

La valorizzazione del dato

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From Data to Decisions

*How Dumarey Turns Engineering Data
into Business Value*

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Agenda

Objectives

Product Design and Development

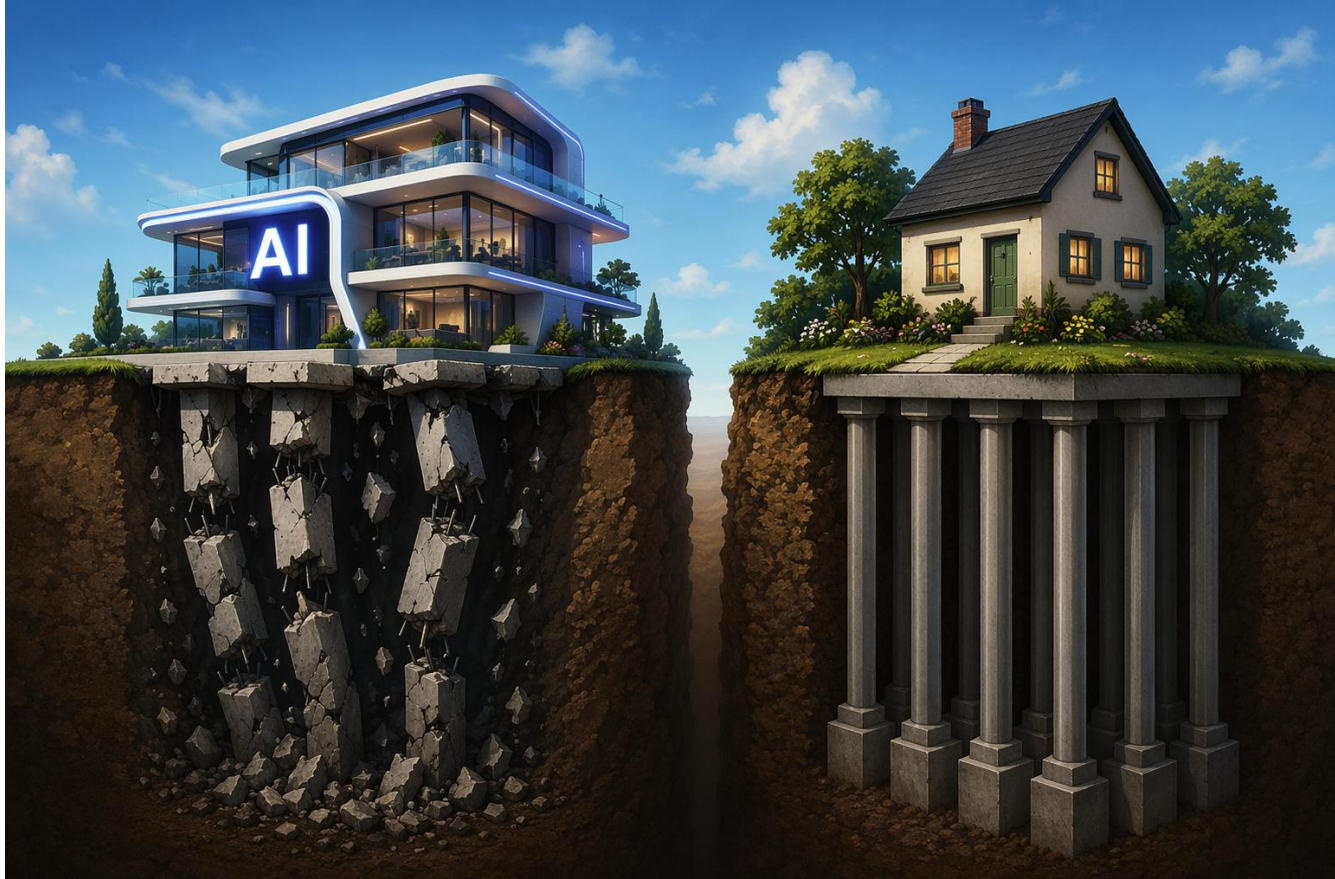
Quality Improvement and Cost Reduction

Final remarks

Objective: better & faster Decision-Making

The Data Dilemma

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The Data Dilemma

- **Without governed data**, connected workflows and traceable engineering context, **AI cannot deliver robust decisions.**
- It can only generate **answers that look credible.**
- Data management is no longer an IT concern.
- It is a strategic engineering capability.
- It is the **foundation of trustworthy AI.**



