



## CASE STUDY

# Marquardt GmbH

**„Integrations - both internally and across company boundaries - will be the focus of IT in the next few years. With an open integration platform like agosense.symphony we hope to be well equipped for the future.“**

*Christoph Ackermann, Software-Engineering Tools and Methods, Marquardt GmbH*

Marquardt GmbH, founded in 1925 and headquartered in Rietheim-Weilheim, is an automobile supplier that specialises in automobile switches and systems - with an additional extended portfolio supplying power tool switches as well as standard switches and sensors. It is a family run company that employs approximately 5.000 employees. As a system supplier, the company is involved from the beginning of the development phase for new car models, both in the design and the surface finish through to the electronics and mechanics of individual switches.

Communication as well as information and data exchange between the automobile manufacturer - in this case Mercedes-Benz AG - and the developers at Marquardt GmbH is highly collaborative and requires a high level of coordination. The core of this process can be seen as the exchange of error reports that arise as part of the product development process. These must be exchanged regularly beyond company boundaries, with progress reports synchronized as close to real-time as possible. That may include information that customers should receive on tests that Marquardt has conducted, or error reports that the customer may have identified as part of their validation process which need to go back to Marquardt as quickly as possible. As supplier of almost all large automobile manufactures, Marquardt has the additional challenge of using the communication pathways and specific platforms for data exchange provided by their customers.

### GOALS

- Automated exchange of tickets with customers
- Availability of all relevant data on both sides without manual work
- Automatic documentation and synchronization of all steps in the process right through to the final resolution

### ADVANTAGES

- Consistant data management
- Up-to-date information anytime
- Relieve pressure on developers allowing to focus on their core work
- Less coordination effort with customers
- Higher quality resulting from less manual typing errors
- Lower costs due to reduced manual data typing in different systems



### **The story so far: Manual exchange with considerable effort**

It had been the practice for all information exchanges to take place manually. Specifically, that meant that data was provided by the customer via a web-interface in their specific system - in the case of Mercedes Benz via the DanTe platform (today STARC) - and at Marquardt this data was transferred into the internal change and error management system manually. For the developers this simultaneous administration of an internal and external system required an enormous amount of extra time, with the consequence that not necessarily every status report was actually transferred. The email exchange of externally administered documents, for example, Excel spreadsheets was equally problematic.

The typical problems and error sources associated with this process chain are clear: The double storage of data on occasion leads to inconsistent data sets and therefore also different progress reporting on both sides. Synchronising both systems in real-time was virtually impossible - alongside problems with data export and import, manual operations have the tendency to be very prone to error.

This meant, in addition to manual data entry, project leaders needed to attend an endless stream of meetings and teleconferences to compare and correct the current data sets held by both sides.

### **Requirements for an efficient solution**

To adequately address all the challenges, Marquardt, which had 12 locations internationally, defined requirements that the provider of a new solution must resolve. The provider should supply interfaces that supported the individual portal systems of the various automobile manufacturers and the data formats standard in the automobile industry. Maintenance of the integration solution should be ensured, and accurately reflect actual business processes. With a view to future developments, the solution should be scalable, to provide space for flexible adaptation and further interface and integration requirements.

Mr. Christoph Ackermann, who is responsible for the Software Engineering Tools and Methods at Marquardt was to be instrumental in the implementation of the solution and added, **„ultimately, investment should be made in a long lasting „state of the art“ technology“.**

### **Implementation with agosense GmbH**

With the agosense.symphony integration platform, Christoph Ackermann and those around him who were responsible for the project finally found a solution that satisfied all their requirements.

**„The agosense concept, in contrast with its competition, is a unique selling proposition: its architecture, its standardised adapters that are (also) specifically suited to the automobile industry, the standards used and the modelling and design of the development and business processes“** explained Ackermann.

Other suppliers for example offered no solution for data exchange and the direct communication with customer systems or provided no standard software, rather offering a custom programming on a service provision basis. Additionally, agosense also had existing expertise in connecting a range of customer portals e.g. from Mercedes Benz, Volkswagen, Porsche or BMW.

