WS 23/24: Guided Project 08 - Business Process Automation Lab 2

Introduction, deliverable and grading Schema

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Agenda

- **Background**
- BPA Lab at a glance
- BPA Lab as a Learning Factory
- BPA Lab as a Demonstration Factory
- Guided project: Organization and grading scheme

Teaching and research field
Business Process Management

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Teaching and research area
Examples

„End-to-End“ business processes

Procure to Pay

Purchase requisition to payment

Order to Cash

Customer order to payment received

…

other business processe

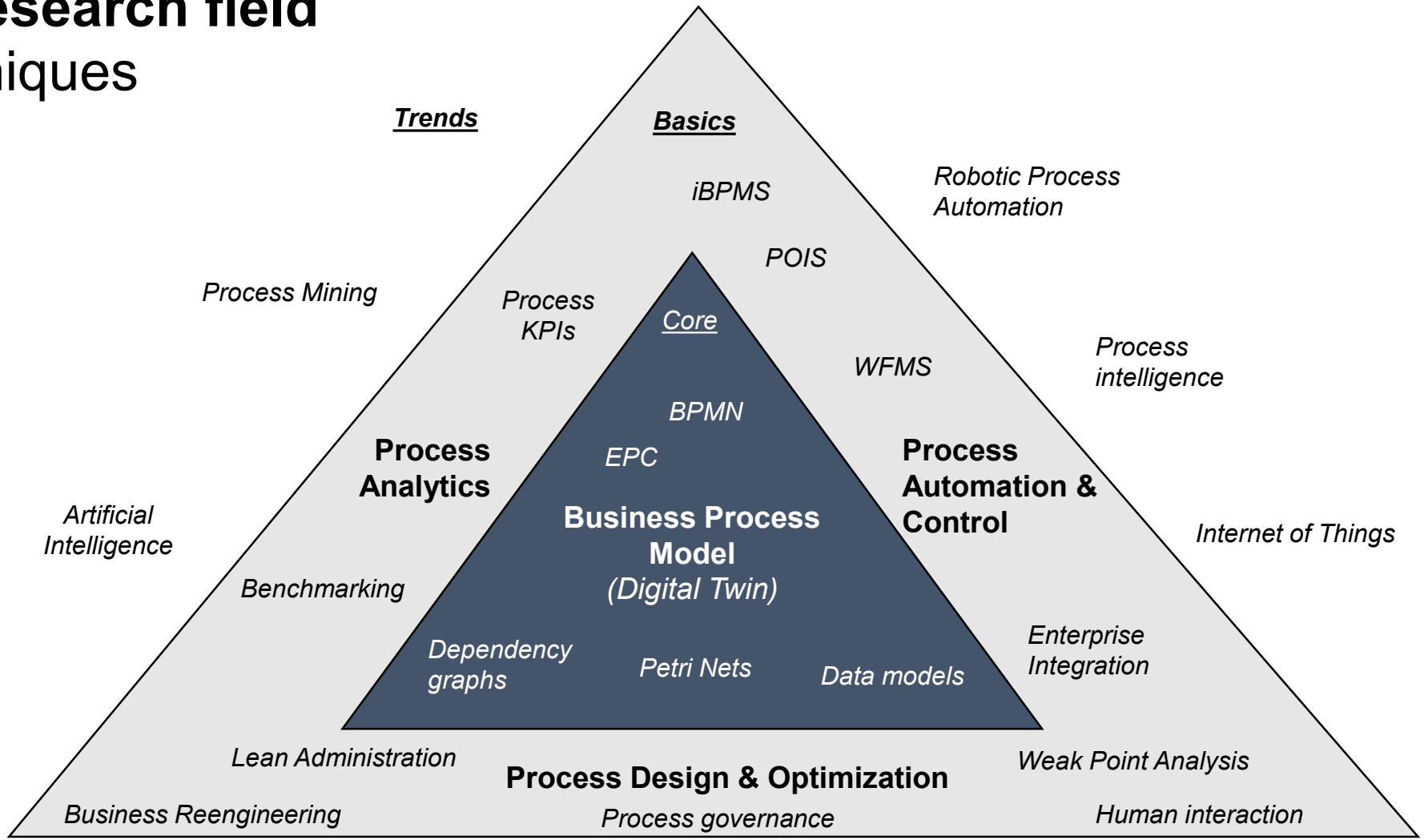
Invoice Processing

Invoice receipt to payment

Transport Management

Delivery planned to shipment cost calculation

Teaching and research field
Methods & techniques



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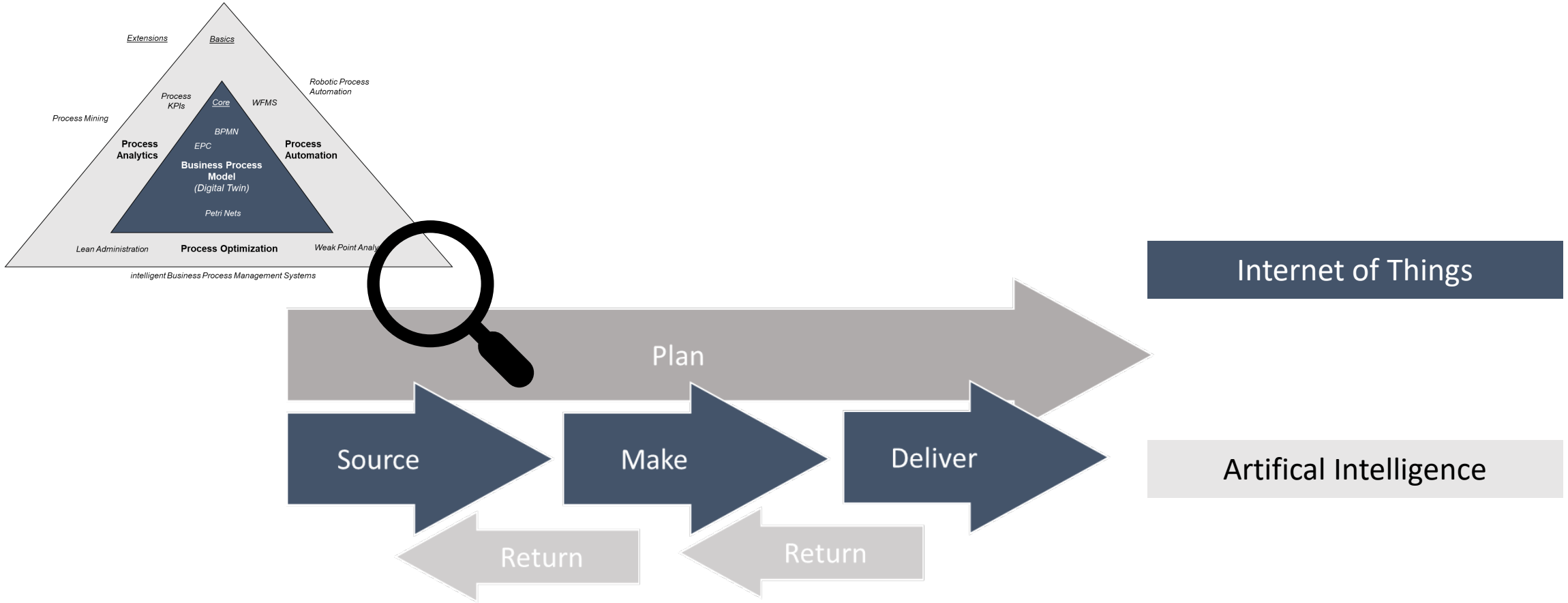
