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# Product configuration as a success factor for industrial product manufacturers

Gexso

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# Overview: Product configuration

## Study details

### Usage of product configuration for industrial product companies

Survey period from May 2017 to August 2017

- Demography
- Degree of Globalization
- Configuration Management
- Process Coverage
- Objectives and Strategy Execution
- Digitalization and Trends

Total of 24 questions

Study participants

- 79 participants
- Industry Focus: Industrial Products and Machinery
- DACH-Region: Germany, Austria und Switzerland
- Mainly medium-sized companies:
- Most participating companies (79 percent) had up to 5,000 employees
- Max. revenue of 1,000 Mio. Euro were reached by 81 percent of participants

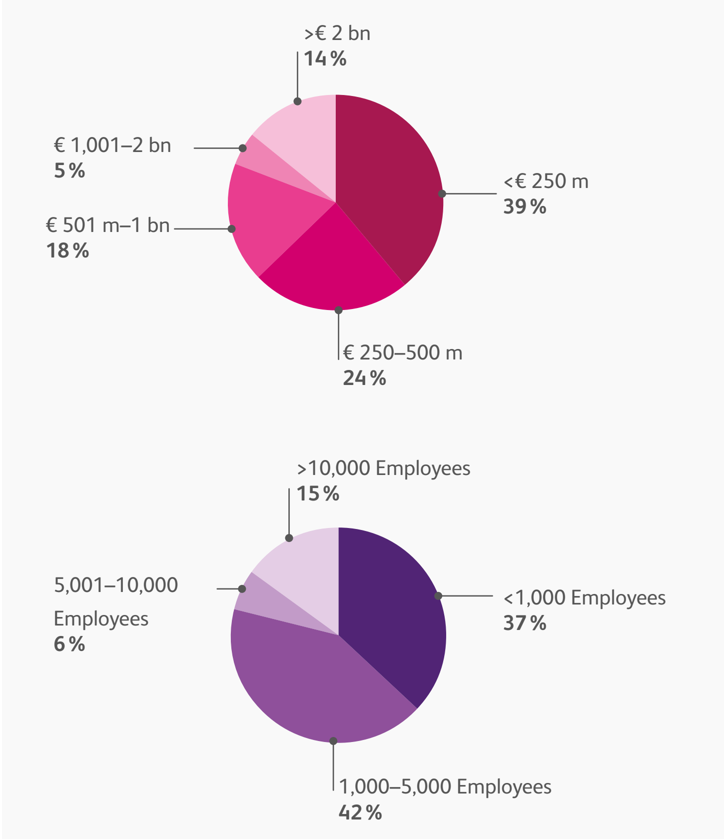



FIGURE 1: COMPANY REVENUE AND NUMBER OF EMPLOYEES

## Success factor: product configuration

**Product configuration is increasingly considered as a success factor in the area of industrial products, which is also shown by the shares of different product groups**