Why we are here – Data-based Engineering

Data = crude oil of 4th industrial revolution

Conventional decision-making

- Data created on the fly, only when needed, not stored
- Expert-driven iterations, causing repeated loops and delays
- Low reusability, leading to slower and more expensive decisions

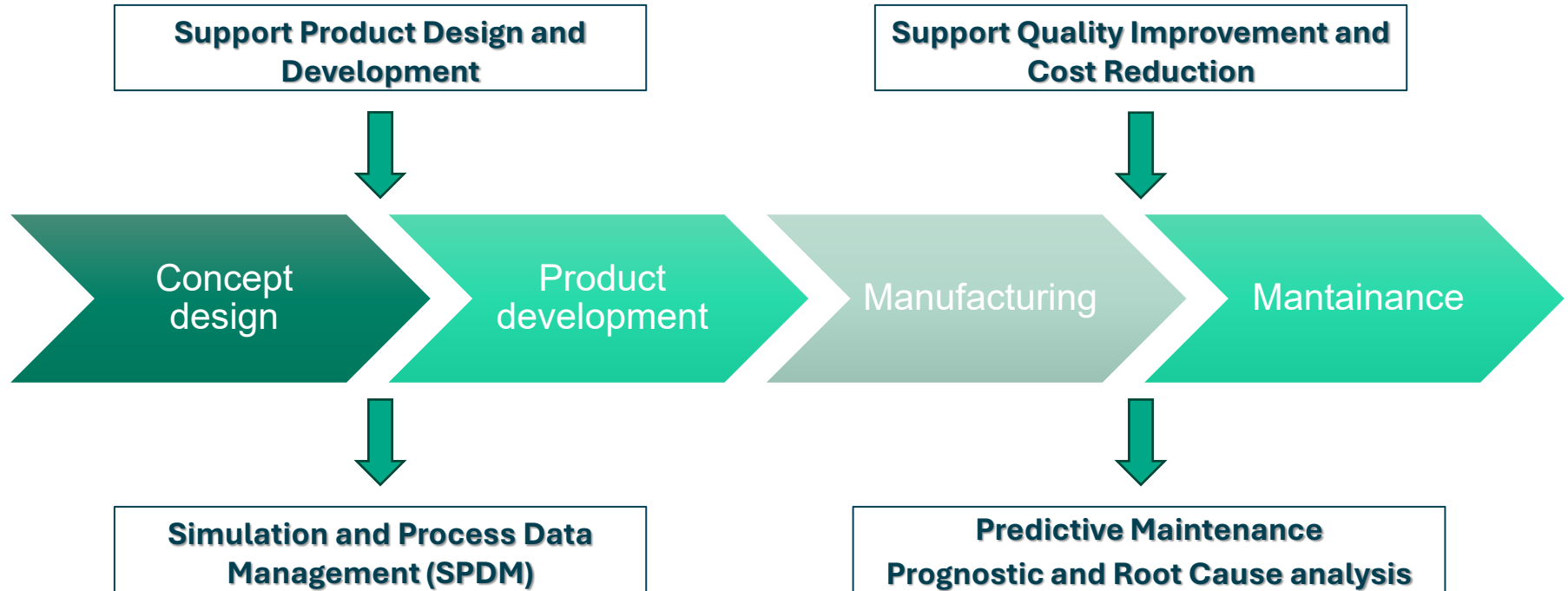


Data-based Decision-Making

- Transforms data into reusable assets
- Faster, repeatable and scalable decision-making
- Enabling automation, analytics and AI/ML



