



Product Complexity Management @CLAAS

Refa-Institute Day, 7th of March 2023

Dr. Maximilian Pasche

CLAAS



Product Complexity Management @CLAAS

Who is talking to you?

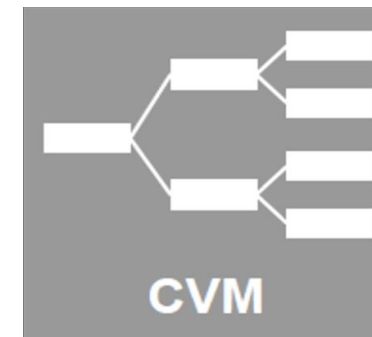


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From	Until	Field
06/2018	today	Head of Product Complexity Management (PCxM)
11/2011	06/2018	Senior Consultant: Modular Systems and Variant Management
07/2007	10/2011	PhD-Thesis: Managing Product Architectures – Organizational and Strategic Aspects



**Explore the CLAAS
Modular Management**



**Explore the
CLAAS Variant Manager**

Agenda

1. Introduction of CLAAS
2. Ensuring cross-product standardization: Potential obstacles & requirements
3. The Gordian knot of complexity management
4. Cutting the Gordian knot of complexity management by the help of data science

The Group. Number, facts and figures.

Legal form

KGaA mbH (commercial partnership limited by shares)

Supervisory Board and Shareholders' Committee

Cathrina Claas-Mühlhäuser (Chairperson)



Revenue 2022	€ 4.9 bn
Profit before taxes	+166.3 million €
International share of revenue	80.3 %
Employees worldwide	12,116



changes

'22



Product Range.



Combine harvesters



Forage harvesters



Tractors



Harvest machines



Balers



Telescopic loaders



Wheel loaders

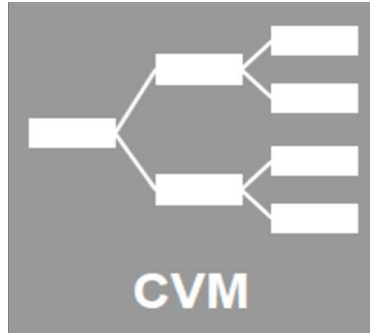


Software and systems



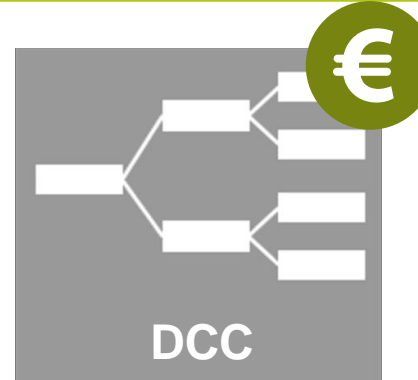
Service & parts

Product Complexity Management (PCxM) @CLAAS



CLAAS Variant Manager (CVM)

All relevant **data** for variant **decision-making** are made easily & centrally **accessible** by a single **source of truth solution**



Diversity Cost Calculation Modell (DCC)