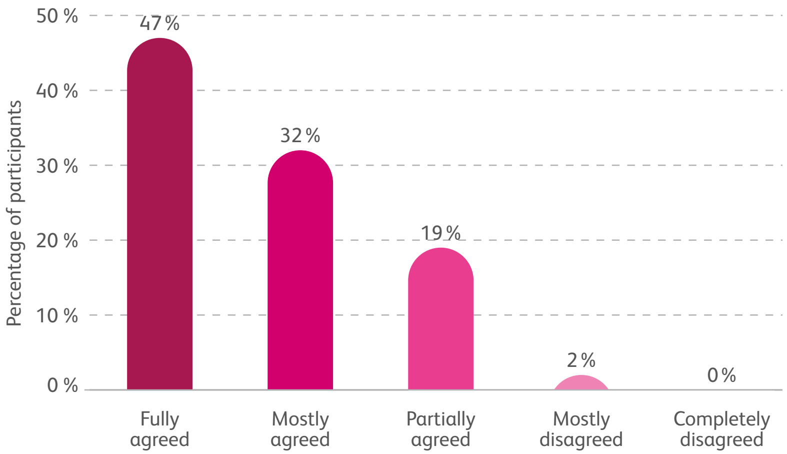



FIGURE 2: PRODUCT CONFIGURATION AS SUCCESS FACTOR FOR COMPETITIVENESS

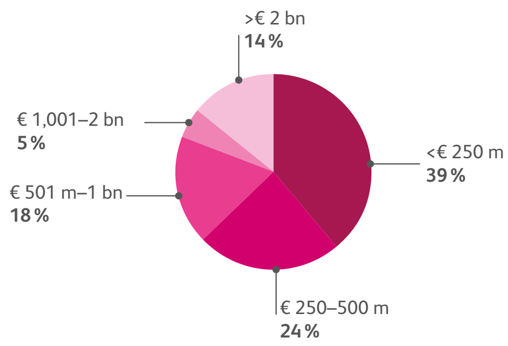



FIGURE 3: AVERAGE DISTRIBUTION OF PRODUCT GROUPS

### Evaluation

- About 80 percent of industrial product manufacturers consider product configuration as a success factor
- Configurable products are the dominating business model for the majority of participants. On average, 58 percent of the product portfolio can be configured

## Summary of study results

**Product configuration is a crucial success factor for company's success; however, it is mostly used opportunistically. Strategic potentials are often underutilized**

### Technical orientation of product configurators

- On average, companies tend to focus their product configuration on the technical possibilities and less on a clear sales and product strategy
- The product models are mainly responsible for R&D

### Strategic objectives are not in focus

- The objectives that are pursued with product configuration are largely operational in nature, for example, the error reduction in order processing
- Strategic goals, such as increasing the win rate or differentiated pricing, are mostly not followed

### Digitalization still holds a lot of potential

- Graphical 3D previews on the product are mostly not used
- The possibility of using a "digital twin" to provide data of the individual configuration up to the customer service (equipment information) is also currently not used

### Two role models for product configuration

- Variant professionals ("how" should be configured?)
- Sales professionals ("what" should be configured?)

# Technical orientation of product configurators

## Design of the product model

**The design of the product model is mainly technically oriented, only 19 percent of the participants tailor their model according to sales aspects**

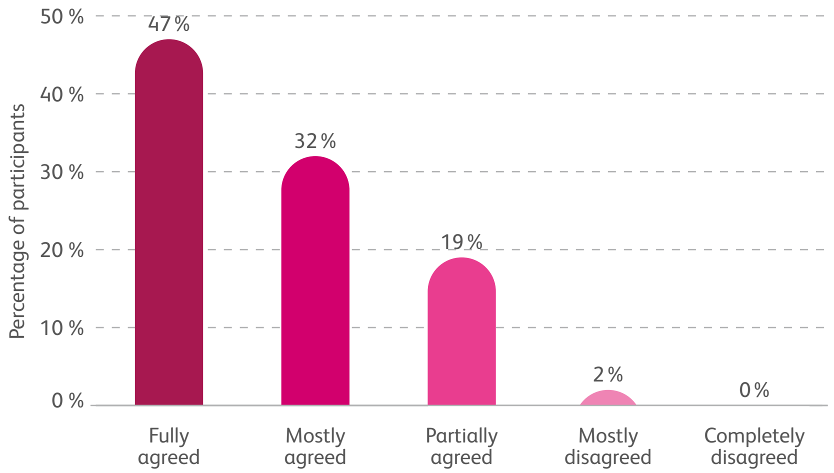



FIGURE 4: DESIGN OF THE PRODUCT MODEL

- **Half of the participants** first develop the possible variants of a product before considering the meaningfulness for sales
- The result is the **increase in product complexity** through the exhaustion of the technical possibilities
- 31 percent of the participants hardly or not at all consider sales-related impact when designing product models

