



Große Datenmengen, großer Mehrwert, kleine Teile – Condition Monitoring für Commodity-Produkte

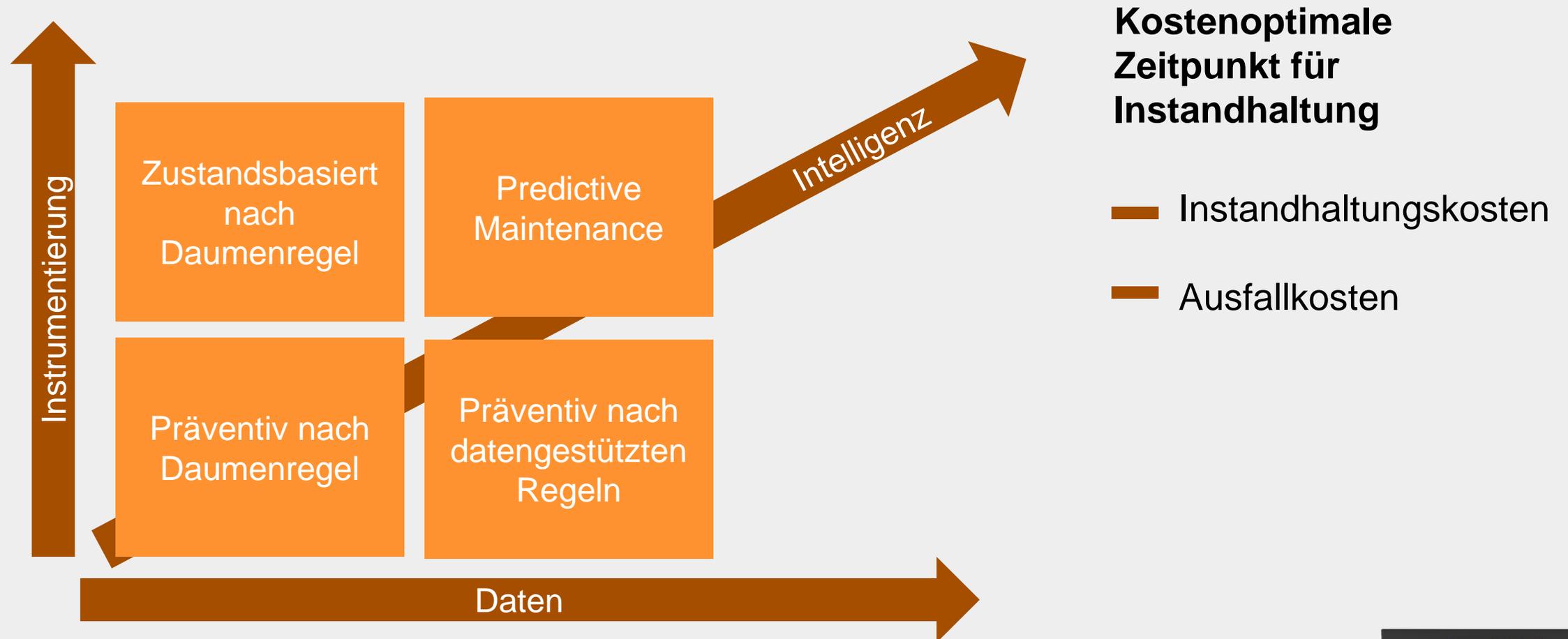
Prof. Dr. Konrad Saur, Dr. Johannes Kunze von Bischoffshausen