Variant driven cost are assessed and made **visible**



Modular Management

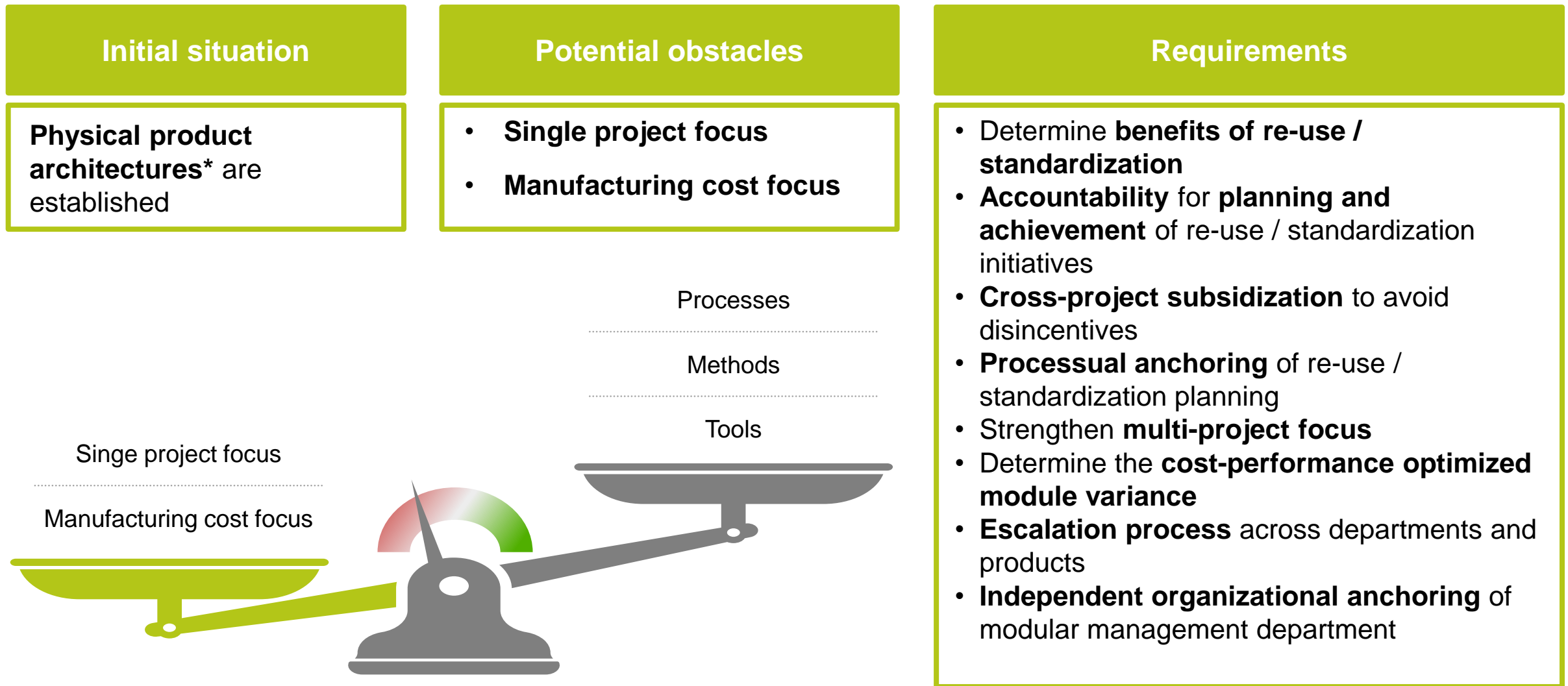
Processes, roles & tools are provided to successfully and sustainably **anchor** the **modular approach @CLAAS**

Definition of a **product portfolio** with an **optimal level of product variety**
– Doing the right things! (Effectiveness) –

Products based on **commonly used modular kits** to improve our product portfolio while reducing cost
– Doing things right ! (Efficiency) –

