

NAVIGATING THE FUTURE:

AI, SUSTAINABILITY AND

OPEN SOURCE SOLUTIONS IN LOGISTICS

Leadership Development Programme



In cooperation with:



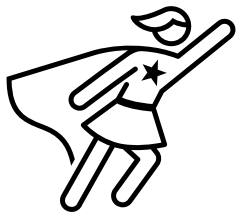
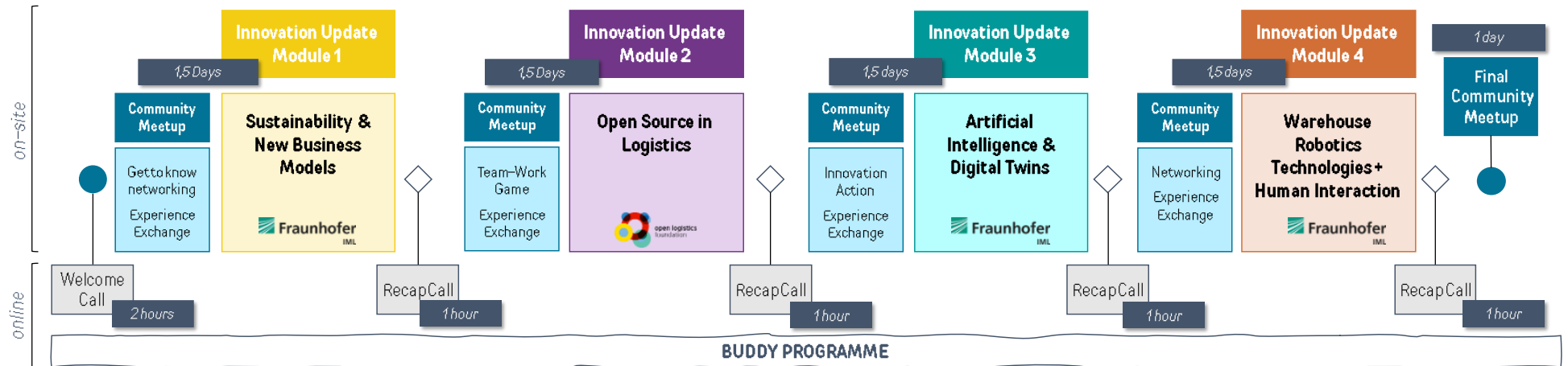
NAVIGATING THE FUTURE – AI, SUSTAINABILITY AND OPEN SOURCE IN LOGISTICS

4

Topics

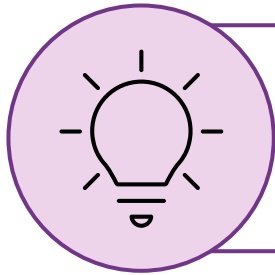
Dates

Month



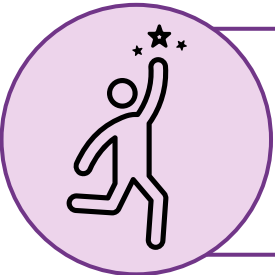
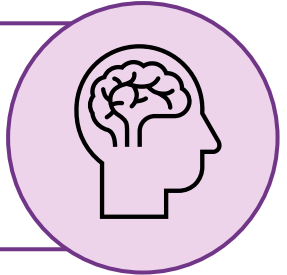
Target Group: A motivated group of **young professionals, future leaders, career changers, talents and experts** who want to learn more about logistics innovation topics and join a vibrant **community of forward-thinking talents**.

WHY SHOULD I SIGN UP?



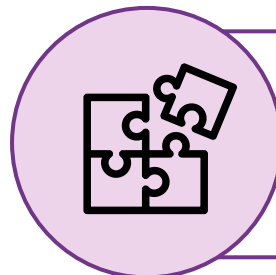
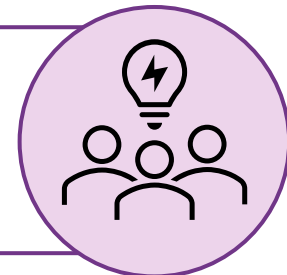
Gather
INSPIRATION
on new technologies and innovations in logistics.

Gain
EXPERT KNOWLEDGE
on logistics and innovation.



Develop your skillset and capabilities for innovative and strategic thinking through hands-on
PROFESSIONAL EDUCATION.

Learn about
RELEVANT USE CASES
and how to implement them at your company.



