



FH MÜNSTER  
University of Applied Sciences



IPD Institute for  
Process Management  
and Digital Transformation

# Cooperative Research of Affiliated Research Institutes

Sino-German Logistics Webinar 2023  
Beijing Wuzi University

Prof. Dr. Carsten Feldmann

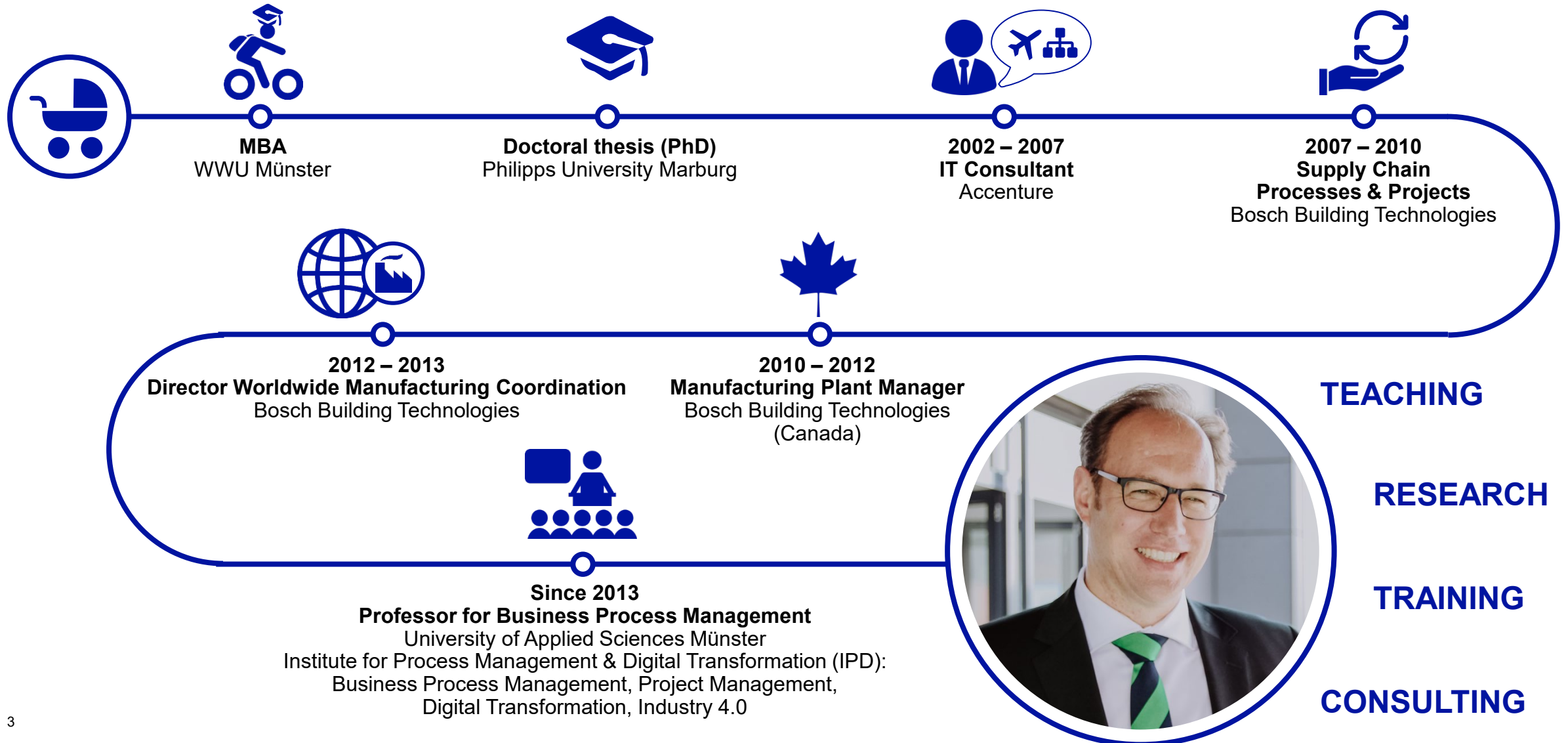


# Goals | After the presentation you will ...



1. understand the goals and selected success factors of cooperative research,
2. know some concrete examples from the University of Applied Sciences Muenster, and
3. have taken away some impulses for own practice.

**My curriculum vitae reflects my interest in cooperative research: 12 years non-academic work experience and, since the beginning of my professorship, parallel consulting.**



A photograph of the Golden Gate Bridge in San Francisco, California. The bridge is a suspension bridge with two large towers and numerous cables. The bridge is viewed from a low angle, looking down the length of the bridge towards the other tower. The water is a deep blue, and the sky is a pale blue with some light clouds. The bridge is partially obscured by a white text box at the top.