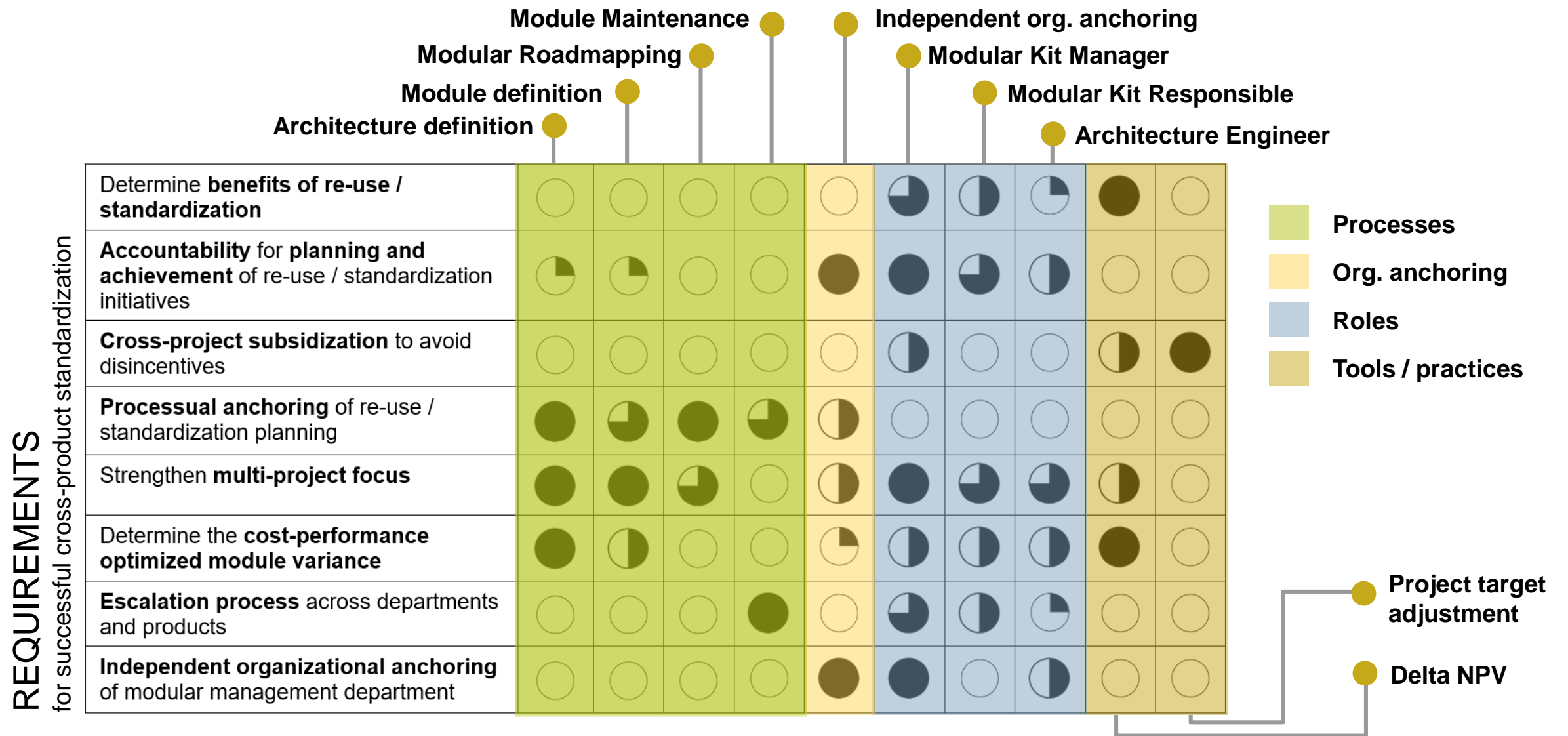
We empower the CLAAS organization to achieve **optimal product complexity** while ensuring a **profitable and customer oriented product portfolio**

