

# Managing Global Manufacturing 2025+

## Introduction

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For more than 30 years, international manufacturing networks (IMNs) have been seen as a solution, not a problem for the world economy. Academics and practitioners alike have contributed to a new field of research and managerial activity, moving away from the traditional focus of

In recent years, the disadvantages of globally dispersed and connected value creation have come to the fore, prompting a somewhat simplistic call for deglobalization. Currently, the discussion seems to center around vulnerabilities, dependencies, disturbances, and disruptions

vealed that purely cost-driven optimizations of manufacturing networks have limits, but the conclusion that globally interconnected value creation should and could be ended is premature. It is unlikely that political interventions will be able to reverse the dependencies, which have grown well over 30 years, and it is unclear whether that would even improve the situation. 30 years of globalization have led to numerous connections that are not easily disentangled and which may yet serve as common agreeable interest when political tensions rise. Still, manufacturing networks are already undergoing significant restructuring and will likely appear quite different in just a few years. Hence, this is a crucial time for organizations to shape their IMN using suitable theory to understand the complexity and tools to make the right decisions quickly.

Therefore, we thought it was the right time for an article series about the future of global manufacturing. This article series does not focus on geopolitics and trade policies. Instead, it explores how to methodologically manage the complexities of manufacturing networks and their optimization. The presented advances are founded upon the original model for manufacturing networks developed in 2006 [1]. This model has proven to be robust and was advanced and developed further in the production community [2, 3]. Configuration and coordination are still used as levers to support the global strategy. What has changed are the global conditions in which IMNs operate, leading to more diverse strategic objectives and complex target pictures. Cost, quali-



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operations management on single plants. A whole new scientific community has been created, delving into the complexities of managing these networks.

and suggests de-risking, de-coupling, re-, and nearshoring to solve all those problems. Indeed, the geopolitical tensions, wars, and the COVID pandemic have re-

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ty, delivery, and flexibility have been complemented by sustainability, robustness, resilience, and responsiveness, and the priorities have changed to the later ones over the last three years in particular. This change is why most global production footprints require a reevaluation, but the outcome will not always be a de-coupling or a reshoring decision. It is crucial to get a transparent and comprehensive picture of the situation and possible risks and develop solutions based on systematic analysis of different alternatives. In our article series in this ZWF issue, we cover numerous facets of network management from a practical and theoretical perspective:

- *Gleich et al.* start with current topics and challenges and show that the answer will often lie in a company-specific approach, not a standard one.
- *Steier et al.* introduce an elaborate IMN assessment tool. This tool is based on fuzzy inference, allowing a holistic assessment covering changeability and sustainability. It is demonstrated in two cases.
- *Martin et al.* show the latest development in tactical order allocation in networks, considerably increasing flexibility.
- *Specht et al.* discuss centralization and autonomy decisions in networks, which is one of the crucial questions to make the most of the networks.
- *Kaiser and Friedli* dig deeper into plant roles, concluding in a step-by-step guide for companies to develop their own company-specific model.

- *Schalm and Friedli* focus on network capabilities and shed light on which configurations are worthwhile to invest in.
- *Saretz and Friedli* demonstrate how to systematically integrate a comprehensive risk perspective in the analysis and design of manufacturing networks.

This article series is also, again, the outcome of an extensive collaboration between the wbk of the KIT Karlsruhe and the ITEM-HSG St.Gallen in global manufacturing research. With this article series, we hope to contribute to practice and research and add the methodological underpinnings to successfully navigate the future of global manufacturing.

### Literature

1. Friedli, T.; Thomas, S.; Mundt, A.: Management globaler Produktionsnetzwerke: Strategie, Konfiguration, Koordination. Carl Hanser Verlag, München 2013  
DOI:10.3139/9783446437661.fm
2. Lanza, G.; Ferdows, K.; Kara, S.; Mourtzis, D.; Schuh, G.; Váncza, J. et al.: Global Production Networks: Design and Operation. CIRP Annals 68 (2019) 2, pp. 823–841  
DOI:10.1016/j.cirp.2019.05.008
3. Friedli, T.; Lanza, G.; Remling, D. (eds.): Global Manufacturing Management: From Excellent Plants toward Network Optimization. Springer, Cham, Switzerland 2021  
DOI:10.1007/978-3-030-72740-6

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Prof. Dr.-Ing. Gisela Lanza studied industrial engineering at the Karlsruhe Institute of Technology (KIT) and held the first shared professorship “Global Production Engineering and Quality” at KIT in cooperation with Daimler AG. Since 2003, she has been head of the Production Systems Department at the wbk Institute of Production Science of KIT.


### Keywords

International Manufacturing Network, Global Production

### Schlüsselwörter

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### Bibliography

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