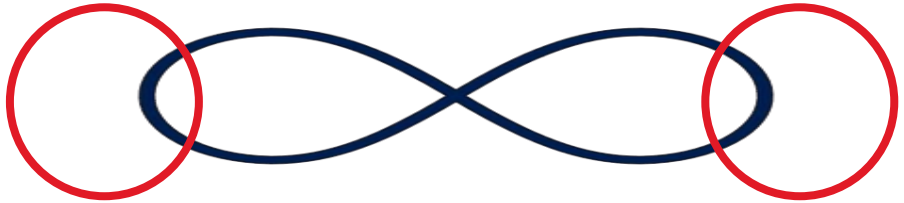
Where we need to get to

Harmonization of our processses and systems is critical, otherwise we end up with a fragmented MES landscape with very limited transparency.

However, this does not mean: "One size fits all" as we need to **respect differences in clearly defined boundaries**

The magic sauce: Converging MES and operations

Where do we need to get to



Future state operations

How processes should work

MES product

Software template management

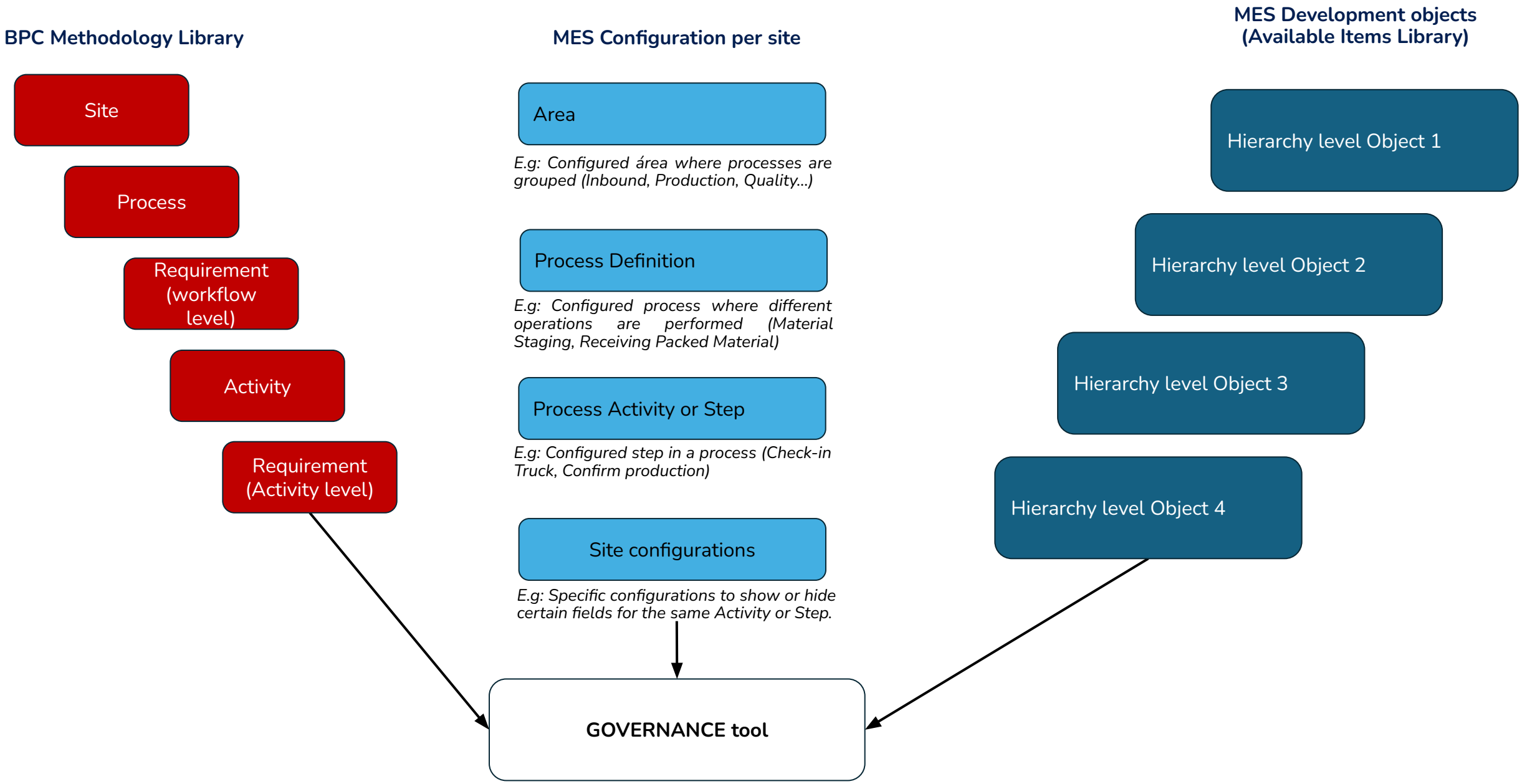
IT maintenance costs

Solution utilization

Delivery rate

MES Productization

Govern Relation



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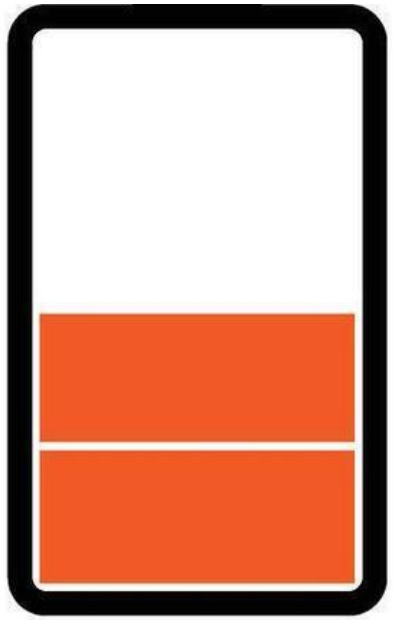

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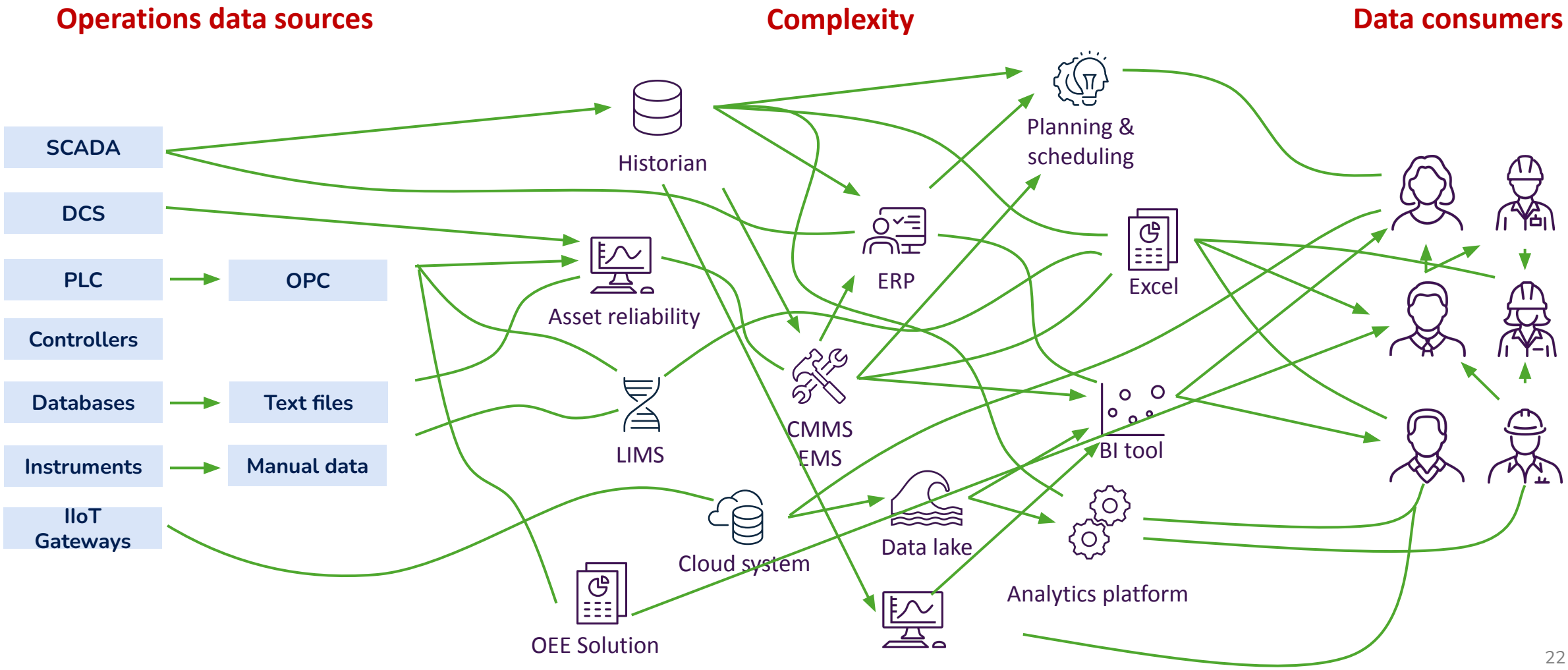
Fragmented Data Landscape