Ensuring cross-product standardization: Potential obstacles & requirements



Legend: * interfaces, installation spaces and constituent features

Several concepts ensure successful cross-product standardization





The Gordian knot of complexity management

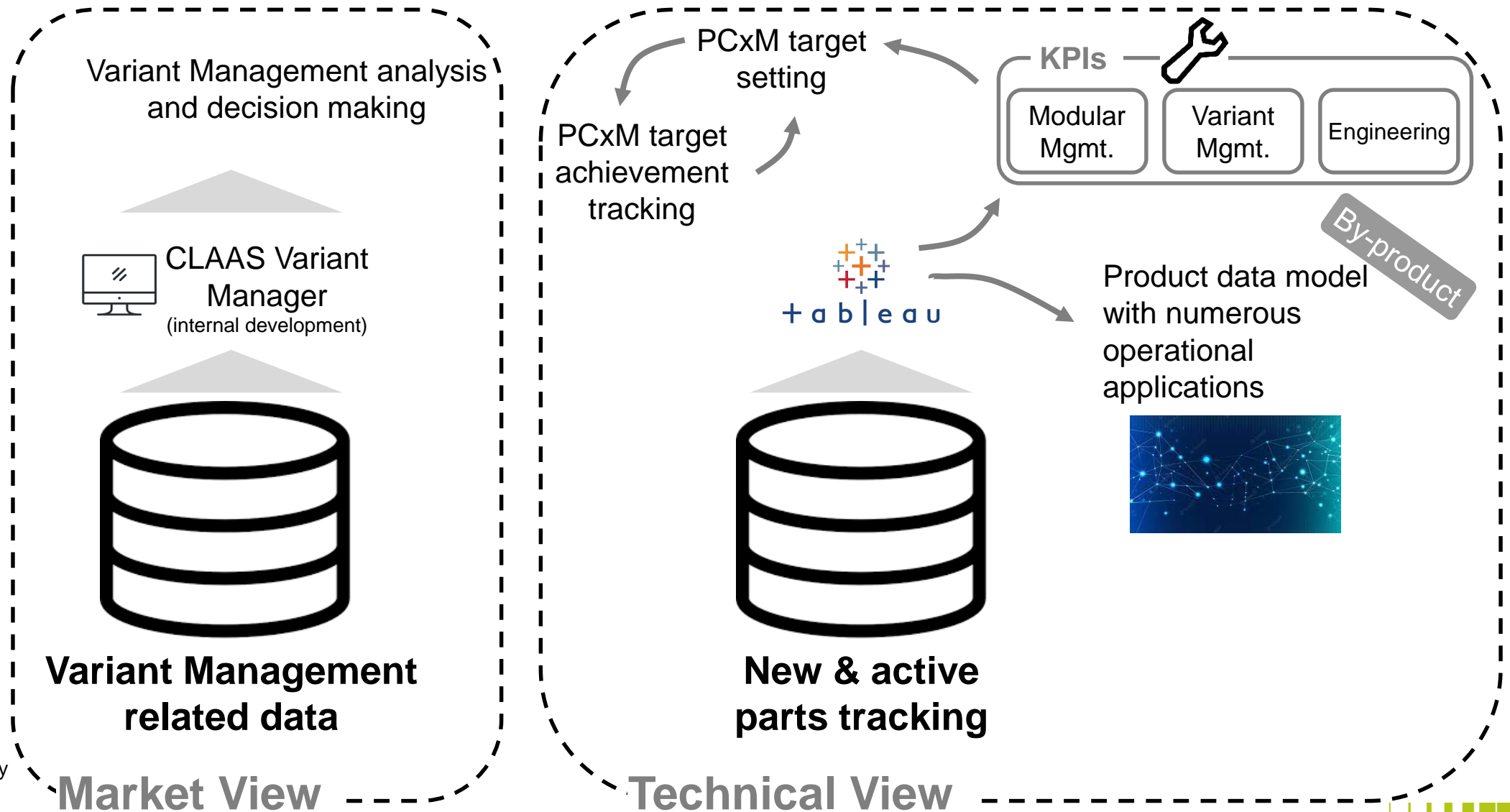
Are we cutting the Gordian knot of complexity management?

Gordian knot: The phrase "cutting the Gordian knot" or "untying the Gordian knot" refers to overcoming a difficult problem by energetic or unconventional [or innovative] means.

