Solution Brief

Accelerate Product Development with AI

AI & GenAI / Automotive & Manufacturing

Automotive and manufacturing are data-rich industries with a great potential to increase the speed and efficiency of product development with artificial intelligence and generative AI. NTT DATA facilitates the discovery, implementation and evaluation of uses cases with a comprehensive use case model and a Systems Engineering Copilot.

The smart use of AI and GenAI can:

- Accelerate engineering processes and reduce time to market.
- Relieve employees from manual tasks and free up capacity for innovations.
- Facilitate adherence to compliance and safety standards and increase product quality.
- Reduce the risks and costs of product development.

Rising and rapidly changing customer expectations and increasing regulatory requirements are changing the landscape for automotive and manufacturing companies. They need a faster, more agile and efficient product development to compete, and AI and GenAI are the key tools to achieve this.

Artificial intelligence offers substantial opportunities to streamline business processes and increase productivity. Especially for automotive and manufacturing AI and GenAI can be a game changer as they depend highly on product development which is knowledge work with a great potential for automating manual tasks.

Challenges in product development

In automotive, for example, development projects typically take 36 to 60 months, cost 1 to 3 billion dollars and tie up several thousand employees. This is not least due to the fact that numerous external suppliers have to be involved and coordinated and countless specifications and requirements have to be managed and complied to.

In addition, software is becoming an increasingly important component of modern vehicles – a current model contains more than 100 million lines of program code. As a result, the number of software development projects is also increasing – an area in which GenAI has already proven its value, for example in the generation, verification and optimization of source code.

AI Use Cases for Product Development

NTT DATA has identified more than 25 use cases along the V-model that can be simplified and accelerated with AI and GenAI. Each use case is described in terms of business functions, required data and technology approach, such as machine learning, generative AI or natural language processing.

One use case, for example, is requirements management, which is associated with many time-consuming and error-prone tasks. Typically, employees have to screen a large number of PDFs with regulatory, technical and other requirements and enter the needed information into internal systems. GenAI can extract structured requirements from those documents, classify them and map potential solutions to the requirements.

Focus on high-quality, feasible use cases

As companies only have limited resources, it is essential to focus on high-value use cases that can be implemented fast. NTT DATA's comprehensive value discovery method, therefore, evaluates the individual use cases for each company by efficiency potential, feasibility and effort.

This approach ensures that success is achieved quickly and that no resources are wasted.

Proof-of-Value offering

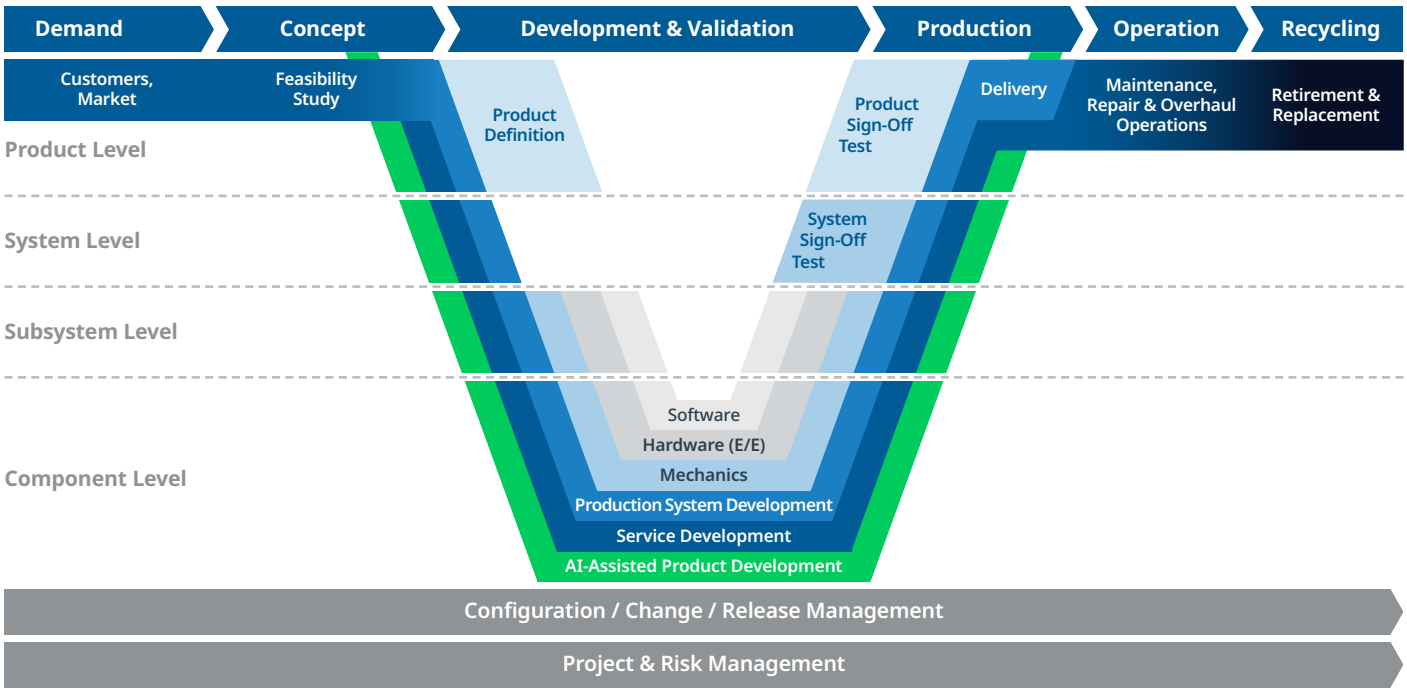
As part of our Proof-of-Value offering, NTT DATA supports the identification, implementation and evaluation of use cases. Within three months, companies get:

- Hands-on experience with selected use cases, implemented in a Microsoft Azure environment of the customer.
- A precise evaluation of their business benefits based on comprehensible KPIs.
- Recommendations for a roadmap to transfer the PoCs into production.

The **Systems Engineering Copilot** developed by NTT DATA supports the rapid implementation of use cases by identifying optimal processes, methods and tools (PMT) and providing step-by-step guidance. The Systems Engineering Copilot is based on Microsoft Azure and OpenAI LLMs, which are extended by internal knowledge sources via Retrieval Augmented Generation (RAG). It works seamlessly with external applications such as Codebeamer, Confluence and Jira and automates interactions between employees and tools.

Got curious?
Contact us to find out how our AI solutions can advance product development in your company.

There are numerous use cases for AI and GenAI in product development:



More about NTT DATA at **de.nttdata.com**

Contact our expert

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