Focus area

Business Process Automation and Analytics @ Production & Logistic



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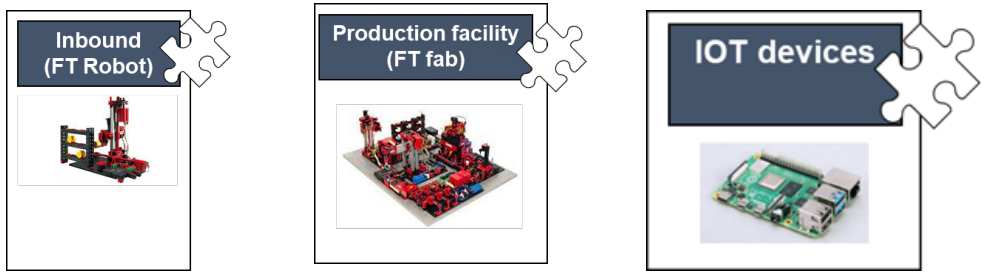
Business Process Automation Lab
Definition and objectives

Lightweight and modular model factory for intelligent process automation and analysis in the application area of production and logistics (project phase 1: 2022-2024).



The BPA Lab shall be used for:

1) **Teaching**: Use in teaching in the field of process analysis and automation.
2) **Demonstration**: Demonstration of modern concepts and technologies in process automation and analysis for students and company representatives
3) **Research**: Development and evaluation of new concepts

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BPA Lab as a demonstration factory

Simulating an end-to-end business process

Scenario: A bicycle manufacturer offers highly customizable bicycles to consumers

