Models play a central role at VW

REFERENCE

LieberLieber

LieberLieber Software: Models play a central role at VW

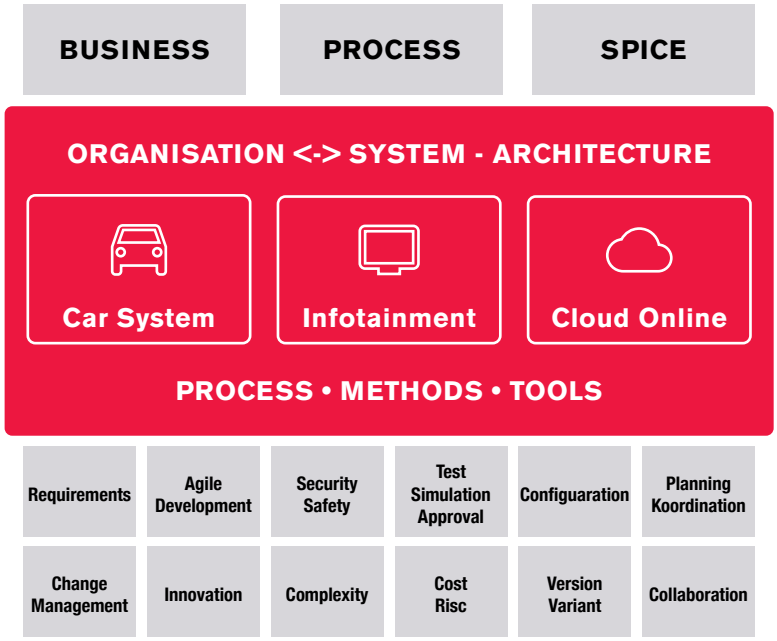
Model-based systems engineering is now used in many areas of the VW Group. In a joint webinar, Daniel Siegl (LieberLieber) and Hermann Gollwitzer (VW) explained the background to this and the role LieberLieber plays in implementing this fundamental change in development.

Based in Wolfsburg, Germany, the Volkswagen Group (VW) is the world's second-largest automobile manufacturer and Europe's leading manufacturing company overall. The cooperation with LieberLieber began about two years ago, as VW relies on Enterprise Architect for software and system development for infotainment systems. In the course of increasing digitalisation in all brands, areas and functions of VW, the company is now ready to use model-based systems engineering (MBSE) in many areas.

Hermann Gollwitzer, who works at VW in the EEMF/3 sub-department as a system architect for infotainment systems:

„Up to now, we have tried to meet the constantly growing requirements by reorganising and adapting. But with the active support of LieberLieber, we have succeeded in making model-based systems engineering the backbone of our development organisation. For us, MBSE is also the basis for solving the challenges around processes and SPICE, it also enables the solution-oriented cooperation of all persons involved in the development".

Hermann Gollwitzer
works at VW in the EECZ/4 sub-department as a system architect for infotainment systems (Source: Gollwitzer)



Systems Engineering for future car development (Source: Gollwitzer)

Daniel Siegl, Business Development LieberLieber:

Daniel Siegl
Business Development LieberLieber

„We are proud to have demonstrated the advantages and high value of MBSE for the entire organisation. As efficient software and system development is becoming strategically more and more important, even for groups such as VW with thousands of people involved, we are doing everything we can with our experience to help ensure that the overview is always maintained as complexity increases".

SAFE HANDLING OF MODEL VERSIONS AND VARIANTS IS CRUCIAL

As Gollwitzer went on to explain, on the road to becoming an agile company it is necessary to reconcile such complex things as the company roadmap, the business model and cars with different features. In IT architecture in particular, one must always stay on the target path in order not to slip into an architectural erosion. This would result in a disproportionately high effort for continuous readjustment.
Since many versions and variants of models are inevitably created in such an agile and complex environment, it was crucial for the commitment to MBSE to be able to handle them easily and safely.

„The control of all versions and variants of the models created in the development process was the most important requirement for the stable anchoring of MBSE in the company. LieberLieber supported us very well in this with their profound practical knowledge as well as with tools such as Enterprise Architect and LemonTree, thus promoting internal persuasion," explains Gollwitzer.

ALWAYS KEEP THE OVERVIEW WITH MBSE

However, it still remains a great challenge to keep track of the different variants on the way to the „individual vehicle". For this reason, efforts must continue to be made in the future to develop a broadly accepted understanding of MBSE in order to deepen the path taken.

„In our move towards MBSE, we were not looking for the best implementation tool, but for an easily understandable approach that would benefit all those involved. We have now succeeded in doing this and we can build on this foundation and face the profound changes in our industry," says Gollwitzer.