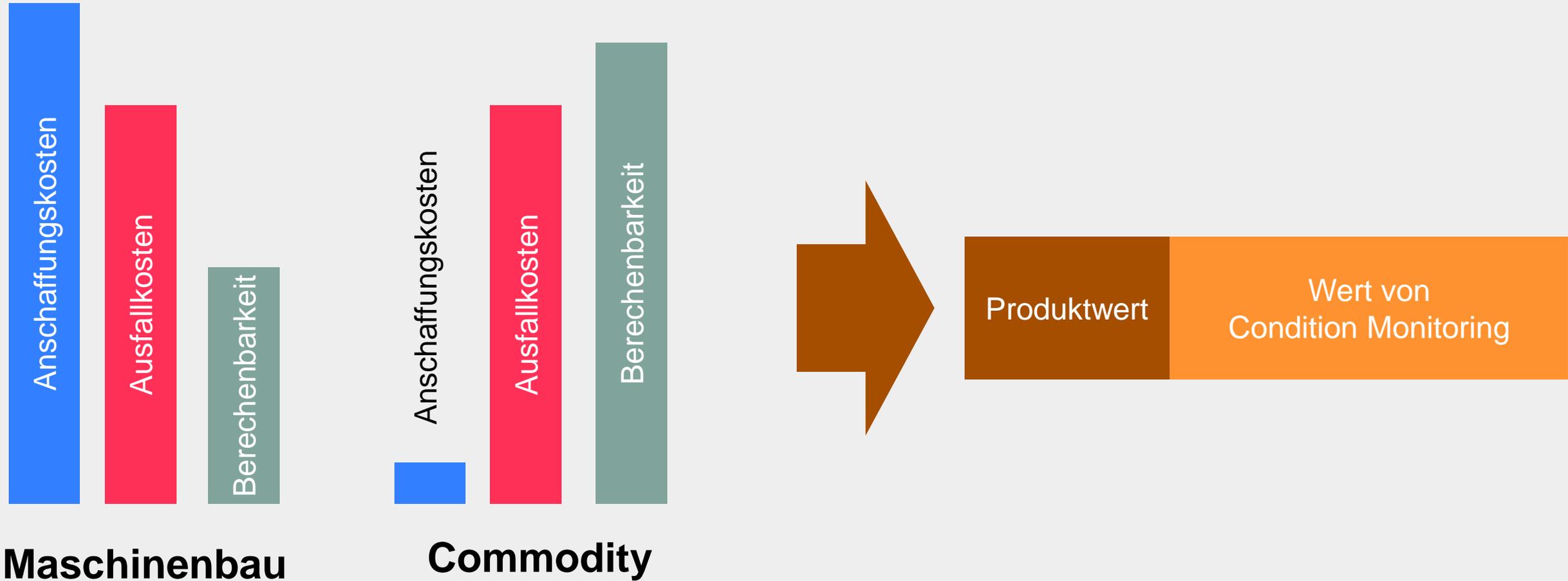
Condition Monitoring und Predictive Maintenance



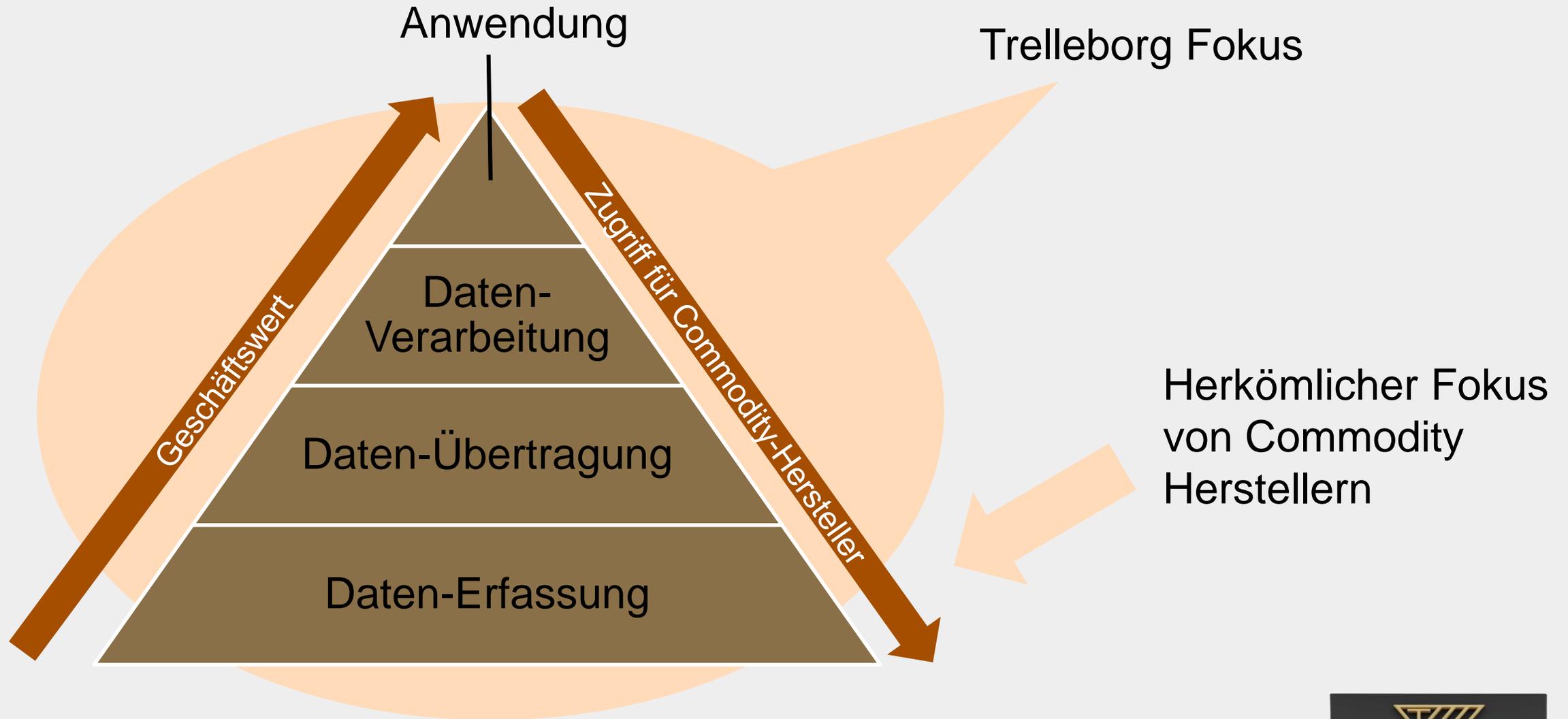
Condition Monitoring: Wege zu Predictive Maintenance