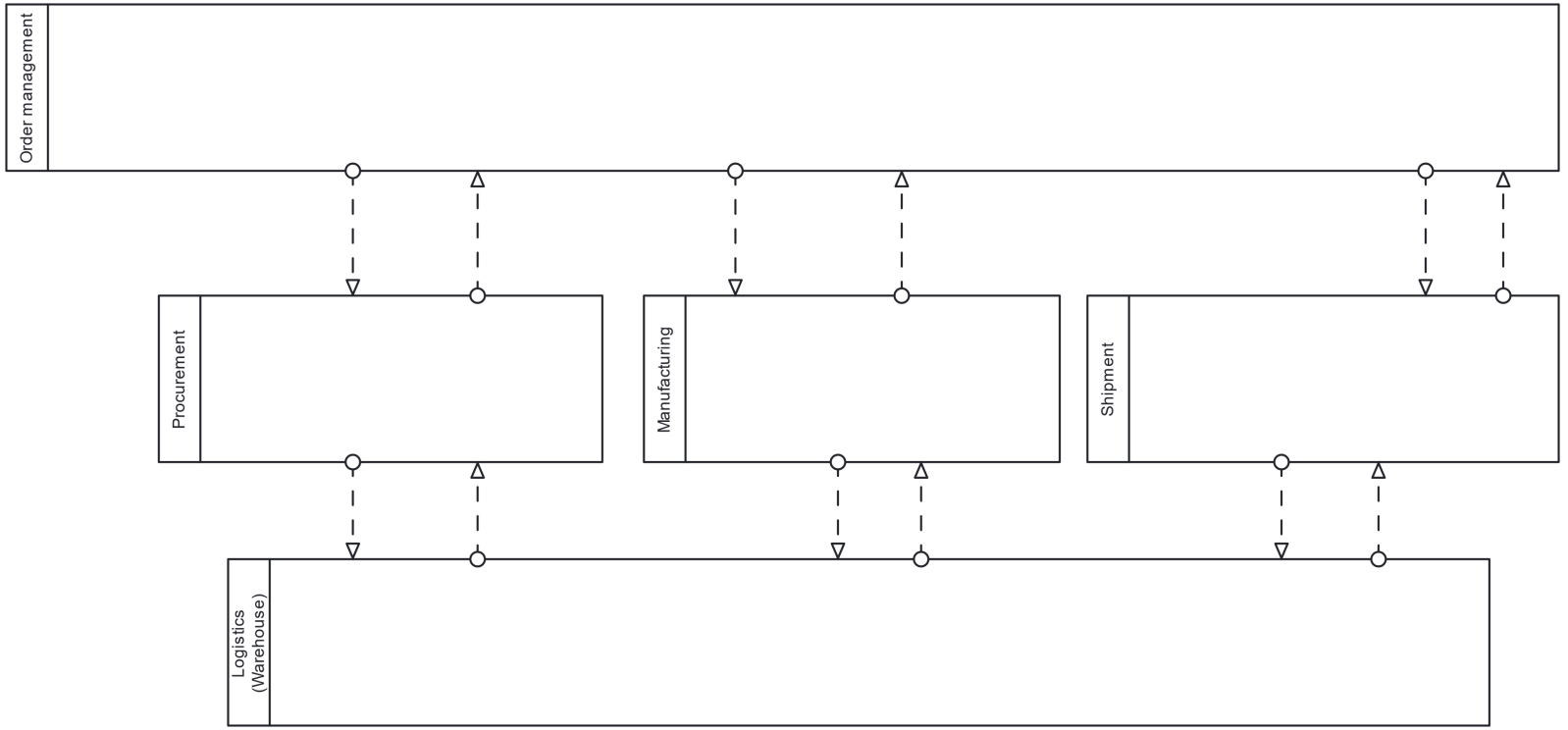

Fig. Process landscape - BPA Lab

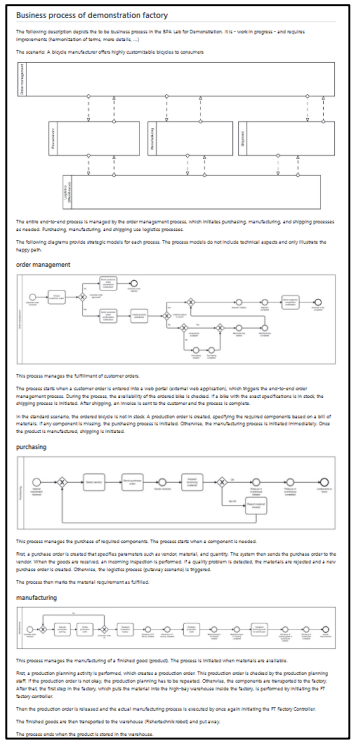

Fig. Process description

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