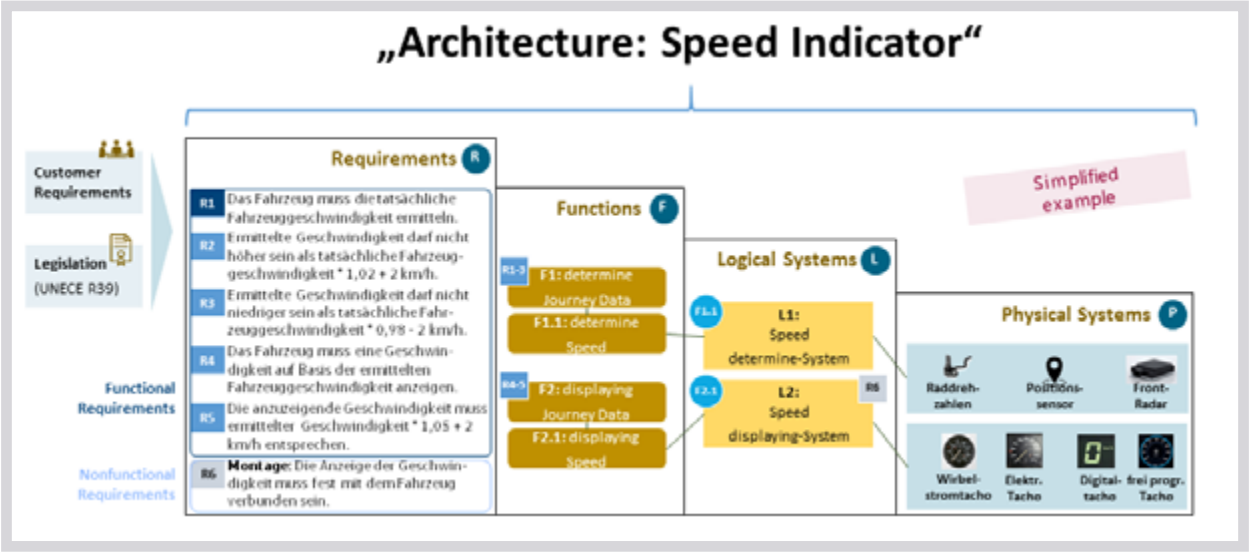
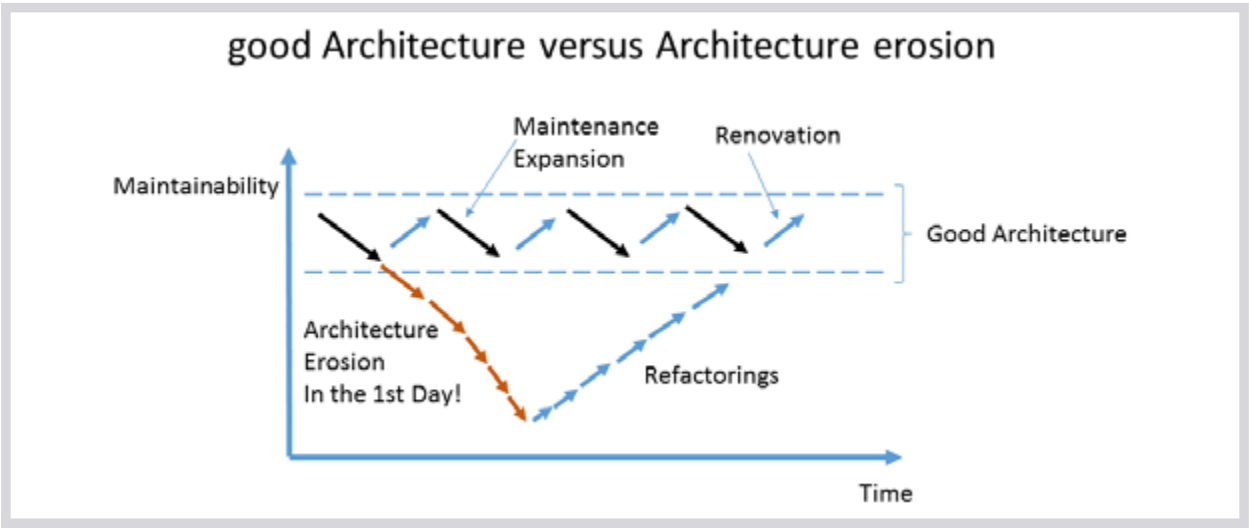


Diagram of the IT architecture of the speed indicator (Source: Gollwitzer)