## Governance for the conception and implementation of the configuration model

**The configuration model is mainly defined by the product management and engineering**

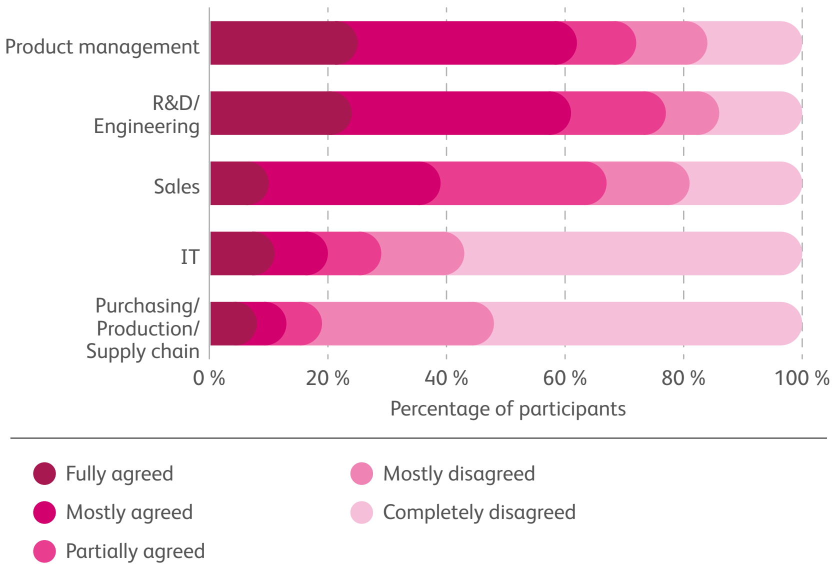



FIGURE 5: PARTICIPATION IN THE CONCEPTION AND IMPLEMENTATION OF THE CONFIGURATION MODELS AND PROCESSES

- The engineering and product management each have a greater influence on the design and implementation of configuration models in more than 60 percent of the companies
- Sales only has a greater influence on the conception and implementation of the product model for 39 percent of the participants and therefore has less dominant responsibility
- Supply chain and IT play only a subordinate role in the conceptional design and implementation