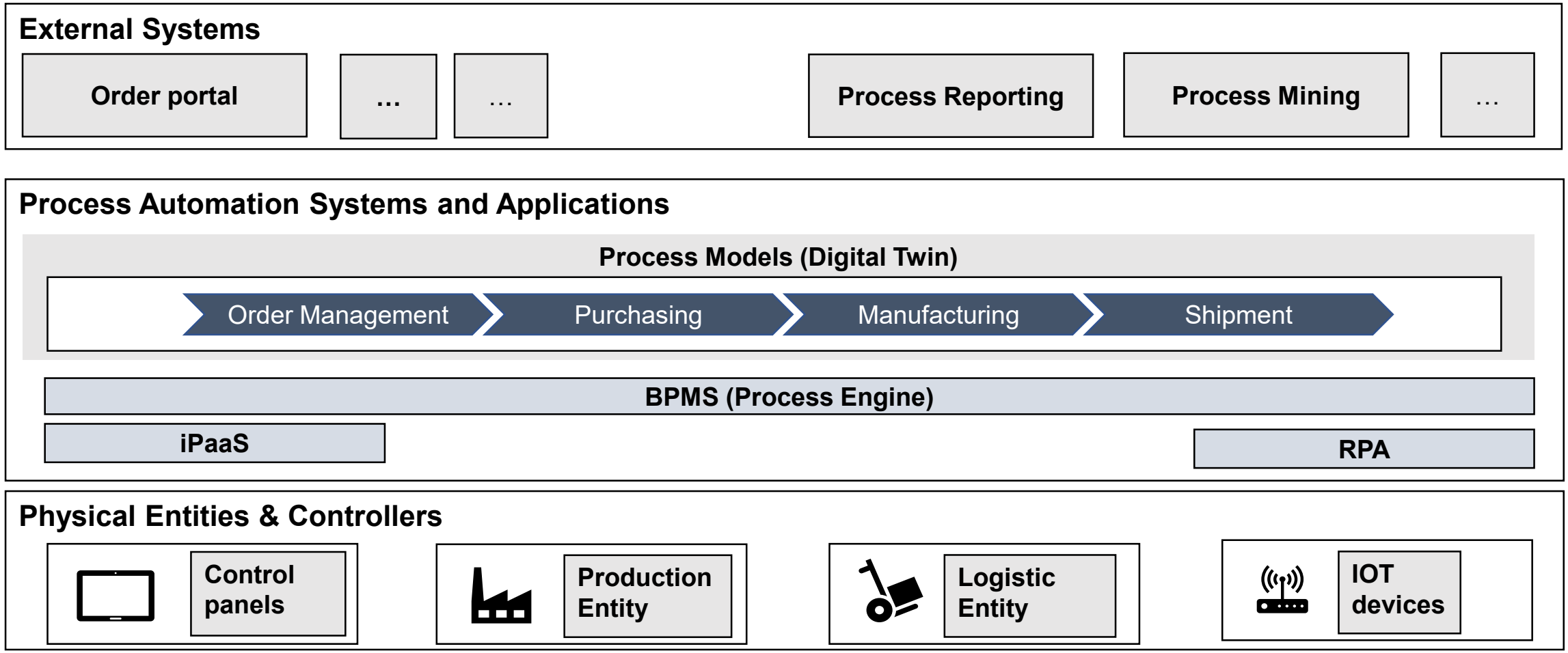
BPA Lab a a demonstration factory

Concept



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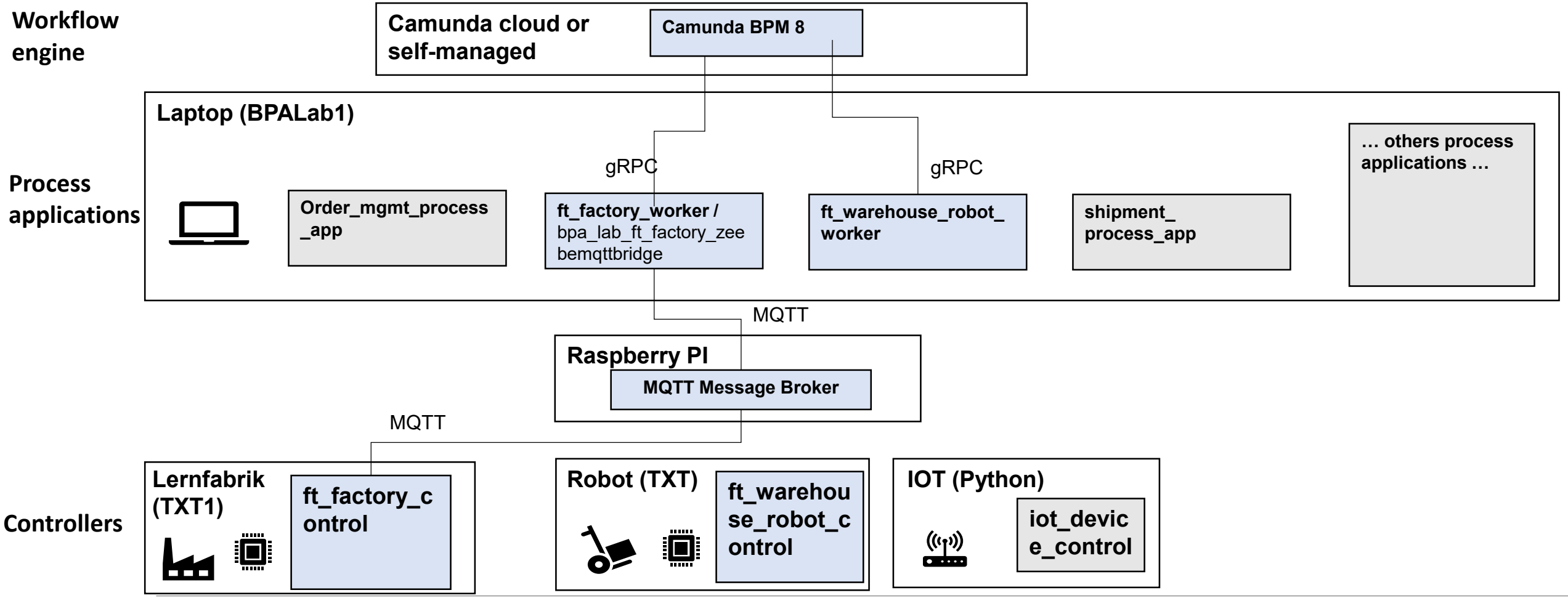
BPA Lab a a demonstration factory