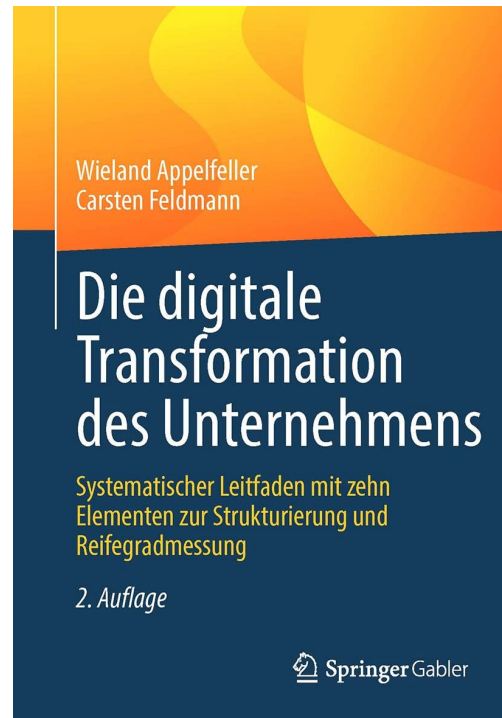
# Cooperative research as bridge between science and practice

**Application-oriented research** aims to transfer scientific findings into practice – but is not a one-way street.

**Cooperative research** as a great opportunity to create a link between science and corporate practice to learn together and from each other.

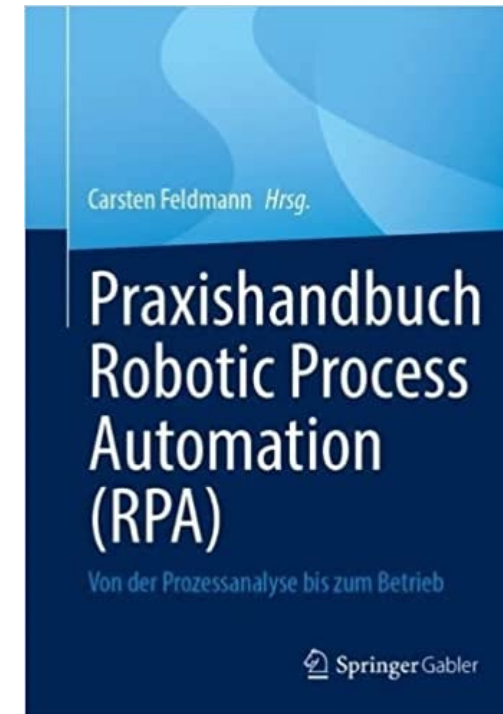
# Cooperative research results in books for practitioners as well as scientific publications at international conferences

Experience from application-oriented research and consulting projects has been compiled as a guideline for the digital transformation of companies.



Digital Transformation of the Enterprise

Editorial with 20 contributions from practitioners from cooperating companies and scientists.



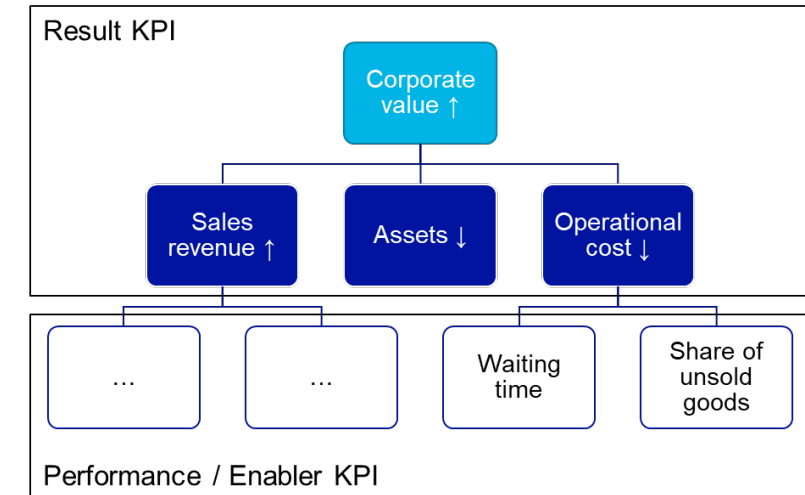
Practitioners' Handbook on Robotic Process Automation

# Example 1 of cooperative research with students 2023

## Scientific paper at a highly ranked conference\*

### Approach

- **Providing a solution for a practical problem:** updating supply chain controlling at a German kitchen manufacturer, using value driver trees.
- **Closing a research gap:** How can it be empirically proven that KPIs have a factual relationship to each other or that one KPI is influenced by other KPIs?
- **Data provision by the company** and scientific evaluation of statistical correlations by the student.
- Benefit to the student: **instead of an extensive thesis**, a scholarly paper at a conference or in a journal will be accepted as an equivalent.



