

A long-exposure photograph of a multi-lane highway at night, showing light trails from cars. In the background, a city skyline with illuminated skyscrapers is visible under a dark blue sky. The image is framed by a dark blue banner at the top and bottom.

Webasto moves into the future with MBSE

Customer reference



LieberLieber Software: Webasto moves into the future with MBSE

The Webasto Group, a family-owned German automotive supplier, generated 3.7 billion euros in sales in 2021 with around 15,700 employees, making it one of the 100 largest suppliers worldwide. The group has been implementing MBSE for about two years and relies on Enterprise Architect, LemonTree and the active support of LieberLieber.

Vienna/Gauting-Stockdorf – For Christoph Hinrichs, Global Process Expert „Requirements Engineering, Systems Engineering, MBSE“ at Webasto, the future of development clearly lies in MBSE (Model Based Systems Engineering): „At Webasto, we started dealing with MBSE about two years ago in order to better meet the challenges of our complex development projects. Before that, we only had isolated solutions with various modeling tools and Enterprise Architect, which did not produce the desired results. Now we were able to show, among other things, in a pilot project in our Business Unit Batteries, which possibilities MBSE opens up for the company. We were very well supported by LieberLieber and are also extremely satisfied with the support around Enterprise Architect and LemonTree.“ Hinrichs therefore presented his experiences at the first MBSE Summit in June 2022 in Traunkirchen, Upper Austria, and received a lot of attention from the MBSE community. The summit was organised by LieberLieber and the Johannes Kepler University (JKU) Linz and will take place again in 2023 from 5 to 6 June.

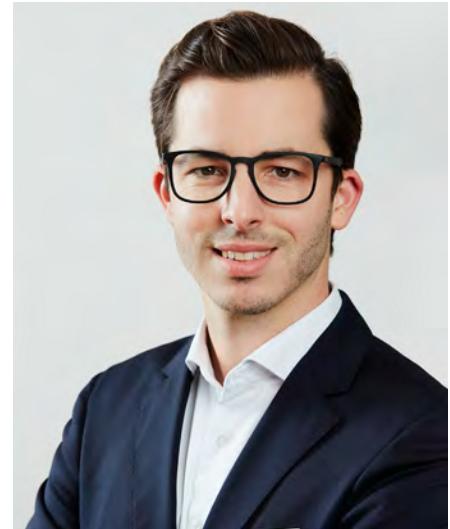


Christoph Hinrichs
Global Process Expert
„Requirements Engineering,
Systems Engineering, MBSE“ at
Webasto

Clear MBSE strategy and thorough testing of the tools

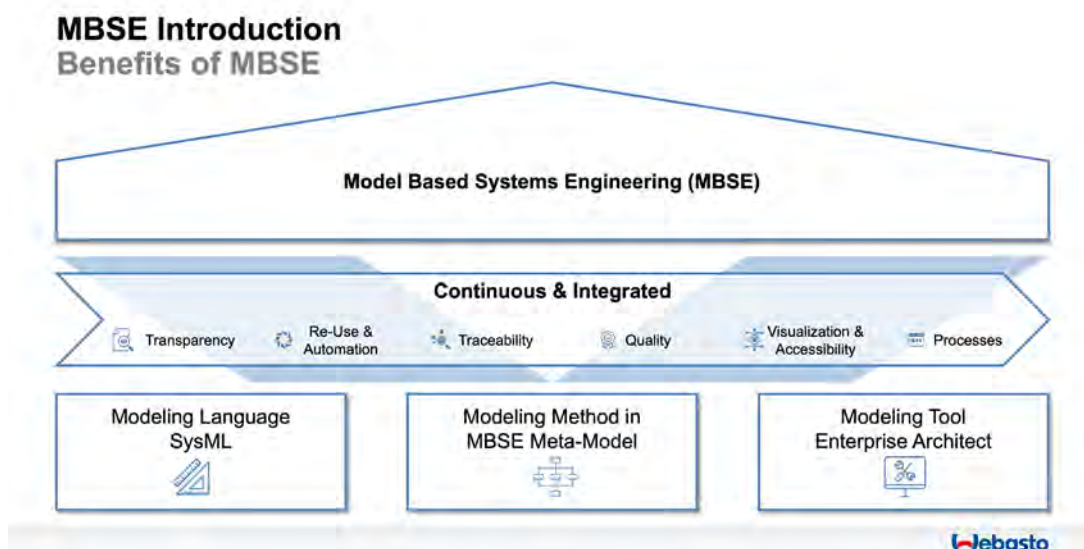
Webasto did not want to leave anything to chance when entering MBSE. Therefore, a clearly structured modelling process was defined (MBSE Meta-Model), the language to be used was defined (SysML) and the appropriate tool was selected in a very elaborate back-to-back comparison. „We were not satisfied with our previous solution and in a very open and selective tool comparison, Enterprise Architect clearly convinced us with the best cost-benefit ratio,“ Hinrichs describes. The continuous responsiveness of the LieberLieber team with regard to open questions also left a very positive impression: „Since we always want to have the latest tools in use, we quickly switched to Enterprise Architect 16. LieberLieber supported us very well in this and also updated LemonTree promptly so that we could continue to use the whole tool chain.“ In the end, LieberLieber’s recommendations regarding the tool chain were adopted, but Git was replaced by IBM RTC.

