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# Data-Based Supply Chain Collaboration – Improving Product Quality in Global Production Networks by Sharing Information

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**Abstract**

In times of globalization and digitalization, silo mentality and protectionism lead to competitive disadvantages for all partners of a production network. High scrap rates and low supplier margins in the production of high-precision products can be identified as resulting inefficiencies. Supply chain collaboration can contribute to significantly increase product quality by simultaneously reducing the associated costs, globally. We introduce batch allocation as a data-driven method for cross-company quality control of differing component batches based on both, supplier data and internal data. The industrial application is demonstrated within a global production network for manufacturing high-precision products.



*Keywords:* Global Production; Supply Chain Collaboration; Quality Assurance; Industry 4.0; Closed-Loop