# Example 2 of cooperative research with students 2023

## Consulting project with students as basis for scientific paper\*

### International Conference on Dynamics in Logistics (LDIC)

#### Approach

- **Providing a solution for a practical problem:** optimizing a warehouse layout (33,000 sqm) with regards to travel distances and ergonomics (insulation materials manufacturer).
- **Closing a research gap:** differences between conventional Lean analysis tools versus Motion-Mining technology?
- **Consulting project with three students** for collecting data and gaining practical insights (6 months).
- One student compiled a **scientific paper based on the data** gathered as his thesis.



Sensors and bluetooth beacons to track movements and postures in picking processes

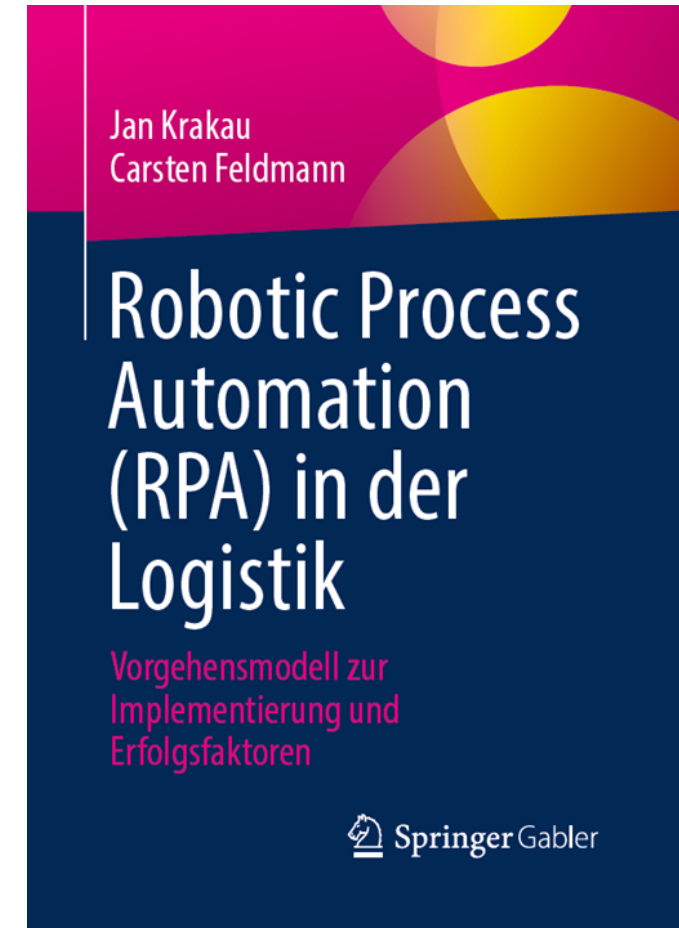
# Example 3 of cooperative research with students 2023

## Master thesis published as book

### Approach

- **Providing a solution for a practical problem:** high effort for customs declarations in government IT system for export shipments of a flooring manufacturer.
- **Closing a research gap:** What is an ideal process model for implementation of RPA in logistics?
- **Internship at the company** for programming the software robot and gaining practical insights.
- Authoring the **book based on the thesis** afterwards.

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# Motivation of corporates for cooperating in research projects

- **Access to graduates** as future employees; "war for talents" due to shortage of skilled employees
- Up-to-date **know-how**; **critical view** and "fresh" ideas
- Temporary **personnel capacity**: project implementation, high quality for little money
- Intensifying the contact to the university for establishing **long-term partnerships**



## Motivation of students for cooperative research

- Bonification via credit points for university courses
- Collecting data for thesis
- Inside view on potential future employers
- Income (approx. EUR 500 / month based on an internship contract with the corporate partner; depending on the company)



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- A woman with long brown hair, wearing a yellow shirt, is speaking and gesturing with her hands in a meeting room. The room is filled with sticky notes and a whiteboard with diagrams. A coffee cup is on the table in front of her. The background shows a whiteboard with a diagram and various sticky notes, including one that says "Develop".
- **Motivated students** who really **learn** something **through practical application**: transfer between theory and practice.
  - **Committed corporate partners** who themselves contribute **interesting ideas for new projects** based on their experience with the university: ongoing partnerships
  - **Empirical data** for scientific publications.
  - **Keeping in touch with the challenges of corporate practice** – instead of "living in the ivory tower of theoretical science ...

**Motivation of scientists for cooperative research**

# Success factors for cooperative research projects with students

Clear agreements with no room for interpretation from day one:

1. How to create a win-win situation for all stakeholders (professor, students, corporate partner)?
2. What exactly will be delivered as project results?  
What is out of scope?
3. Who is allowed to use the project outcome and how?
4. What data and working materials must be available at the start of the project?
5. How will on-site support be organized?  
Motivated contact persons with sufficient capacity and interest in the project!



# Summary of Key Insights

- Cooperative Research as a great opportunity to create a bridge between science and corporate practice to learn together and from each other.
- Organising cooperative research is not rocket science. The central success factor is a win-win situation for all participants to ensure long-term motivation.
- Doing is more powerful than wishing: gain your own experience with a small pilot project!!



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