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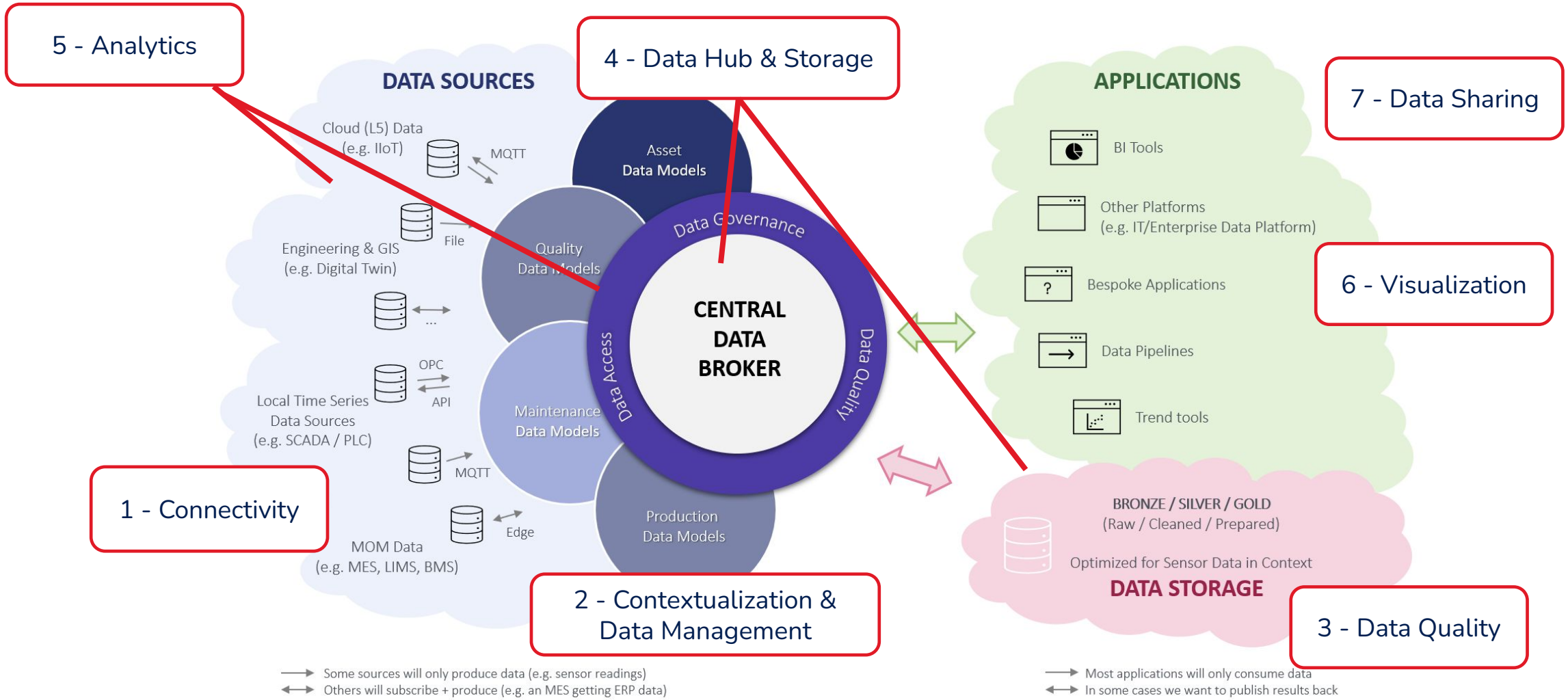
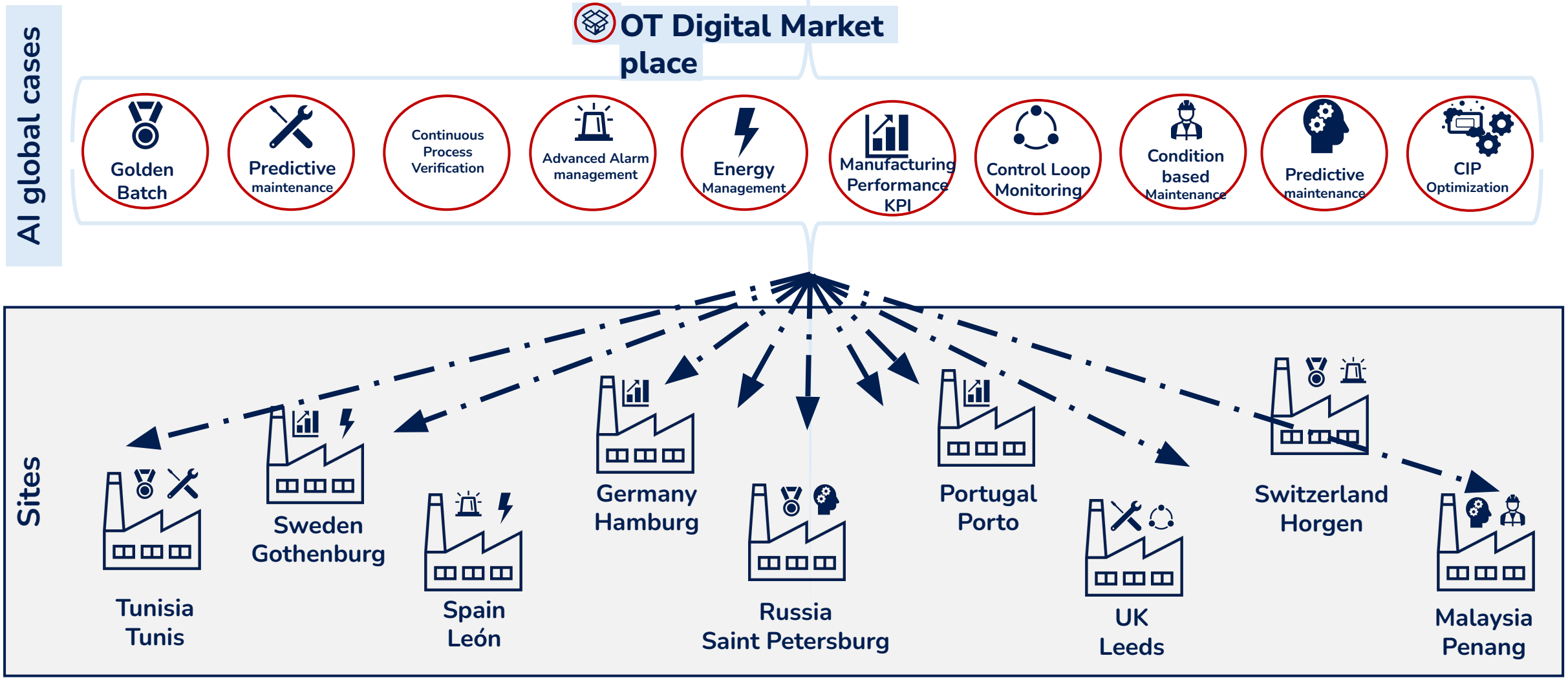
OT Data platform: the solution for data aggregation