The first test run was ready to be carried out within a very short time, with full roll-out to follow on its completion.

The agosense.symphony integration platform enabled the exchange of error reports to be fully automated, with all data being accessible from both systems without any further manual intervention required. Internally, this data was then processed according to the appropriate instructions. The integration platform also allowed for final error correction, and any progress reporting agreed with the customer to be sent to or taken from the customer's portal, with interfaces keeping the processes synchronised. Everyone involved could work with their usual system, both at Marquardt and the customer, with a controlled data exchange taking place in the background.

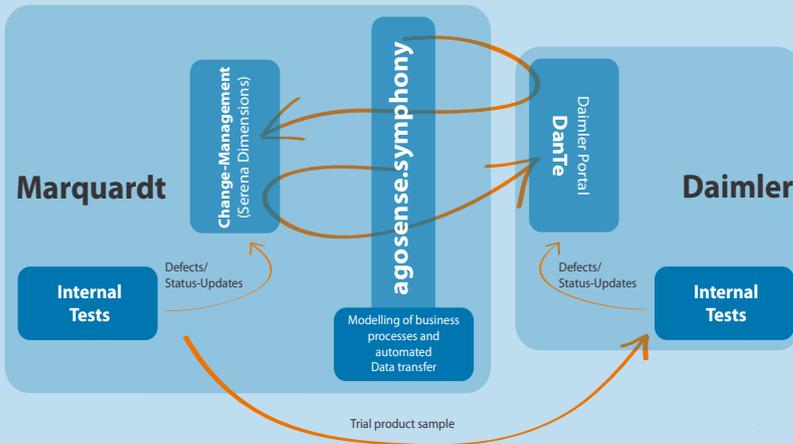


Fig. 1: Process flow between Marquardt and Mercedes-Benz (former Daimler) via agosense.symphony

**Fig. 1:** Once a product sample has been delivered to the customer, the customer begins the first functional and integration tests for the corresponding vehicle project. Any errors or deviations from the agreed specification are recorded in the Mercedes Benz internal system and made available via the DanTe portal (now STARC) using an interface.

agosense.symphony checks the portal for new messages at configurable time intervals. If new data is available, it is automatically imported into Marquardt's internal change management system for the relevant development project and assigned to the responsible project team.

This process runs bidirectionally until the final error correction has taken place.

To ensure that the exchanged data always remains consistent, the respective editing processes must be coordinated. These processes are already predefined in agosense.symphony. This ensures the reliability of automatic synchronization.

Ackermann, when asked for feedback, said: **„While we may have introduced a new IT system with agosense.symphony, we can already see a higher level of employee satisfaction. We have also received positive feedback from our customers asking for further projects to also be connected“.**

To summarize, Ackermann lists the following advantages that have been achieved since using agosense.symphony:

- Consistent data storage on the customer and supplier side
- Constant availability of up-to-date information on both sides
- Reduced workload for developers: concentration on their core business
- Higher quality by reducing manual sources of error
- Lower costs by eliminating manual data maintenance in several external systems
- No coordination problems, as the database is always up-to-date on both sides
- No more tedious and error-prone typing of data in two separate systems

## POTENTIAL

With the help of the agosense.symphony platform, Marquardt will be able to implement further requirements in the future:

- Connection to additional car manufacturers' portals like VW KPM, BMW TAEESEI, etc.
- Data exchange via standard data formats like ASAM
- Internal integration of systems and software development tools

## Further potential use of the agosense.symphony platform at Marquardt

With regard to the future, Marquardt GmbH is keeping all doors open with the agosense.symphony platform. Considerations regarding external connections are already concrete: **„Next, we want to concentrate on connecting further customer systems,“** says Ackermann. There are also plans to use the platform for internal system integration in order to ensure improved traceability between requirements and implementation. Change Requests and Tasks for development are also to be automatically synchronized with project planning.

In conclusion, Ackermann said:

**„The agosense team was very professional, characterised by relevant experience with integration projects and quick reaction times“.**