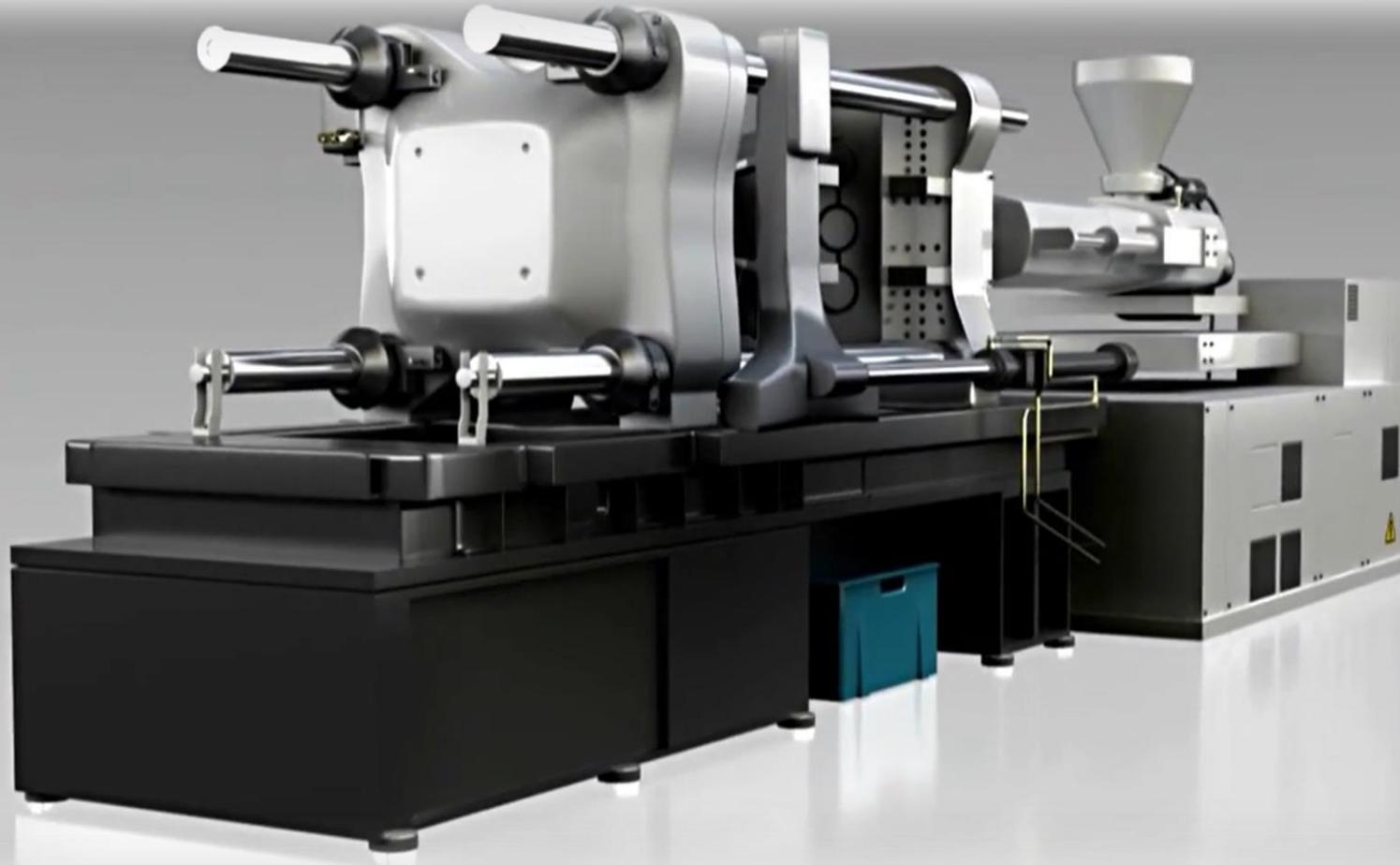
Condition Monitoring: Maschinenbau vs. Commodity