Dr Konrad Wieland, Managing Director of LieberLieber, comments: „We are very pleased that Webasto has chosen the path towards MBSE together with us. Christoph Hinrichs is approaching this major task in a very clearly structured way and gave us interesting insights into his pioneering work at the MBSE Summit 2022. We are united by the common goal of communicating the benefits and advantages of MBSE in a comprehensible and practice-oriented way and thus successfully convincing people. In this way, we are creating a good and robust basis for the continued economic success of the outstanding family-owned company Webasto!“

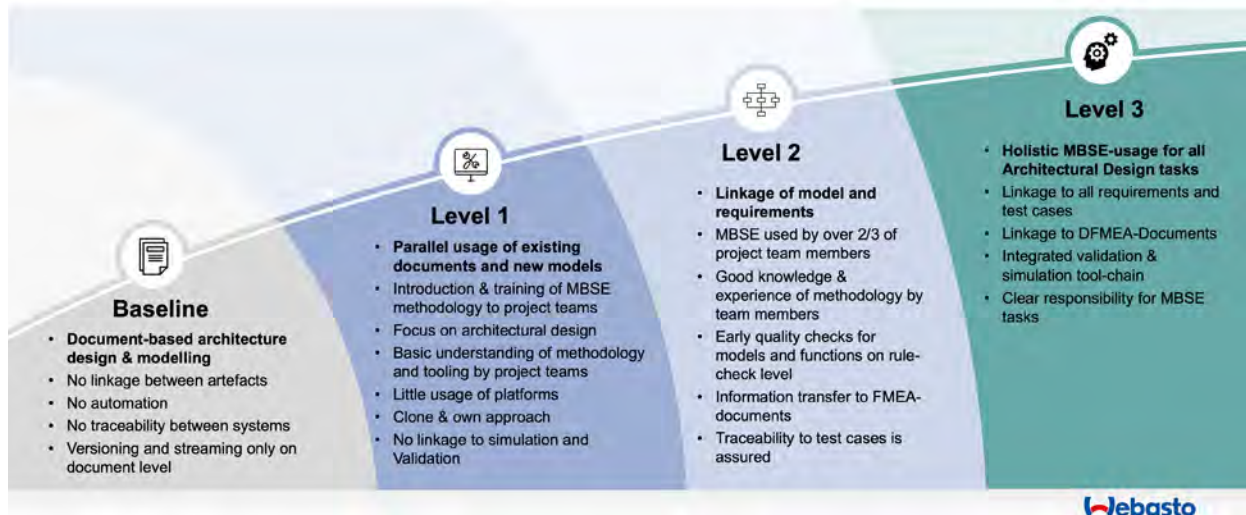


Dr. Konrad Wieland
CEO of LieberLieber Software

We are very pleased that Webasto has chosen the path towards MBSE together with us. Christoph Hinrichs is approaching this major task in a very clearly structured way and gave us interesting insights into his pioneering work at the MBSE Summit 2022. We are united by the common goal of communicating the benefits and advantages of MBSE in a comprehensible and practice-oriented way and thus successfully convincing people. In this way, we are creating a good and robust basis for the continued economic success of the outstanding family-owned company Webasto!



