

Digitization project coordinated by Grammer: AdaProQ results point beyond project boundaries

- *35 representatives of the project partners exchange ideas at the coordinator Grammer at halftime*
- *Adaptive process chains are more effective and optimize quality assurance*
- *Component identification and AI training as possible digitization standards for Germany as a business location*

Grammer AG, May 30, 2023 – The project acronym AdaProQ stands for Adaptive Process Chains for Increasing Production Quality and Efficiency. Naturally, the teams around the two network coordinators Grammer and the Fraunhofer Institute for Machine Tools and Forming Technology have regularly exchanged ideas since the project started in October 2021. Nevertheless, the "mid-term meeting" of all participants in the cooperation project of the German Federal Ministry of Economics and Climate Protection (BMWK) from May 23 to 24, 2023, at the Grammer locations in Ursensollen and Ebermannsdorf was special: With robust component identification and simulation methods to operate, respectively train AI-supported optimization tools, two methods developed for AdaProQ were presented, which point beyond the project boundaries. They can also help to advance digitization in Germany in other contexts, for example as part of the BMWK's digitization initiative Manufacturing-X.

"The mid-term results of AdaProQ shown at our sites in Ursensollen and Ebermannsdorf are impressive," said a pleased Jens Öhlenschläger, Spokesman of the Board of Management of Grammer AG. "They show that this cooperative project is not about gray theory, but that concrete solutions are being created here that will move Germany forward in terms of digitalization. The fact that we are playing an important role in this with our team as the collaborative coordinator makes me proud."

Key factors of AdaProQ: AI training and component identification

Highlights on site were two key factors developed by Grammer together with partners such as the Fraunhofer Institute. These are important technologies and methods that make adaptive process chains possible in the first place. After all, this is what AdaProQ is all about: using digitization to maximize coordinated and

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traceable manufacturing and delivery processes in the German automotive industry.

In Ebermannsdorf, a “robust” identification method was presented for precisely marking components within one second using a DMC code on a per-unit basis. In this context, robust stands for the reliable recognition of the feature even after surface treatments required later in the process, such as chrome plating and/or painting. In addition, it was shown how artificial intelligence helps to adapt production machines to individual tolerances for each component. So, if a component comes from the die cutter or raw material supplier with certain tolerances, the machine adjusts perfectly to it in the next processing step thanks to AI. These technologies are used, for example, in the production of seat shells or headrest bars.

For the AI to know what to do, it must be trained. For this purpose, not only real data from Grammer is used, but also simulation data from the Fraunhofer Institute or Siemens. Like component identification, AI training is also a key factor, as only it makes it possible to generate sufficient synthetic training data even when little real data is available.

Working together to drive digitization in Germany

These two key factors are representative of a whole range of exciting innovations being developed by the project partners for AdaProQ. They all pay off on practical goals: making production and delivery processes in Germany more effective, saving costs and further improving quality assurance. What is particularly exciting is that they were developed by AdaProQ, but they can be used in very different contexts and industries. This wide range of possible uses makes them an asset to digitization in Germany as a whole. For example, they can also be used as part of the BMWK's digitization initiative Manufacturing-X, helping to digitize and intelligently network the supply chains of German industrial companies across all sectors.



Working together to drive digitization in the automotive and supplier industry: At halftime, the AdaProQ project partners present the first results of their collaboration at the Grammer sites in Ursensollen and Ebermannsdorf.

Source: Grammer AG

About AdaProQ

The AdaProQ digitization project is a partnership between the Fraunhofer Institute for Machine Tools and Forming Technology, partners from the automotive industry and Grammer AG. The project has a budget of 19.1 million euros, with the funding provided by the German Federal Ministry for Economic Affairs and Climate Action averaging more than 50 percent across all partners. The aim is to create a generic methodology framework for adaptive process chains in order to increase production quality and efficiency in the German automotive industry. In addition to Grammer AG, the following companies are part of the team: Gestamp Autotech Engineering Deutschland GmbH, Batix Software GmbH, Eichsfelder Schraubenwerk GmbH, Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V, Fraunhofer Institute for Machine Tools and Forming Technology (IWU), KAP Surface Holding GmbH, Merantix Labs GmbH, Promess Gesellschaft für Montage- und Prüfsysteme mbH, OptWare GmbH, Schütz + Licht Prüftechnik GmbH, Senodis Technologies GmbH, Siemens AG, Volkswagen AG. Learn more: www.adaproq.de

Company profile

Grammer AG, headquartered in Ursensollen, Germany, is active in two business segments: Grammer develops and supplies high-quality interior and operating systems as well as innovative thermoplastic components for the global automotive industry. For trucks, trains, buses, and off-road vehicles, Grammer is a full-service provider of driver and passenger seats. Currently, Grammer AG employs around 14,000 people in 19 countries worldwide, with sales of around 2.2 billion euros in 2022. Grammer shares are listed in the Prime Standard and traded on the Munich and Frankfurt stock exchanges as well as via the Xetra electronic trading system.