Scalability



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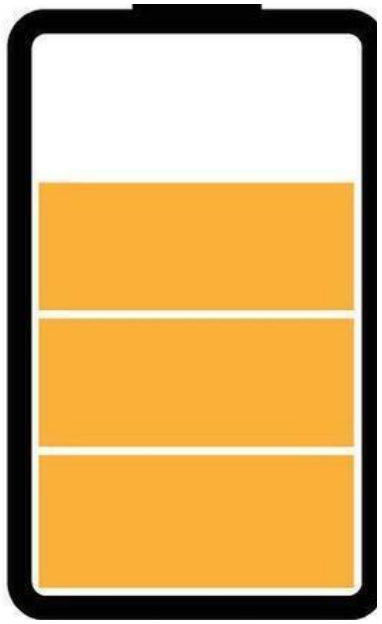

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EUDR Greatest Challenges

Traceability

Requires full traceability from crop to finished product

Data availability and quality

Ensure quality data across all critical steps of production

Supply chain complexity

Global supply chains are multi-tiered and opaque

Short implementation timelines

Full compliance required since December 2024

EUDR Greatest Opportunities

Traceability

- Define data mapping protocols to identify lots
- Explore geolocation solutions to find root crops
- Enable AI lot-searching solutions

Data availability and quality

- Improve data capturing by improving/installing MES systems
- Enable data quality tools for continuous validation
- Use UNS to centralize all data sources
- Understand your data with a DQS report

Supply chain complexity

- Enable graph-based databases to extract valuable insights
- Define data mapping protocols to identify lot movements
- Centralize data with UNS

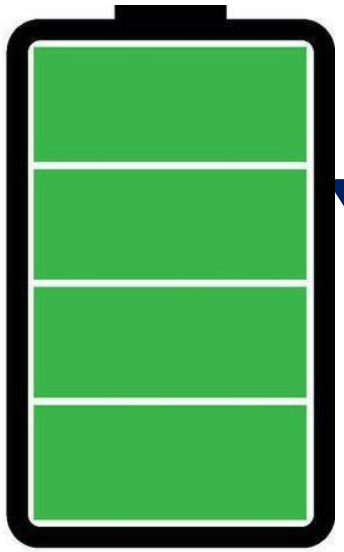
Short implementation timelines

- Easily report using single source of truth (UNS)
- Get the right reporting template thanks to a productized MES.

Scalable AI made reality

Recipe:

- √ Assess your processes – are they harmonized, standardized and optimized?
- √ Do you have an MES system? If yes, is it managed as a product?
- √ Do you have a solid OT data basis?



YOU ARE READY FOR SCALABLE AI!

We don’t chase dreams
We set the standard

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