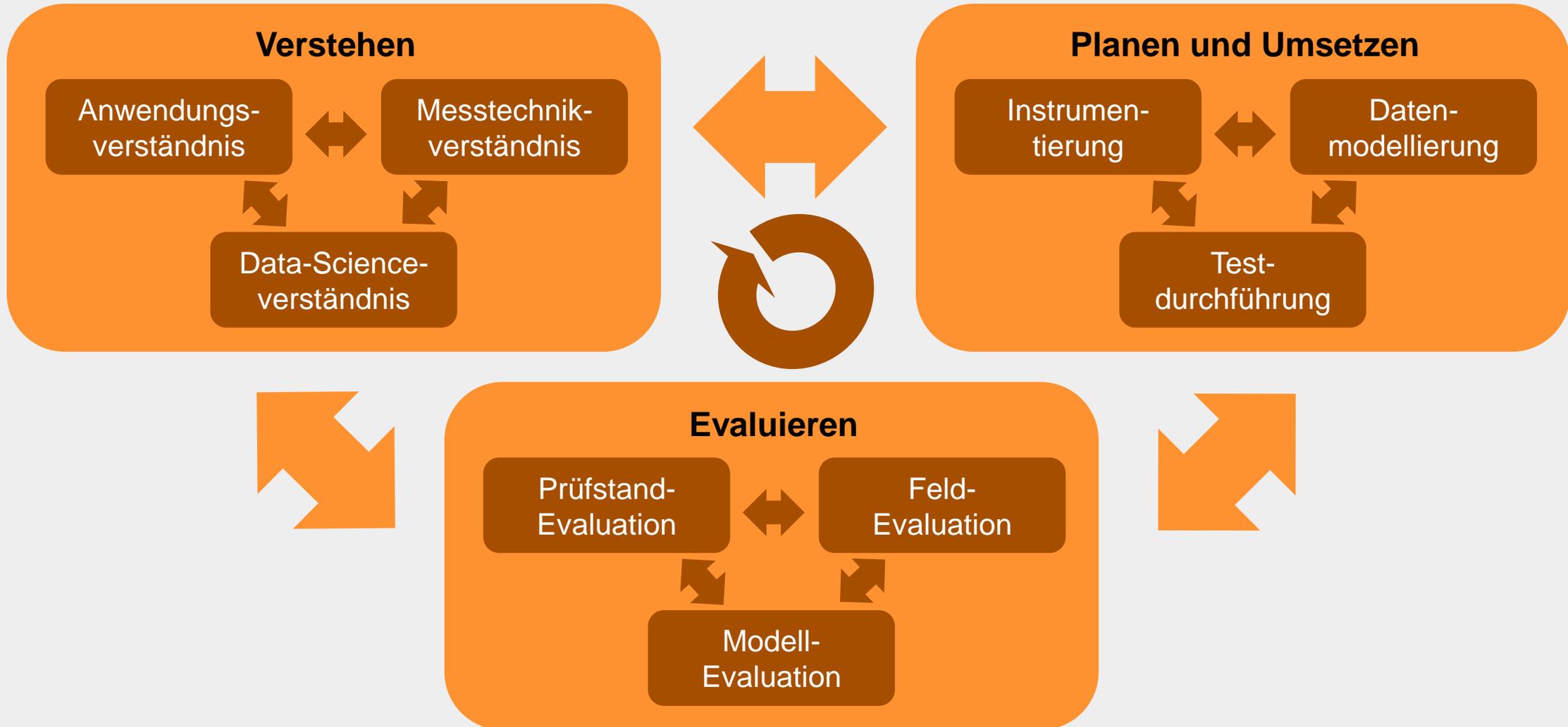
Die Herausforderung für Commodity-Produkte



