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## **Failure Analysis of Safety-Critical Systems with Advanced FMEA-Methodology**

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**Abstract:** Increasing complexity of products and production processes demands enhancements of the methodologies for risk identification in the development phase. This is especially the case with safety-critical automotive components. One of the major applied tools for technical risk management in product development is the Failure Mode and Effects Analysis (FMEA). For safety-critical systems, which are mostly mechatronic parts, the FMEA has to be handled in different ways during a development project. Within the paper we will show the trends in FMEA and put them into a framework which enables the methodology to be used consistently from the system specification up to the production control plan

*Keywords:* FMEA, Critical Characteristics, Control Plan