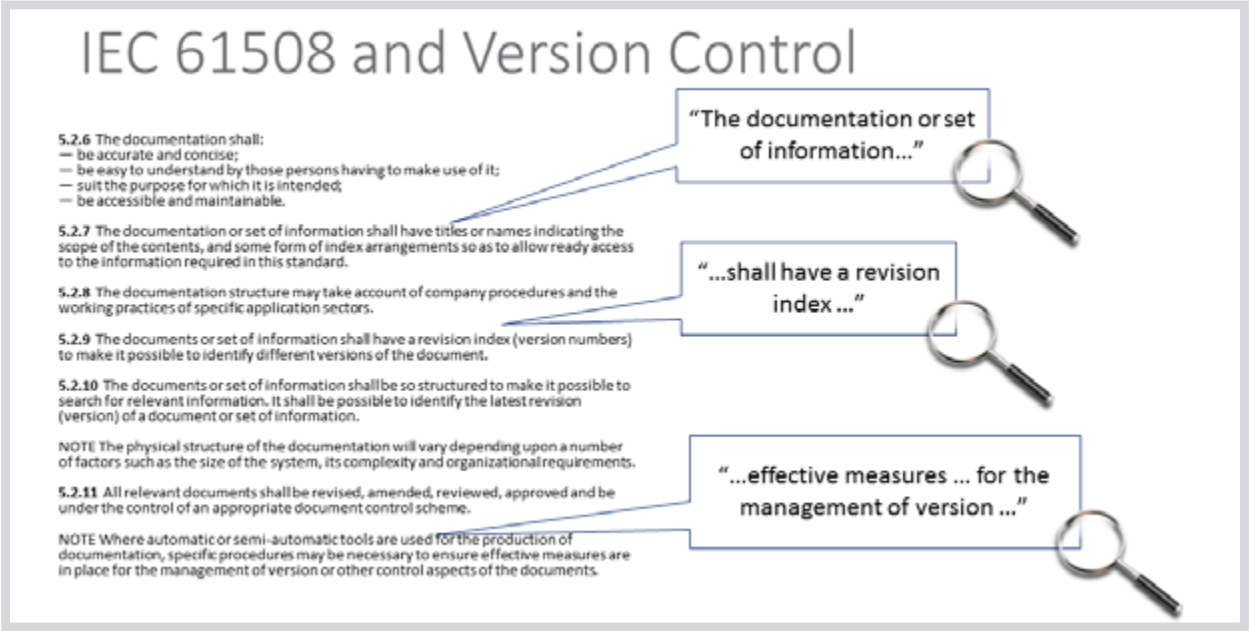
NEW APPROACHES FOR MBSE IN THE FUTURE

In the concluding question and answer session of the webinar, Daniel Siegl gave a brief outlook on current developments in the MBSE sector. Thus, the current requirements of the industry showed the desire for continuous integration. This refers to the permanent merging of components into one application in order to improve the software quality. At the same time the interest in the NuGet approach in the field of modelling is growing. This refers to a system for distributing software components in packages. Closely related to this is not least the DevOps method, which above all increases the speed of development and improves teamwork.

„LieberLieber is of course also concerned with these new approaches and methods in daily practice. Our product LemonTree in particular already takes up many of the approaches contained in it, which makes it even easier for us to put them into practice. We are therefore already well prepared for the next steps and look forward to further cooperation with VW on the way to an extensive digitalisation!”



In IT architecture, you always have to stay on target to avoid slipping into an architectural erosion (Source: Gollwitzer)



IEC 61508 is a series of standards for the development of electronic systems that perform a safety function. It explicitly requires a strict version control, as it can be achieved with LemonTree.

Click here for the recording of the webinar

ABOUT VW

The VW Group comprises twelve brands from seven European countries: Volkswagen Passenger Cars, Audi, SEAT, ŠKODA, Bentley, Bugatti, Lamborghini, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania and MAN. The Volkswagen Group also offers a broad spectrum of financial services. These include dealer and customer financing, leasing, banking and insurance business and fleet management.

With its program „TOGETHER - Strategy 2025“, the Volkswagen Group has cleared the way for the biggest change process in its history: the realignment of one of the best automotive companies into one of the world‘s leading providers of sustainable mobility. To this end, the Group will transform its automotive core business, including the introduction of more than 30 additional all-electric models by 2025 along with the expansion of battery technology and autonomous driving as new core competencies.

LieberLieber

ABOUT LIEBERLIEBER

We are a software engineering company. The know-how of our employees lies in model-based software and system design based on tools such as Enterprise Architect from Sparx Systems.

Our customers are companies that place particular importance on the quality of their software and systems development. They wish to maintain a constant overview of their complex development scenarios while ensuring that security-relevant requirements are clearly represented in models.
For this task we provide our own special tools, such as LemonTree and Embedded Engineer. In addition, we offer a range of useful tool integration services to help make our customers‘ development processes more productive.