MBSE introduction: The benefits of MBSE



Levels of MBSE maturity in the company

Communicating the benefits of MBSE throughout the company

For Hinrichs, it is clear that the greatest benefit of MBSE only comes when the process has been rolled out throughout the company and is working. This is confirmed by scientific studies and practical experience alike. „As usual, we first launched pilot projects to show what is possible with MBSE and what benefits arise from it. The experience gained is then processed - as in the Business Unit Batteries- and shared with the business units. Now we have to scale these experiences and anchor them in the business sections. For this, however, we still have to do a lot of convincing with the support of LieberLieber,“ explains Hinrichs.

The most important advantages of MBSE were defined as:

- Transparency - recognition of dependencies, Defined starting point for cooperation.
- Traceability
- Visualisation - common language and the appropriate tool for each case
- Reusability and automation - Multiple use of artefacts and models; Automated consistency check of models
- Quality - Higher product maturity through semi-automated validation; Fewer errors
- Processes - Standardised processes facilitate collaboration; Certifications more quickly attainable

„The faster we integrate these points in the company, the more benefits we can derive from MBSE,“

Hinrichs knows. However, it is important not to take any hasty steps, but to first check exactly what the current situation is in a department. Based on this, MBSE can be introduced in a well-controlled process without losing the necessary participation of all those involved by overtaxing them.

MBSE maturity level of a department is assessed in advance

In order to make the introduction of MBSE in other departments as smooth as possible, Hinrichs is developing an ever more detailed maturity model. Currently, there are very few publications and contributions that attempt to support the introduction of MBSE in a systematic and structured way, such as the work of Andreas Vogelsang. „There are studies on the collection of MBSE maturity levels, but no one talks about what effort it takes to reach a level or what benefits can be achieved with a level. In the practical test, for example, we found that the levels have to be as small and solution-oriented as possible so as not to trigger excessive demands, otherwise we would lose interest in MBSE or even meet with resistance. If we want to change something in the processes, methods or tools, we need a team that sticks together and pursues a common goal,“ Hinrichs explains.



When MBSE achieves which benefit for the company (Source: Picture 1 and all figures: Webasto)

Key user as communicator for MBSE

As a central point of contact, a „key user“ should be found in each department who is available as a multiplier and communicator for MBSE. The fundamental basis for scaling MBSE is the tool setup adapted to the needs as well as the configuration management. Hinrichs supports and disseminates MBSE within the company through internal training. This should help generate enthusiasm for the MBSE initiative at Webasto, establish initial contact and build up a network. If detailed expert knowledge is then required, or if the key user team encounters challenges in the tool, LieberLieber is available for this at any time. „Currently, three pilot projects are running in parallel, one of which is also already at a next higher level in the maturity model. So we are working intensively on establishing and scaling MBSE in the company. There is still a lot of work ahead of us and it is reassuring to know that we can always call in the experts from LieberLieber to solve difficult questions together if necessary,“ explains Hinrichs.

ABOUT WEBASTO

The Webasto Group is a global innovative systems partner to the mobility industry and one of the 100 largest suppliers to the automotive sector worldwide. The company's offering includes in-house developed roof, heating and cooling systems for various types of vehicles, batteries and charging solutions for hybrid and electric vehicles, and additional services related to thermal management and electromobility. Among the customers of Webasto are manufacturers of passenger cars, commercial vehicles and boats, as well as dealers and end customers. In 2021, the Group generated sales of 3.7 billion euros and employed around 15,700 people at over 50 locations. The headquarters of the company, which was founded in 1901, is located in Stockdorf near Munich (Germany).

For more information please visit www.webasto-group.com/en/

ABOUT LIEBERLIEBER SOFTWARE

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.

LieberLieber is a business unit of Lieber.Group.

More information: www.lieberlieber.com



LieberLieber Software GmbH
Handelskai 340, Top 5, 1020 Vienna, Austria
+43 662 90600 2017, welcome@lieberlieber.com, www.lieberlieber.com