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SUCCESSstory

Product data networked across systems and brands

Definition of component families for the project status at the push of a button

„We need a project status determination at the push of a button.“

Dr. Patrick Stiefel, Volkswagen AG

At a glance

Volkswagen AG

Automobile manufacturer

Wolfsburg

222,88 billion (2020)

The company

In terms of sales generated, Volkswagen is the world‘s largest automaker. Volkswagen was also number 1 in terms of the number of vehicles sold for a long time, until the company was overtaken by Toyota in 2020. With over 660,000 employees in 2020, today‘s VW AG acts as the parent company of the Volkswagen Passenger Cars vehicle brand and various subsidiaries.

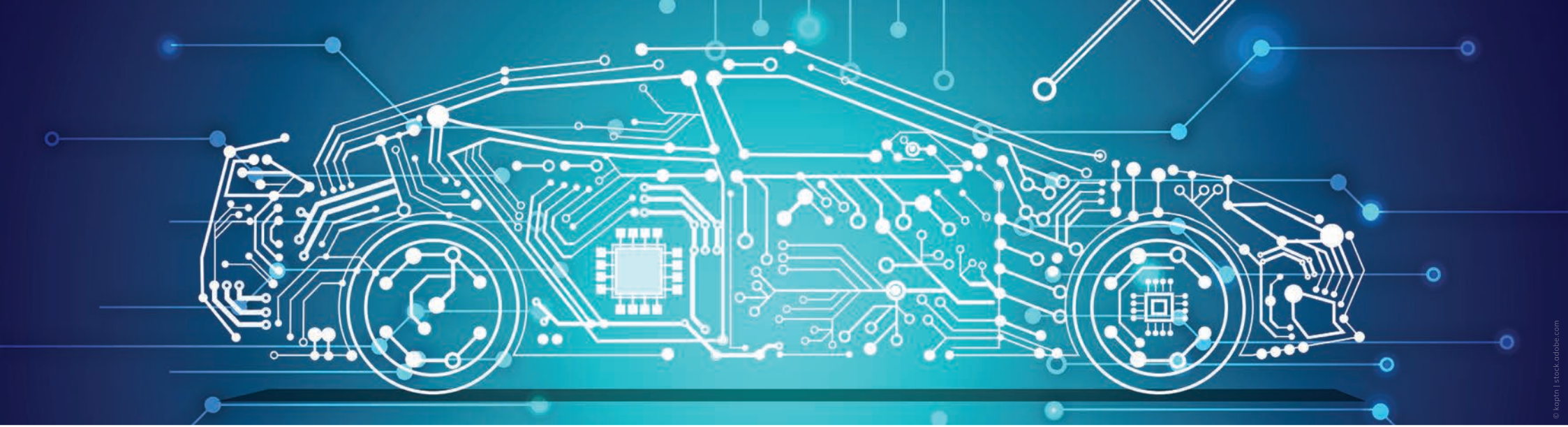
The challenge

The development bill of materials (E-BOM) at Volkswagen is the basis for logistics processes. This is why they are primarily taken into account in the structuring of product components. Other stakeholders involved in the development process (finance, procurement, variant configuration, prototype construction, quality assurance, after sales) use their own, process-specific views. They are managed in decentralized, department-specific tools and usually consist of a template structure that requires information from the relevant product structures.

A major challenge in using these views is finding components needed in the process, even though they are subject to inconsistent naming across the group and frequent part number changes in the development process. For these reasons, a search often does not provide the required results, which negatively affects the quality and timeliness of the views.

The solution

abat implemented a scalable model concept for mapping component families and using them to define department-specific views. This Group Product Standard (KPS) enables the definition of template views that are independent of the product structure and reference BOM objects on the basis of centrally managed data objects (component families).
To define the relevant component families, all active BOMs in the group were evaluated.



The project

In addition to the requirements description, the technical product description (TPD) serves as the basis for project status determination in the early product development phase. As the development maturity increases, the information content of a TPB must be expanded to include information from the technical parts list, which documents the results of the development process.

Due to the digitally non-existent linking of the information sources (TPB and bill of materials) and the correspondingly required research on the part of the project controllers, the project status determination was inefficient and outdated due to time delays, which could have led to risky project decisions.

The primary goal of the project was therefore to determine the project status using the product and process data directly in the respective system. This led to the definition of a new business object with a unique identification ID (KPS ID) - the „part family“. Based on the parts, it enables data networking between the different product data managing systems.

The goal was quickly extended by the generic approach: The use of the data objects allows the definition of cross-system views of networked product data, which in turn enables efficient and department-specific evaluation. At the same time, the view definition always remains vehicle-neutral and the responsibility of the process partners.

All current bills of materials and other product data were analyzed using a Big Data approach and component families (KPS basic elements) were defined based on part usage and naming. These system-generated suggestions (over 10,000 component families) were checked by the product data experts from BOM management, adjusted if necessary, and finally confirmed.

Due to the large amount of data and its parallel use by different departments, it was clear that classic spreadsheet programs would reach their limits. Therefore, a database-based tool was developed in agile collaboration with Group IT and the product data department. With the help of this tool, the quality of the system-defined proposals could be tested.

At the same time, initial views of the KPS elements were defined in cooperation with other process partners - so-called extension elements.

The agile implementation of the KPS Repository was carried out in the same system that contains the bill of materials and was based on the use cases described jointly. The first implementation stage was completed with extension of the bill of materials and use of the group product standard for mechanical components.

After consolidating the approach, KPS will - in the second implementation stage - become an integrated part of the Group‘s component management including software development.

Outputs

- The KPS (Group Product Standard) defines the KPS elements as well as the processes for their integration into the product data management of the VW Group
- Uniform data model and functions for generating process-specific views of the BOM product structure

The results

By determining the KPS elements and implementing them in the bill of materials, the foundation was laid for object-oriented, group-wide component management. Furthermore, the KPS elements enable the networking of all parts-related product data - across systems and brands - as well as the creation of process-specific views of binding product data.

In doing so, abat has significantly accompanied the project from the first conceptual idea to process definition, development and tests to the go-live.

An Excel alternative was developed in a very short time. Volkswagen‘s product data departments helped in an uncomplicated and reliable way to determine the component families. A key factor in this cross-brand project was the openness of all process partners to break new ground and bring the cross-departmental project to completion.

„Through the cooperation with abat in the KPS project, the efficiency and quality of the product data processes of the VW Group improved sustainably. In addition, the product data was harmonized across brands.“

Dr. Patrick Stiefel, project manager Volkswagen AG

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ABOUT US

The abat Group, founded in 1998, is an SAP service provider, innovative software developer and provider of complete solutions for software-supported process optimization – primarily in the core industries of automotive and discrete manufacturing as well as in logistics processes and production control. With our six service areas, we give companies the freedom they need for new ideas, efficient processes, and future-oriented solutions.

In the **consulting** service area, we advise and support you in all phases of an SAP project – from conception to implementation to operation of your SAP system. With abat **manufacture**, you receive digital, high-availability solutions for production control in the complex manufacturing industry. With abat **transform** we offer you innovative and unique solutions that make you special: from AI to cloud to X-Reality. The **PLM** area offers comprehensive process consulting with the goal of achieving a continuous data flow across PLM, ERP and MES. Offerings from the **protect** area help customers secure information and maintain the confidentiality, availability, and integrity of business relationships. Finally, our **sustain** experts advise on how sustainability and CSR reporting can be strategically and structurally anchored in the company.

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