Ensuring quality and resource efficiency in production

Mercedes x SPREAD: How to efficiently manage E/E complexity with an Engineering Intelligence Network

THE CHALLENGE

As electrical complexity is growing, so does the risk that it will affect product quality. During the ramp-up phase and the shift to production, employees need to run diagnostic tests to determine potential interruption areas. Today, researchers rely often on extensive PDF documentation for wiring paths to understand the networking of a vehicle. With countless equipment variants and up to 1000 electrical contacts per wiring harness per vehicle, one interruption in a single connection can cause various error entries in different ECUs. Searching manually for all the relevant information in the circuit diagram and linking it with results from other systems is a huge effort.

THE SOLUTION

In a pilot project with Mercedes-Benz, SPREAD built Connectivity Analyzer – a software tool to narrow the scope of solutions and identify interrupted connections. It depicts data simplified and makes it understandable by showing only the needed information, replacing extensive PDF documentation with 2D wiring viewer and 3D E/E product analysis. When laying the communication paths of the knowledge graph on top of each other, the path with the highest number of overlaps points to the cause of interruption. Employees can also receive recommendations for faster identification of optimization potentials.

IMPACT

It takes Connectivity Analyzer a few seconds to determine the interruption area and display it with 3D simulation and a 2D circuit diagram view. This representation is attained faster and is easier to understand for every employee working on the product. The software offers a new dimension of digitalization across production, planning and aftersales. The solution allows the seamless integration of existing applications in the digital ecosystem MO360 which users are familiar with. In this way, the model connects individual actors with each other so that configuration-specific situations can be understood quickly and easily for every employee.

SPREAD

SPREAD's technology is making data accessible, intuitive and actionable across the whole product lifecycle by connecting & standardizing all separate information sources on a single software solution.

SPREAD is mainly targeting customers in the automotive, aerospace, defense, IT, Innovation and heavy machinery industries. Their focus is on applications in business areas such as Research and Development, Production, After Sales, IT, Innovation.

SPREAD

HEADQUARTERS
Germany, Berlin

FOUNDED
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NO. OF EMPLOYEES
51+

WEBSITE
spread.ai

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ABOUT STARTUP AUTOBAHN

STARTUP AUTOBAHN powered by Plug and Play is an open innovation platform that provides an interface between innovative tech companies and industry-leading corporations. The basis of the program is the partnership that develops between startups and the corporate business units. The two entities hold an equal footing from the get-go: together they evaluate the potential for a joint venture, move forward to pilot the technology, and work to achieve the ultimate goal – a successful production-ready implementation. Designed with the intention to exceed startup acceleration, STARTUP AUTOBAHN powered by Plug and Play moderates a community for collaboration with a focus on implementable results. Over the years, the platform has successfully cultivated over 400 projects with more than 300 startups since its founding in 2016.