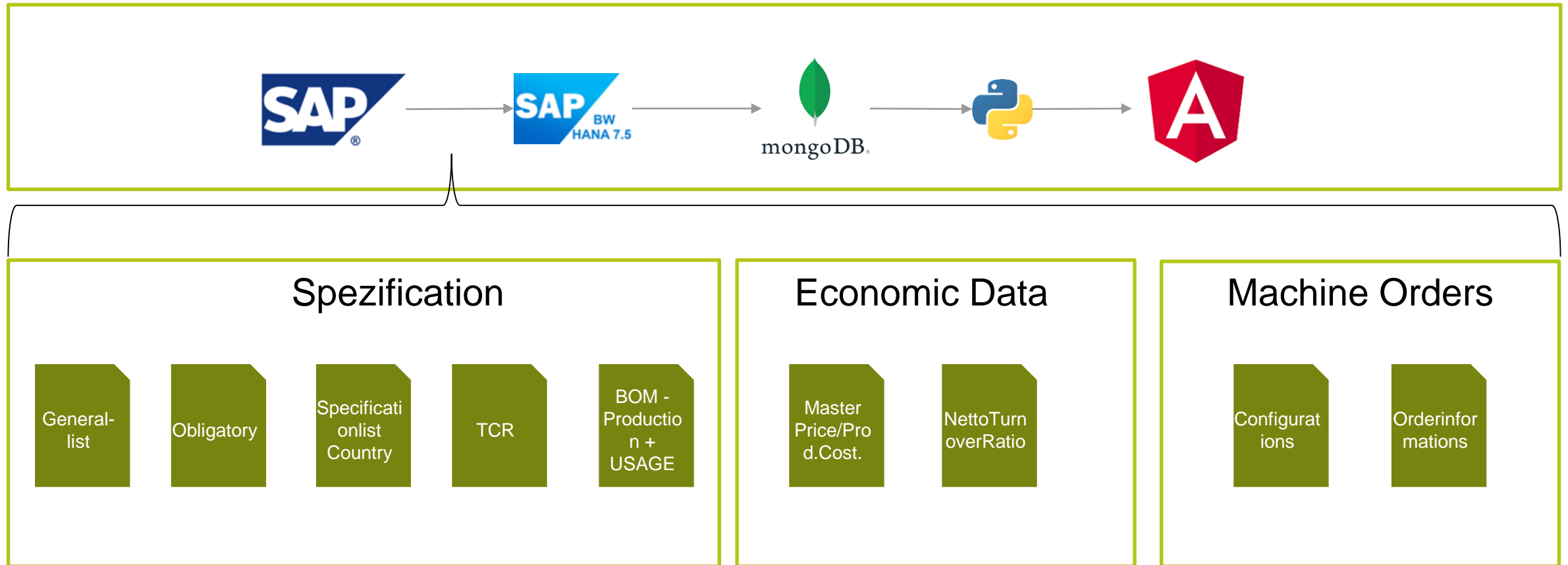
CLAAS



“Without data science, there is no way to address the issue of complexity management.”
Two developed data science applications will form the basis for several applications, e.g....