## Product configuration in different business processes

**Focus area for product configuration is in quotation and order management**

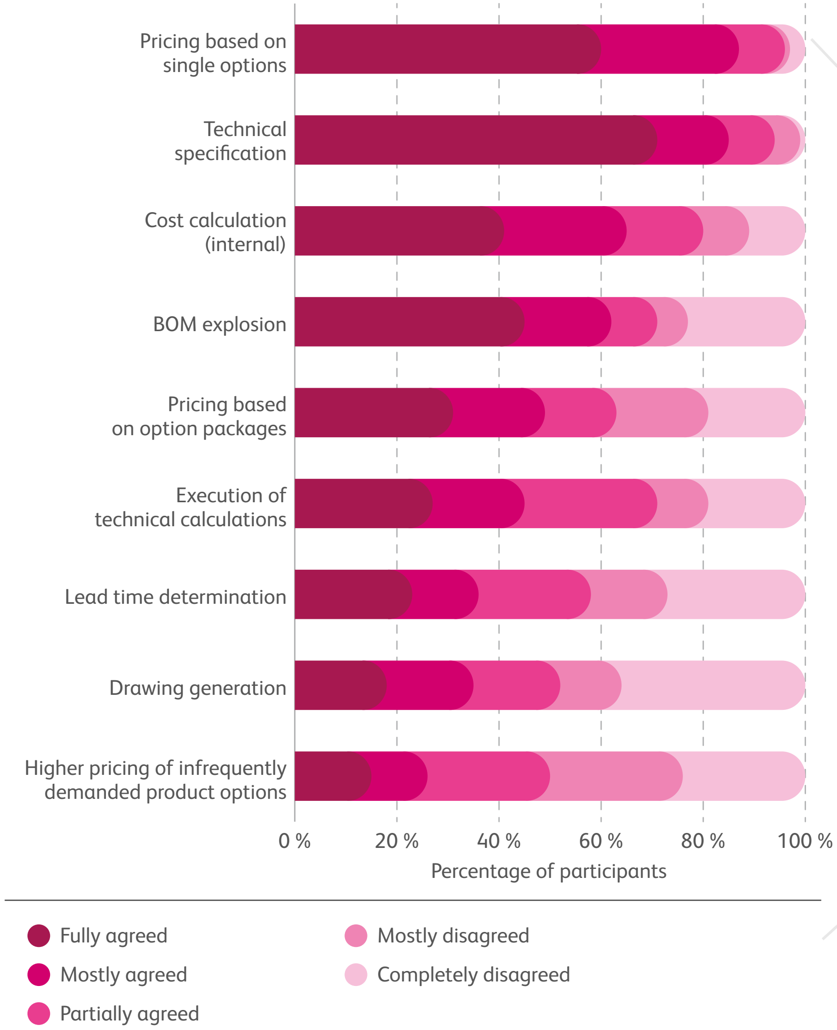



FIGURE 6: FOCUS AREAS FOR PRODUCT CONFIGURATION

### Marketing

- Product configuration is mainly used for budget offers
- Only 20 percent use online self-service configurators

### Quotation/Order Management

**Focus is on standard functionalities:**

- Pricing based on single options (87 percent) and technical specification (85 percent)

**Strategic functions are much less implemented**

- Market oriented pricing of configurable option packages is only done by 49 percent and price discrimination only by 25 percent

### Supply Chain

- Product configuration is used much less supply chain processes are often executed with non-configurable standard structures

# Strategic objectives are not in focus

## Achievement of objectives through product configuration

**Most industrial product manufacturer use product configuration mainly opportunistically**

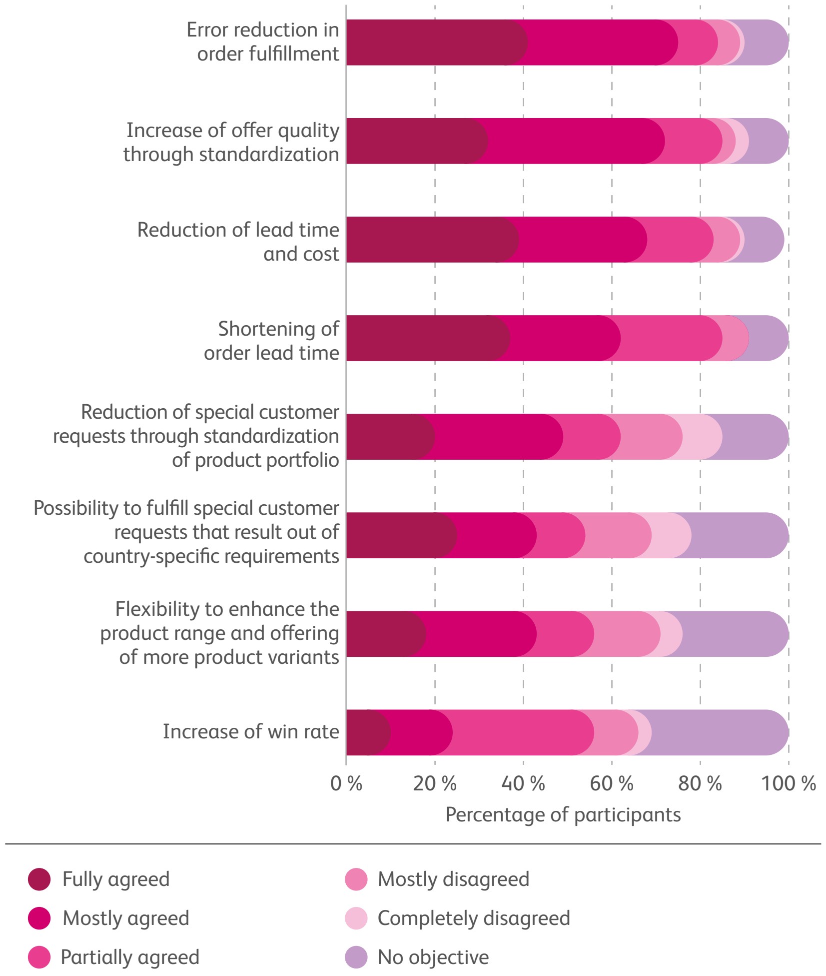



FIGURE 7: OBJECTIVE ACHIEVEMENT AND PURSUIT

**Companies use product configuration predominantly opportunistically** in the field of order processing and in sales:

- 90 percent of industrial product manufacturers pursue the objectives error reduction in order fulfillment and increase of offer quality through standardization