Simplified architecture (work in progress)



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BPA Lab a a demonstration factory
Next steps

- **Documentation** of requirements / business process
- Develop **architecture** step by step and documentation of architecture and architecture decisions
- Agreement and implementation of **naming conventions** and specifications for (development of) elements
- **Further development in the context of the Guided Project**:
  - Design of processes (process model, forms, data models)
  - (Further) development of process applications

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BPA Lab as a demonstration factory

the journey is (part of the reward)

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BPA Lab in teaching

Motivation: Improvement of teaching in the field of process automation

Subject of teaching: optimization and automation of business processes

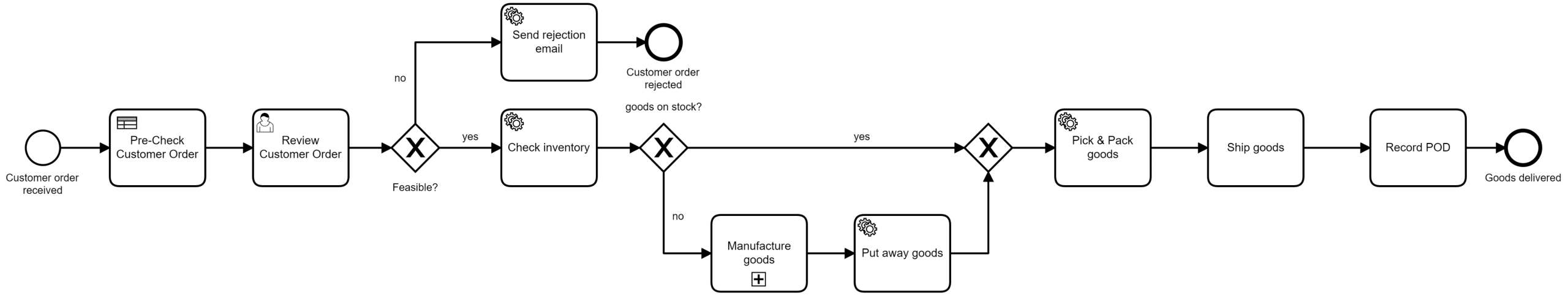

Illustration.: Simplified Order-to-Cash process

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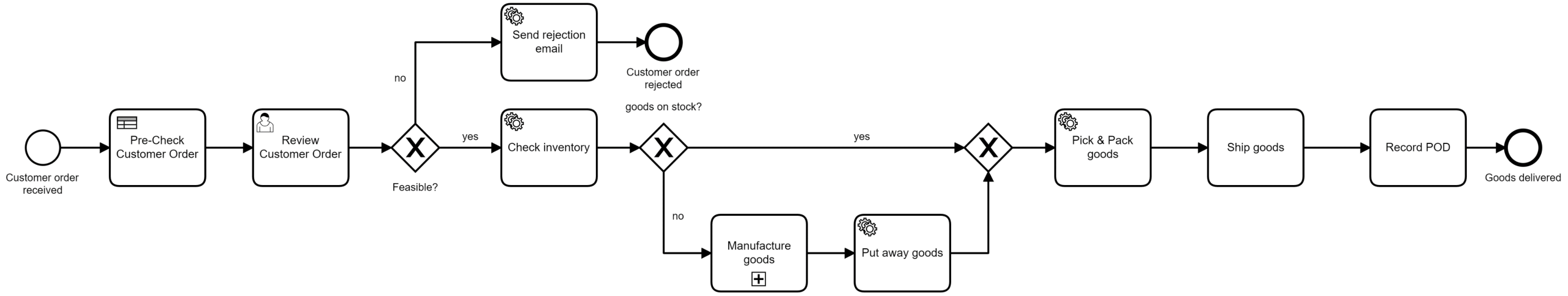
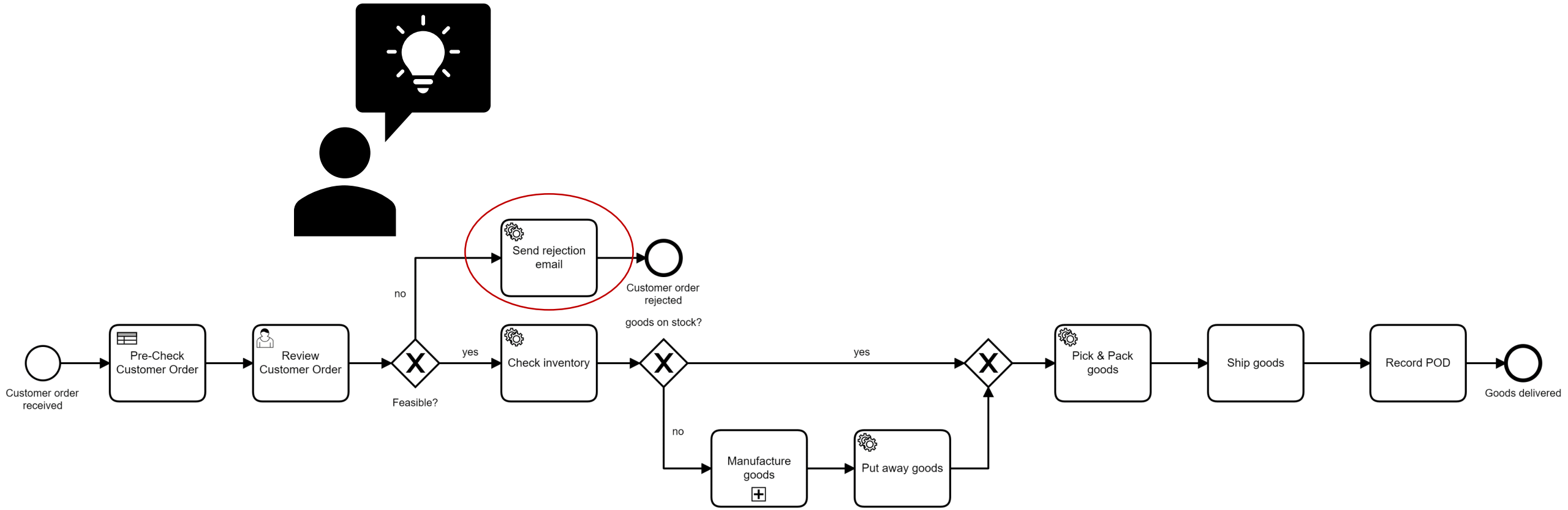
Learning objectives (1/3)