CLAAS Variant Manager – Architecture Inhouse Solution



Solution is built on the CLAAS standard tool landscape.

CLAAS Variant Manager (CVM)

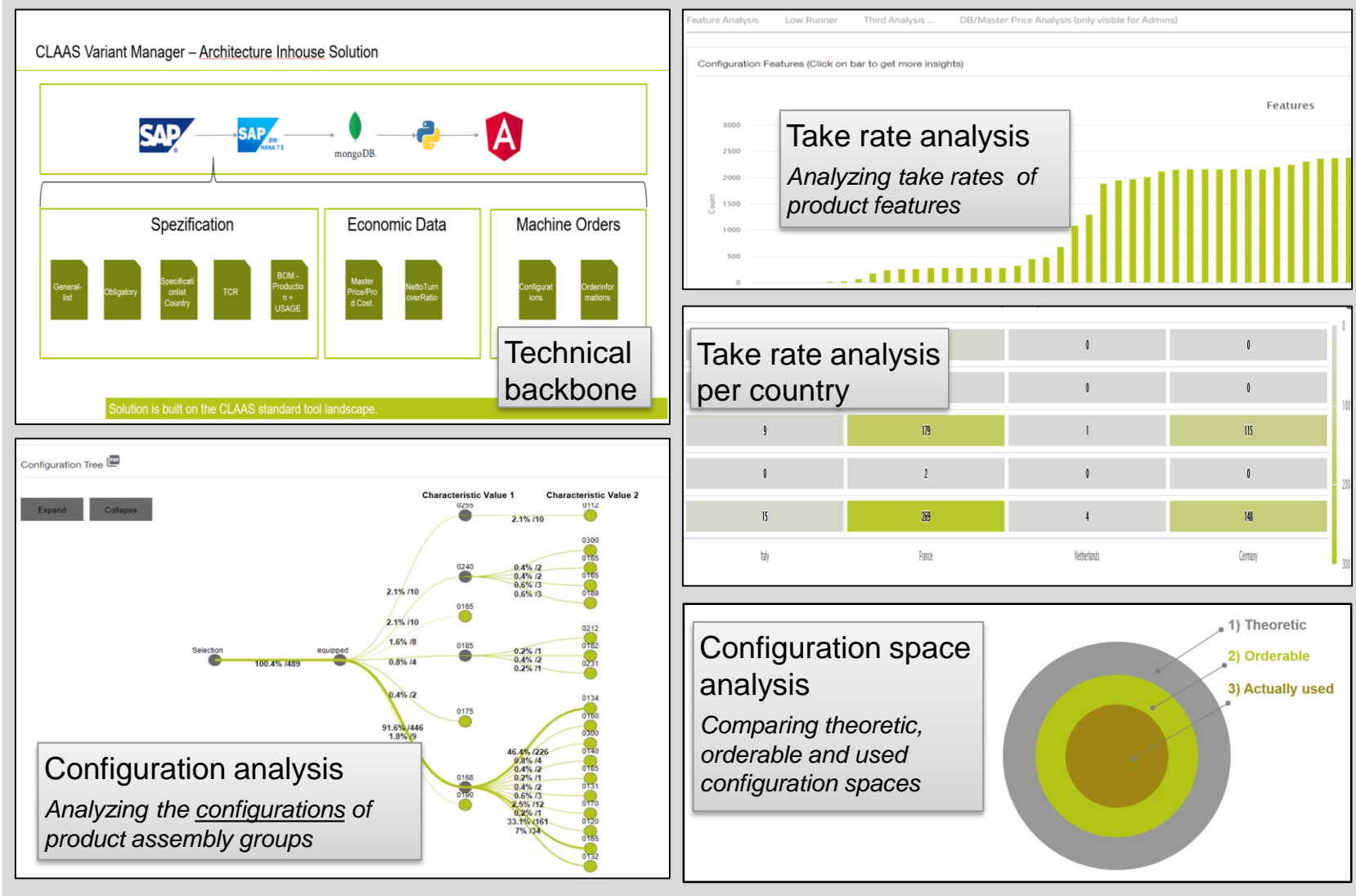
See. Analyze. Decide.