Voraussetzung 1: Denken in Systemen



Voraussetzung 2: Agiles und interdisziplinäres Arbeiten

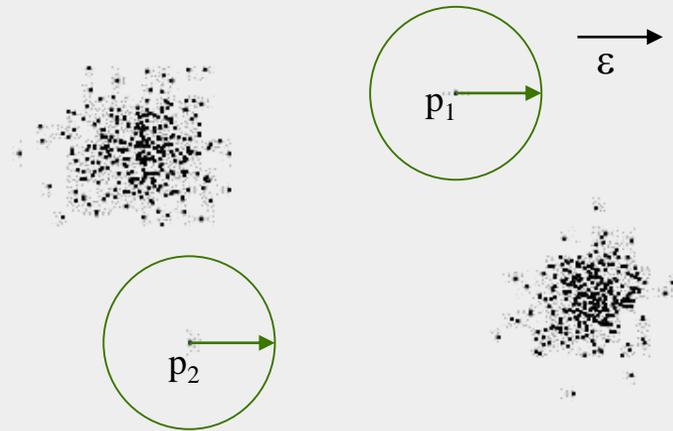


Das Trelleborg 3x3 Smart Product Vorgehensmodell

Vorraussetzung 3: Open Innovation



Komplexe Zusammenhänge erfordern komplexe Methoden



$$\{p \mid \frac{\text{Card}(\{q \in DB \mid \text{dist}(p, q) < \varepsilon\})}{\text{Card}(DB)} \leq \pi\}$$

Anomalieerkennung

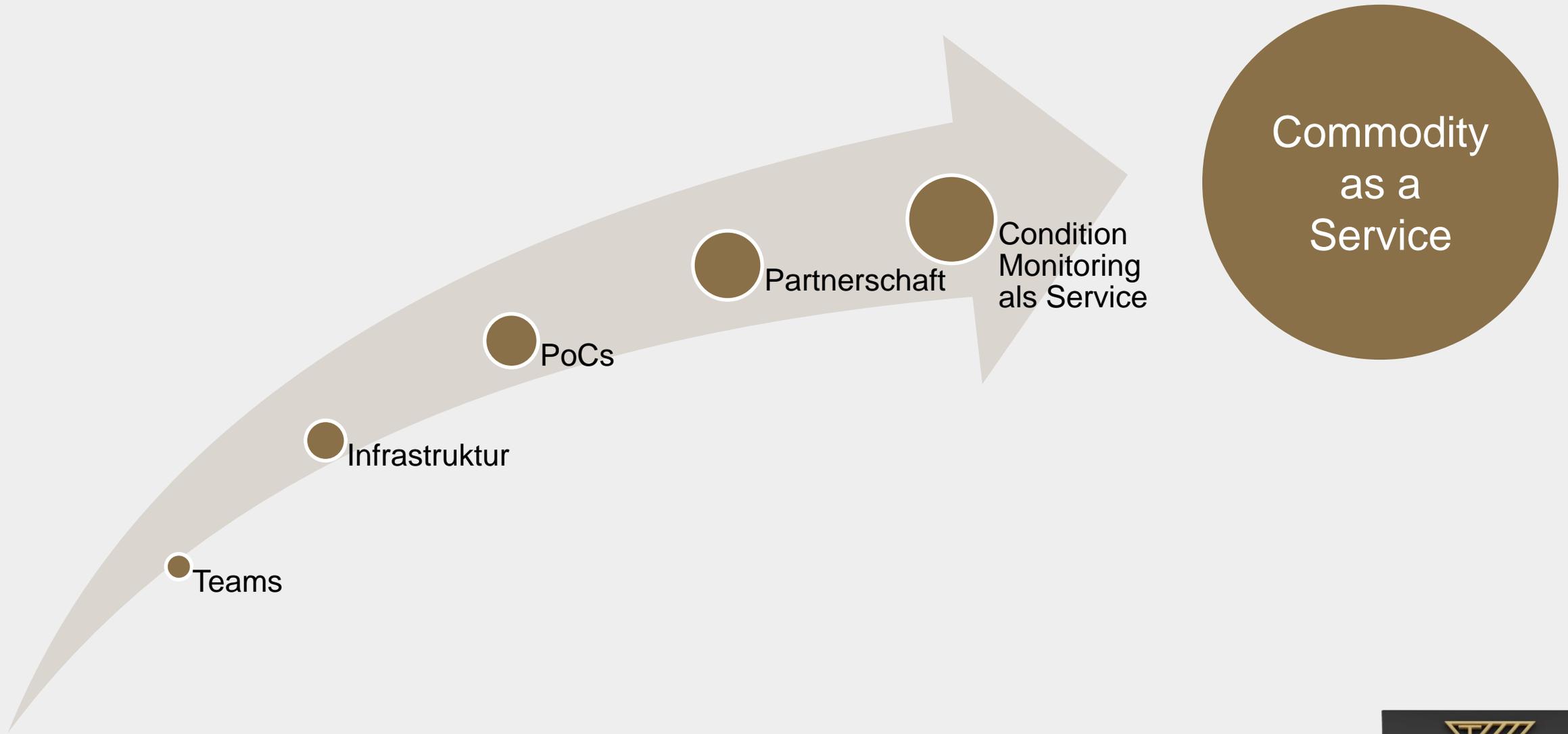
$$P(C_i|X) > P(C_j|X) \text{ for } 1 \leq j \leq m, j \neq i,$$