Discover and model cross-functional business processes



Learning objectives (2/3)

Analyse and optimize business processes



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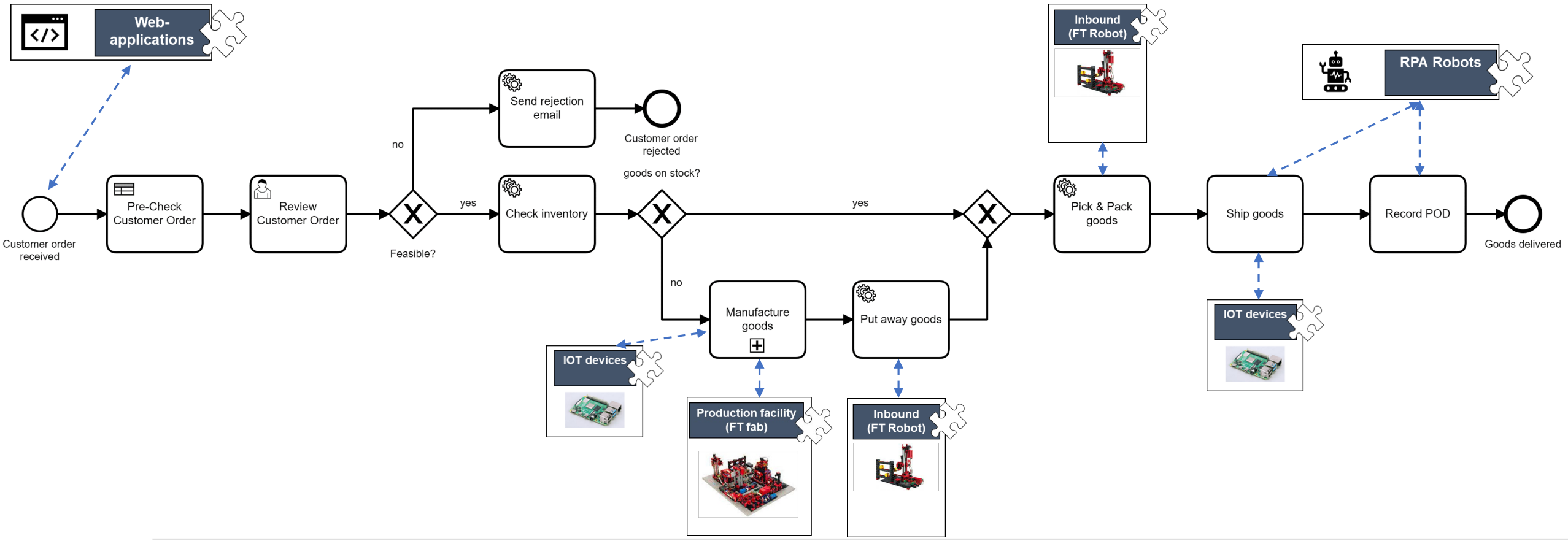
Learning objectives (3/3)