Features

- CLAAS Variant Manager (CVM) combines different data sources into one tool for **easy access**, high **transparency** and “**single source of truth**”
- Application** examples:
 - Elimination of **low runners**
 - Optimization of low **margin** features
 - Bundling** of configurations
- Approx. 250 licenses are in use

Benefits

- Strong **time reduction** for data analysis (-60% estimated)
- Data base **updated** daily
- Much more focus on activities to **improve margin**
- More complexity reduction by **bundling** of product features
- In general: **All data required for variant decision making** is **comprised** in the CVM



CLAAS (New) Parts Tracking in Complexity Management

Determine status. Set targets. Track target achievement.

New parts:

- **New parts** are **tracked** per site, product range, project or model
- E.g. clear **new parts allowances per project** can be defined and efficiently tracked

Carryover & exclusive parts:

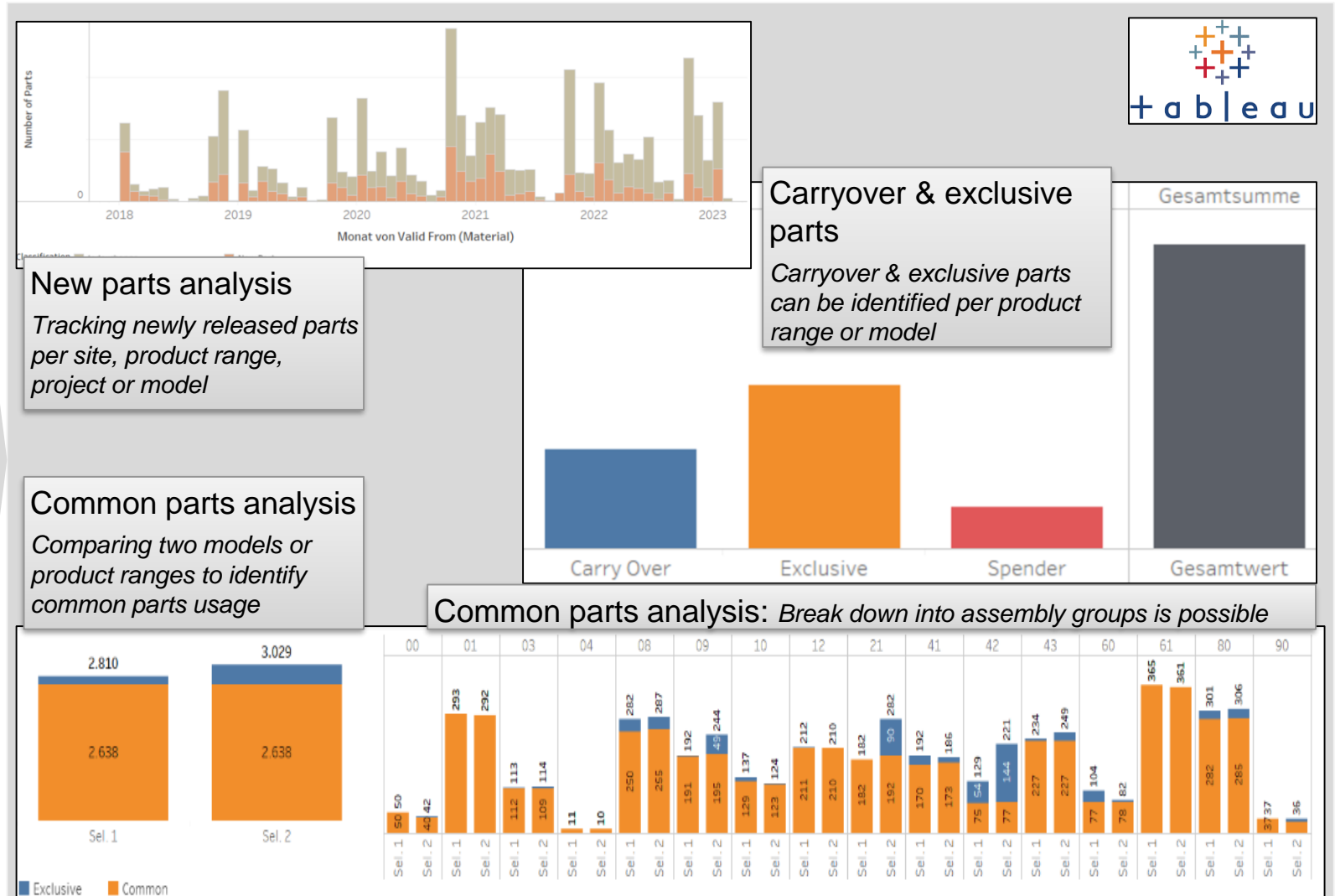
- **How standardized** are our **major product ranges**?
- **How many exclusive parts** are required for each product range / model?
- ...

Common parts:

- Quickly **determine** the amount of **common parts** between product ranges and models
- **Break-down into assembly groups** (e.g. hydraulic, feeder unit, etc.) is possible

Active parts:

- The amount of **active parts** are tracked as a **indicator** for **product variety** / technical complexity
- Active parts can **be broken** down from group level to Business Units, Product Unit, product ranges and models



The (new) parts tracking tool also functions as a generic product data model

It connects the technical view with the market view



Supplier

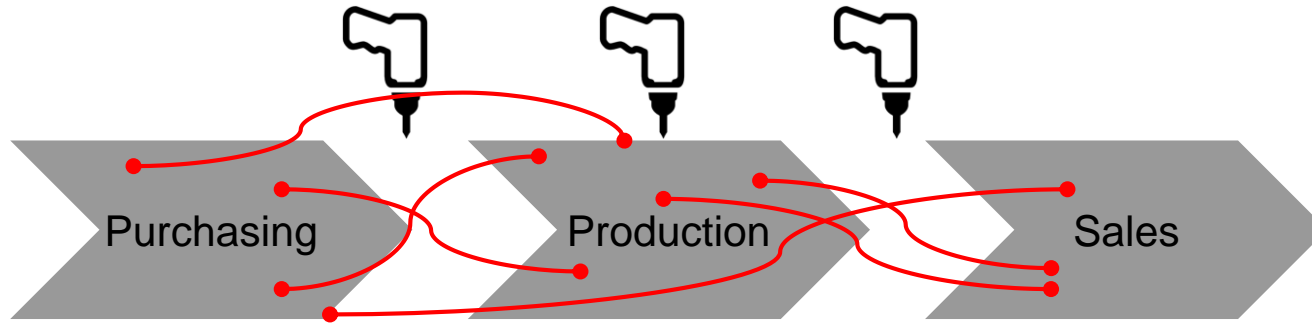


“Data highway” connects technical view with market



Data can be directly extracted from Tableau by everybody!

„Data deep drills” often require SAP experts and time!