$$P(X|C_i) = \prod_{k=1}^n P(x_k|C_i) = P(x_1|C_i) \times \dots \times P(x_n|C_i).$$

$$P(X|C_i)P(C_i) > P(X|C_j)P(C_j) \text{ for } 1 \leq j \leq m, j \neq i.$$

Vorhersage

Der Weg zum Condition Monitoring für Commodities



Treten Sie mit uns in Kontakt!



Prof. Dr. Konrad Saur

Director Global R&D
Trelleborg Sealing Solutions

konrad.saur@trelleborg.com



**Dr.-Ing. Johannes Kunze
von Bischoffshausen**

Manager Digital Transformation & IoT
Trelleborg Sealing Solutions

johannes.kunze@trelleborg.com

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Dr. Johannes Kunze von Bischoffshausen

Karlsruhe Institute of Technology, Karlsruhe Service Research Institute, 76131 Karlsruhe, 3. Stock
karlsruhe@tss-rlh.de

Prof. Dr. Konrad Saur

Karlsruhe Institute of Technology, Karlsruhe Service Research Institute, 76131 Karlsruhe, 3. Stock
karlsruhe@tss-rlh.de

Zusammenfassung

The ability to capture and manage the relational process with their customers has become a significant success factor for B2B firms. In particular firms that strive to transform their business from selling products to selling solutions need new methods and tools to manage the complex relationships with their customers. Addressing this challenge, the work proposes a business intelligence system for capturing established customer relationships and acquired customer knowledge of the provider employees. The proposed system therefore integrates mining of operational enterprise data and conducting questionnaire surveys to capture customer knowledge and customer relationships on individual and organizational levels.

1 Einführung

Faced with increased competition, many Business-to-Business (B2B) firms in several industries transformed their business from selling standardized products, sometimes supplemented with additional services, to selling fully integrated solutions consisting of products and services [1]. The shift towards selling solutions furthermore requires the growing importance of services for industrial firms and comprises a new logic for marketing [2] that involves all economic actors as resource integration and "the application of operational skills and knowledge in the fundamental unit of exchange" [3]. While many providers consider a solution as a combination of products and services, customers regard a solution as a relational process with their providers which is aiming at meeting the business needs of the customer [4]. Within a B2B context, the provider and the customer are "inter-linked" [5], and therefore the provider employee network serves the customer employee network. Employees are only provider employees if the marketing and sales department are involved in the relational process, but employees from many different departments play the crucial role of an "internal part-time customer" [7]. On the customer side, different stakeholders from different business units are directly involved in the relational process. Current research defines this "interaction as a network of parties as the most crucial antecedent to resource integration" [6]. However, many companies still struggle when it comes to managing this relational process. According to current research [8], the major challenge in relation selling is the management of customer integration. For example, a survey conducted with 31 SMEs state that 81.0% of the interviewees are not satisfied or less satisfied with their currently established methods to assess the business needs of the customer in a relation selling context [9]. The study furthermore suggests that new methods and tools are required for firms that strive to become the provider of a solution.

**Positionspapier
mit Vorgehens-
modell
verfügbar im
Q3/2017**