Automate business processes integrating applications



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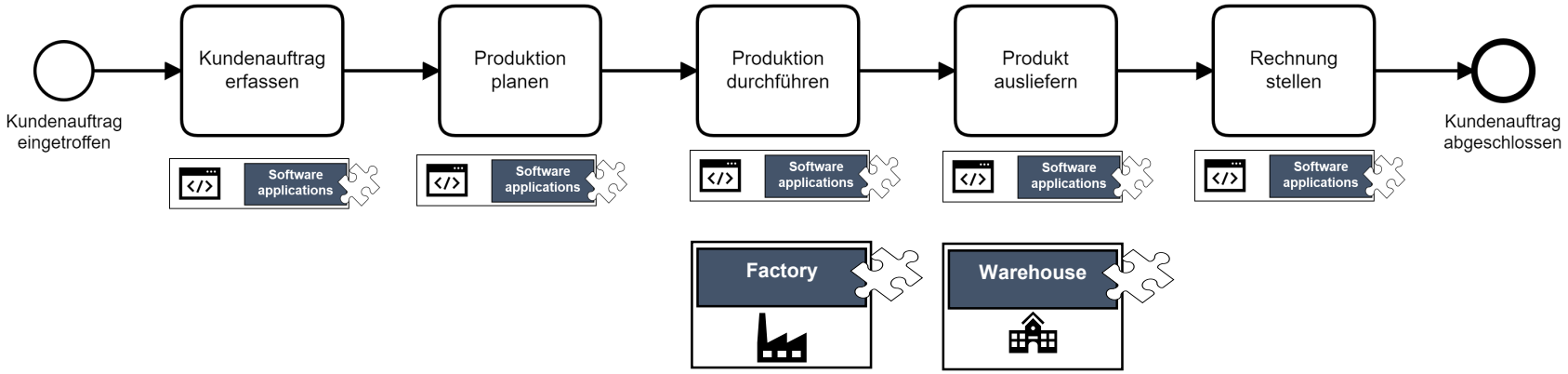
BPA Lab as a Learning Factory
Initial situation and problem

Initial situation with regard to process automation

- Students learn about the use of process automation platforms and develop - in a second module - simple process automation solutions based on requirements

Problem definition

- Applicability as well as complexity of real process automation solutions does not appear to be sufficiently transferred (simple approval processes vs. complex cross-application processes)



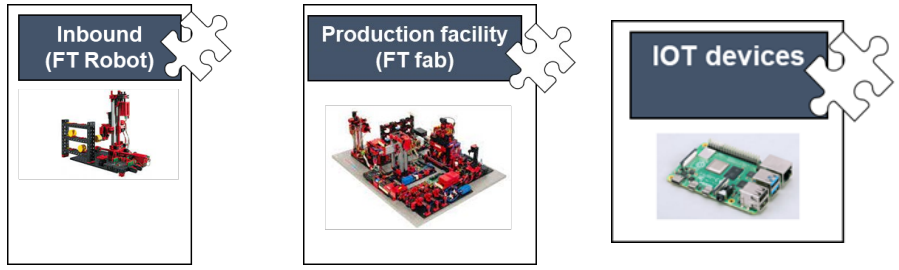
BPA Lab as a Learning Factory
Teaching concept

Research question in TransferING project

- “(How) Can the use of hardware components improve learning in business process automation?“

Teaching concepts

- Use of the model factory (Business Process Automation Lab) as a **demonstrator** in lectures and exercises (course: Information and Process Management).
- Use of the **building blocks** of the BPA Lab **as part of the process automation solution** to be developed by student teams (course: Business Engineering).



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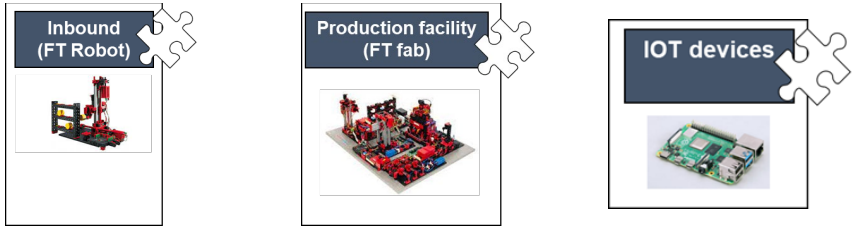
BPA Lab as a Learning Factory
Past and next steps

1) Investigation of **the initial situation, problem definition and use of learning factories** (Completed)
2) Development of a **teaching concept** for the integration of the building blocks into the courses in the bachelor's degree program (in progress)
3) **Configuration and documentation of building blocks** of the Business Process Automation Lab (in progress)



4) **Evaluation** and further development of the concept with selected students in WS 23/24 (Guided Project in the Master) and use as demonstrators in Bachelor lecture
5) Depending on results: Further evaluation in bachelor program in summer 24 (Open)