Customer /
market

Technical view:

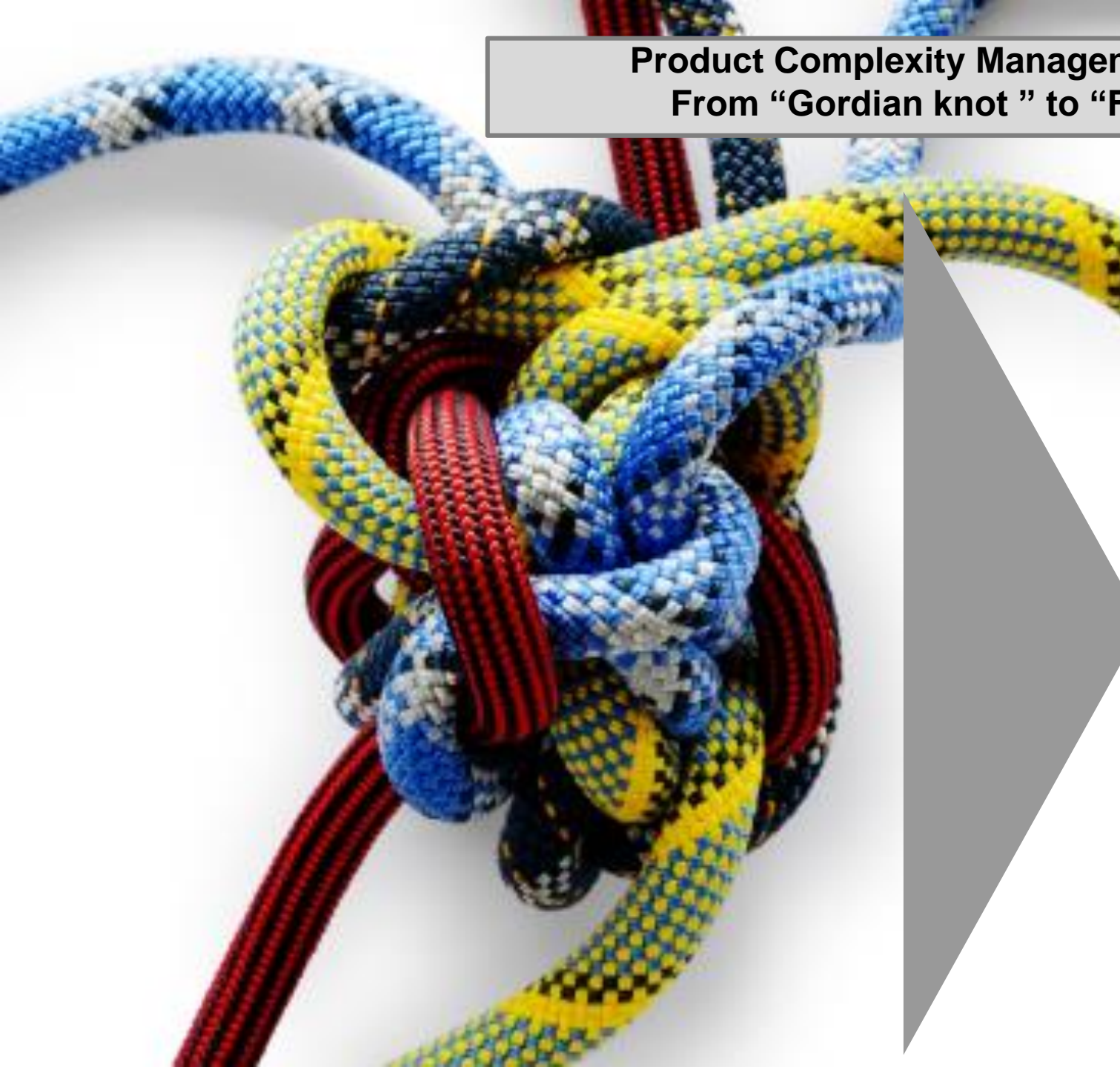
- Parts
- Commodity group
- ES key
- Material cluster
- ...

Market view:

- Types
- Sales
- Gross margin
- CCVs
- ...

 Data interdependencies

**Product Complexity Management @CLAAS:
From “Gordian knot ” to “Full control”!**



Thanks for your attention



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