**Less relevant are strategic objectives:**

- Less than two thirds aim to increase the win rate
- Only 40 percent of participants achieve flexibility to enhance the product range by using product configuration

# Digitalization still holds a lot of potential

## Digitalization strategies for product configuration

**Most industrial product manufacturers do not implement configuration-relevant digitalization concepts**

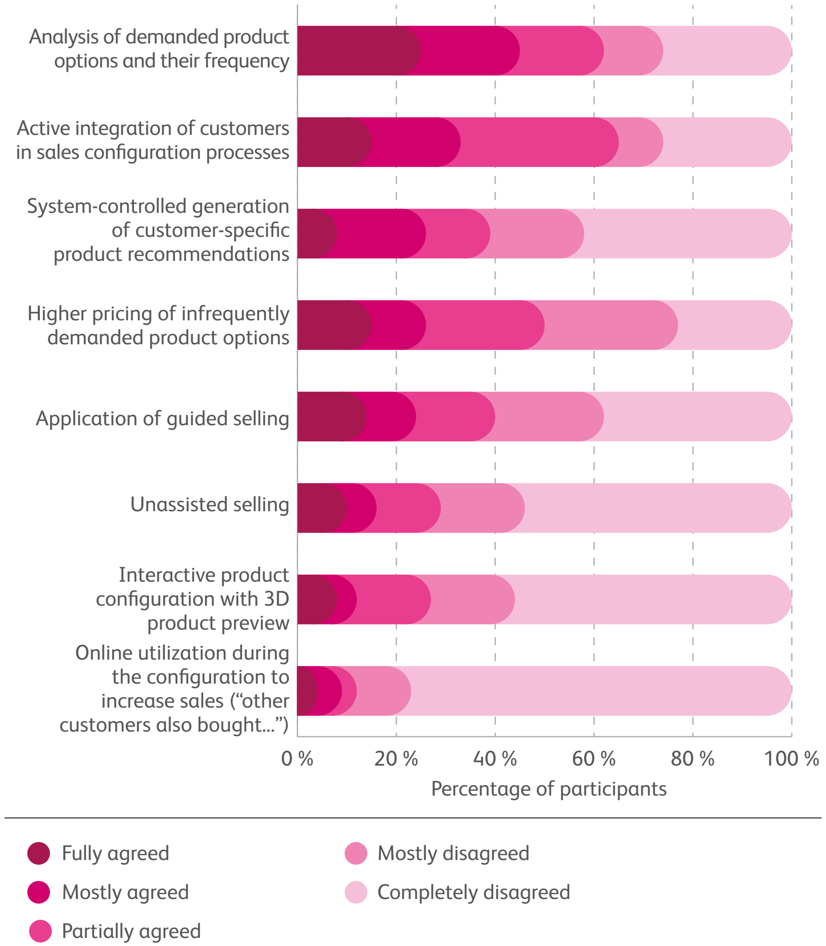



FIGURE 8: DIGITALIZATION STRATEGIES IN SALES

**Only 1 out of 4 participants are using "Guided Selling" processes:**

- Possibility to offer system-supported fitting product options based on customer requirements

**Potentials of business analytics are underutilized:**

- 47 percent analyze frequently demanded product options, but there is barely subsequent usage for market-oriented pricing

## Trends in the world of product configuration

**A professionalization in the IT architecture is seen as significant, whereas digital trends represent an untapped potential in the future**