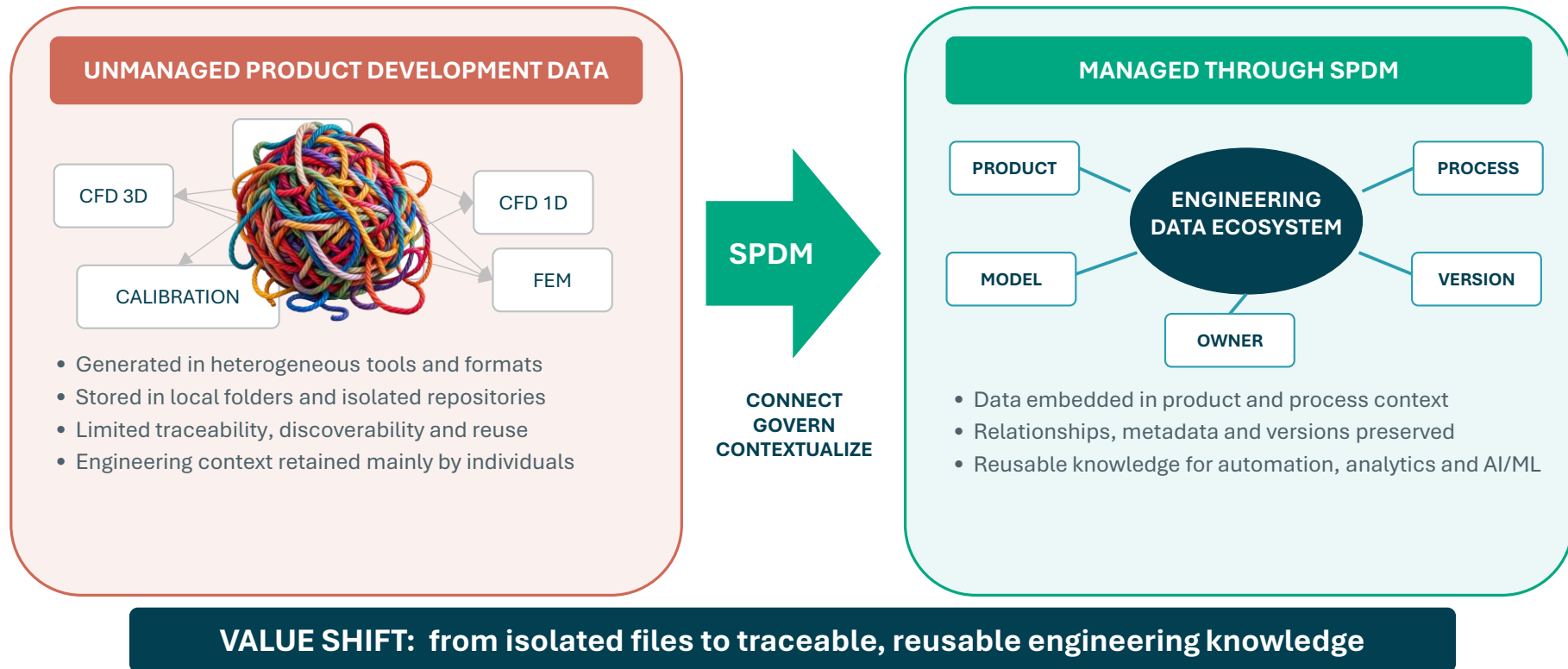
Impact of Data on Product Lifecycle



From Fragmented Outputs to Managed Engineering Data

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The shift is not only about storing files. It is about connecting data to the product, process and decisions that created it.



SPDM: Simulation, Process and Data Management

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SPDM orchestrates the engineering lifecycle by capturing data, execution logic and context in one governed ecosystem.



MODEL EXECUTION

Develop and execute repeatable workflows to generate consistent data.

PROCESS DATA MANAGEMENT

Store models and data with metadata, tags and product relationships.

SPDM

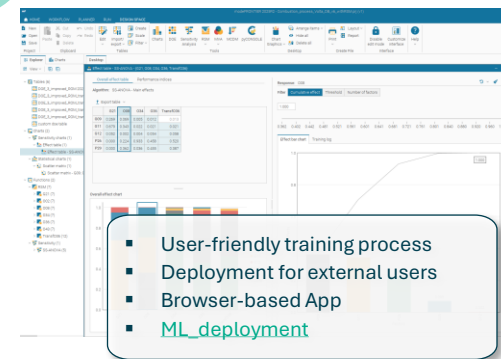
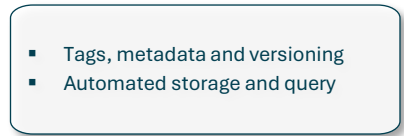
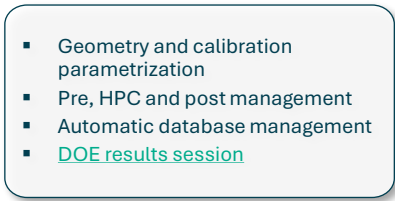
SIMULATION GOVERNANCE

Enable collaborative design, controlled access and decision traceability.

INSIGHTS

Query the engineering database and train or deploy AI/ML models.

Data becomes a reusable corporate asset.



Fleet Monitoring – Predictive Maintenance

CUSTOMER CHALLENGE

Frequent aftertreatment issues caused unplanned downtime and maintenance interventions on a delivery fleet.



Recorded data from
customer vehicles



**Data
Engineering**



Development
of predictive models
to anticipate failures

DUMAREY SOLUTION

Root-cause analysis, predictive models, risk scoring, early alerts and maintenance planning.

**≈25% reduction in related vehicle
downtime**

Data engineering provides value for customer operations

Final remarks