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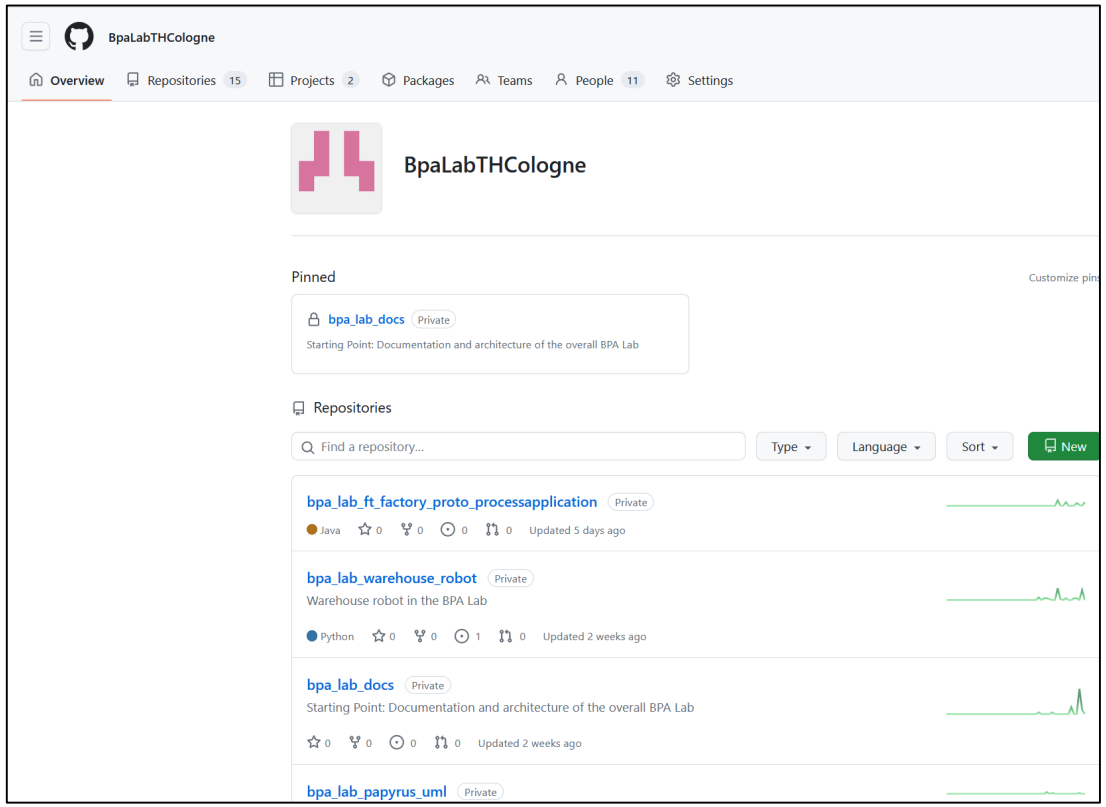
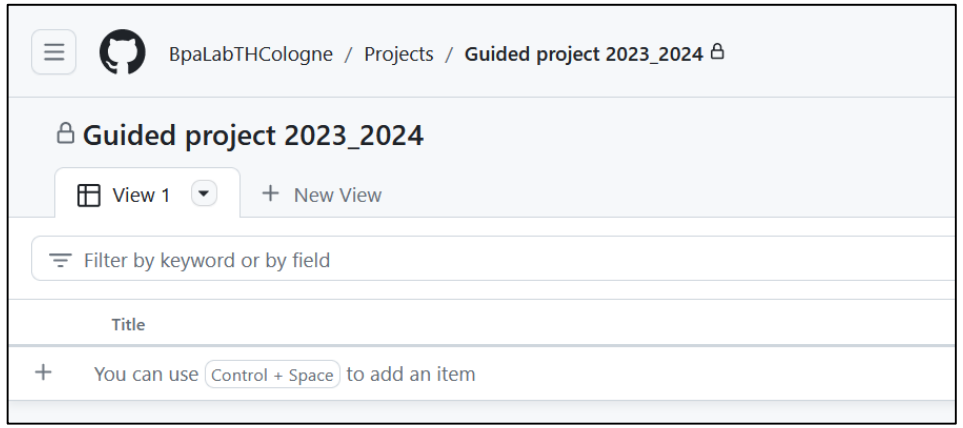
Project organization
GitHub BpaLabTHCologne

https://github.com/BpaLabTHCologne



Management of items in GitHub



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Grading Scheme (Master Digital Science - 12 ECTS)

Evaluation of “BPA Lab as a learning factory” (2 ECTS)

- Quality of your findings, suggestions, …

Intermediate contribution (2 ECTS)

- Active participation and contribution in workshops
- Presentation / sharing of your intermediate results in workshops (quality)
- Taking over coordinating functions (and fulfilling them!)

Your individual deliverables and documentation (7 ECTS)

- Deliverables itself
- Testing and quality assurance
- Documentation

Final presentation at guided project day (1 ECTS)

- 4-6 slides (10 min) per team member expected
- Content, competence and presentation itself