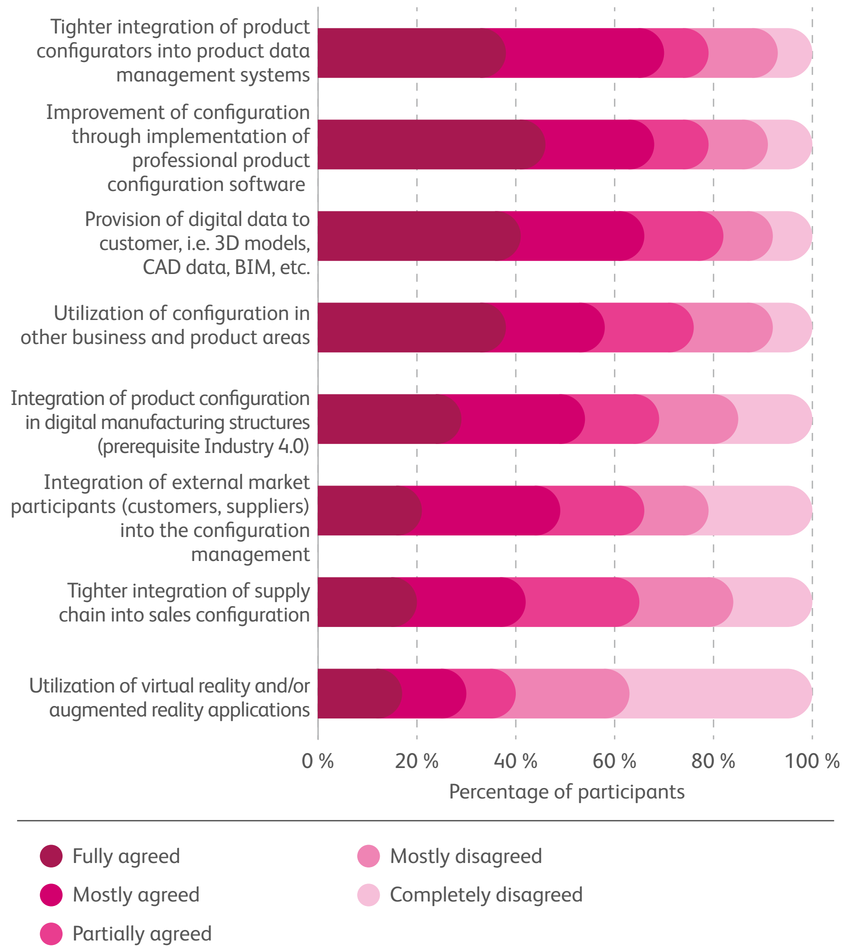



FIGURE 9: TREND OBSERVATIONS

**Centralization and professionalization of the product configuration are tasks for the future.**

- 70 percent of the participants perceive a stronger integration of product configurators in PDM systems
- 68 percent of the participants consider professionalization through configuration software as a trend
- Digital trends such as augmented reality and virtual reality solutions are mostly considered as irrelevant

# Role models and GEXSO-index for product configuration

## Variant professionals ("how" should be configured?)

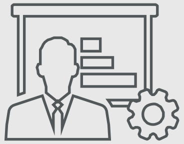
**Companies with a large percentage of configurable products show "how" a high variety of products can be managed successfully**

Variant Professionals Characterization

Industrial product manufacturers with a share of configurable products of at least 85 percent

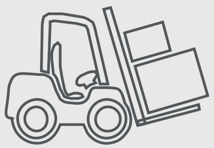
- Higher maturity in product configuration
- Large number of new produced machines

Role Model



**High Optimization Level**

Successful modularization of products and implementation of global product models



**Efficient Execution of Products with Lot Size 1**

Utilization of configuration not only for sales but also increasingly in supply chain processes

**High Level of Achievement of Operational Objectives**

Strategic objectives are not in focus; degree of fulfillment is significantly higher for operational objectives

## Sales professionals ("what" should be configured?)

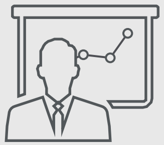
**Companies whose product configurators are oriented towards sales-oriented possibilities show how a strong market perspective in variant management can be ensured**

Sales Professionals Characterization

Industrial product manufacturers whose product configurators are sales-oriented and not only offer the full range of technical feasible solutions

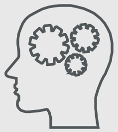
- Strong market orientation in offered product options
- Stronger focus on strategic objectives

Role Model



**Stronger Market Perspective**

Product management mainly responsible for product models and configuration processes



**Stronger Pursuit of Strategic Objectives**

Pursuit of strategic objectives: reduction of special customer requests through standardization

**Realization of Differentiated Pricing Strategies**

Enabling of diffentiated pricing strategies through product configuration

# GEXSO-Index

## Description of Quadrants

Complexity*

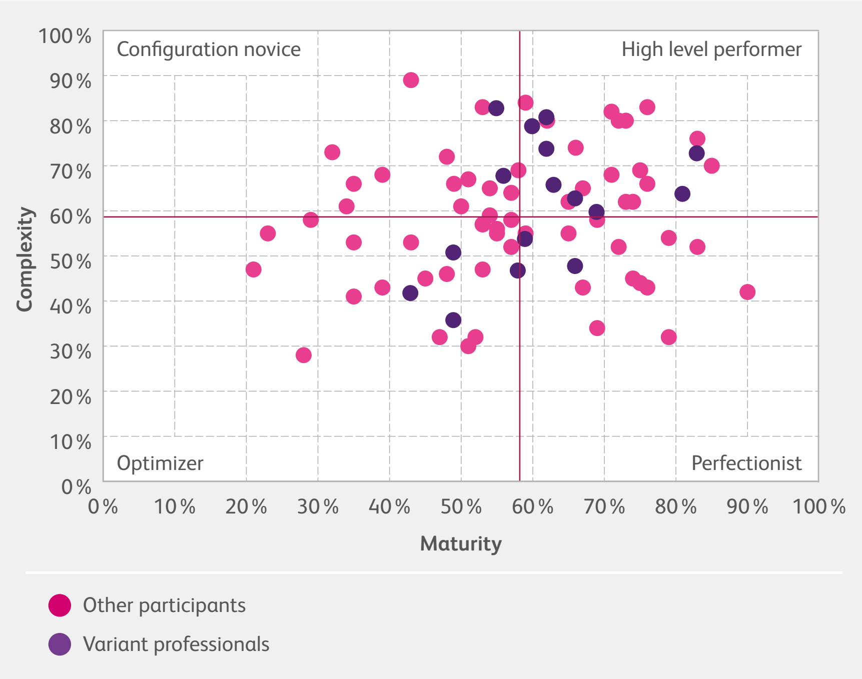
| | |
|---|---|
| **Configuration novice**<br>The industrial product manufacturer has high requirements on product configuration but shows only low maturity to cope with them | **High level performer**<br>The industrial product manufacturer has high requirements on product configuration and shows adequate degree of maturity |
| **Optimizer**<br>The industrial product manufacturer has low requirements on product configuration, the degree of maturity is suitably low | **Perfectionist**<br>The industrial product manufacturer has low requirements on product configuration, but shows an above average high degree of maturity |

Maturity**

* Contains e.g. product complexity and global production complexity
** Contains e.g. degree of utilization of product configuration, process coverage or fulfilled prerequisites

# Variant professionals in the GEXSO-index

**On average, variant professionals have a much higher maturity compared to their complexity than the other surveyed companies**




- Most participants (32 percent) are optimizers
- 30 percent of participants are high level performer
- Perfectionists and configuration novice each account for 19 percent
- The range limits represent the average value for complexity (58 percent) and maturity (59 percent) of the surveyed companies
- Half of the variant professionals are among the high-level performers (10 out of the 16 variant professionals have a higher maturity compared to the overall participants)

FIGURE 10: GEXSO-INDEX WITH VARIANT PROFESSIONALS

# The GEXSO initiative

GEXSO (Global Excellence in Supply Chain Operations, cf. www.gexso.com) is a cooperation between TU Darmstadt, the magazine LOGISTIK HEUTE and the management and technology consulting firm BearingPoint. It examines the current state and mediumterm development perspectives of internationalization in machinery and plant engineering, the industrial component industry as well as the automotive supplier sector in German-speaking regions.

The globalization process of Western-European industrial companies has become an important factor for their competitive position in worldwide markets. The need to exploit cost benefits, to gain growth potential and to achieve global customer proximity were the driving forces for globalization in the past. As a consequence, global presence, concepts and processes are crucial topics on the management agenda of today's domestic industries.

GEXSO examines requirements for successful internationalization, establishes practices in the context of globalization and outlines indispensable competencies. However, it neither examines the reasons for globalization nor the underlying economic analysis for expansion. The central aim of the study is to look at the global strategy and to outline existing globalization competencies and deficits.

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