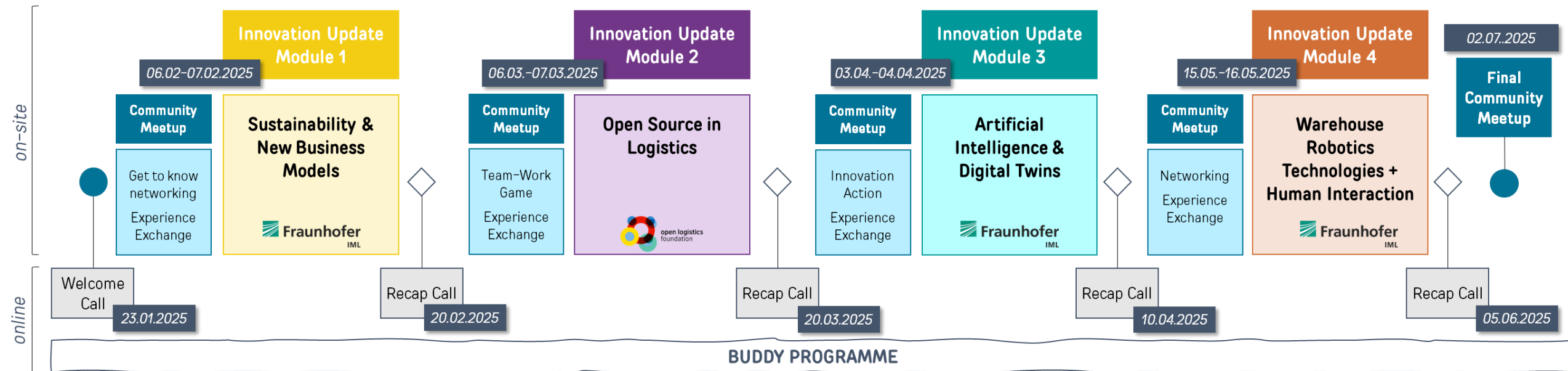
EXPAND YOUR NETWORK
by connecting with young professionals and future leaders from the industry.

FACT SHEET

- ✓ **Blended learning** with a mixture of innovation update modules, peer-to-peer learning and community meetups
- ✓ Buddy programme
- ✓ Excellent **content cooperation partners:**
Fraunhofer IML, Open Logistics Foundation, Competence Centre of Logistics and IT, International Data Spaces Association

- ✓ **Target group:** young professionals, leadership trainees, talents
- ✓ 4-5 onsite trainings during a **period of 3-4 month** combined with up to 6 online elements
- ✓ Onsite Location: **Dortmund**, Germany
- ✓ The programme comprises **62 hours in total**

1ST PROGRAMME TRACK – KEY DATES 2025



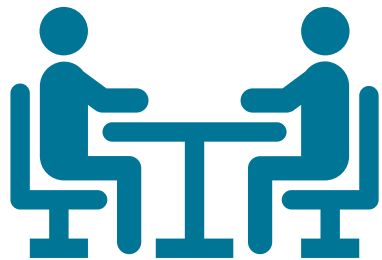
1ST PROGRAMME TRACK – KEY DATES 2025

Date	Module
23.01.2025	Welcome Call
06.02.2025	Community Meetup: Intro
07.02.2025	Sustainability & New Business Models
20.02.2025	Recap Call
06.03.2025	Community Meetup: Teamwork
07.03.2025	Open Source in Logistics
20.03.2025	Recap Call

Date	Module
03.04.2025	Community Meetup: Innovation Action
04.04.2025	Artificial Intelligence & Digital Twins
10.04.2025	Recap Call
15.04.2025	Community Meetup: Networking
16.04.2025	Warehouse Robotics Technologies + Human Interaction
05.06.2025	Recap Call
02.07.2025	Final Community Meetup

COMMUNITY + EXPERIENCE EXCHANGE ELEMENTS

Participants are matched in pairs to **exchange, track progress and align** over the course of the whole programme – peer-to-peer learning.



Buddys...

- ✓ *align on the given tasks between the modules*
- ✓ *motivate each other*
- ✓ *reflect and discuss the learnings and application cases*

Community Meetup

- ✓ *experience exchange in a group of people with the same challenges*
- ✓ *reflect and discuss the learnings and use cases within the group*
- ✓ *accompanied with guided community building activities*
- ✓ *informal networking with future business leaders*

INNOVATION UPDATE MODULES

Our programme addresses **4 key future topics** that innovative logistics managers need to be aware of

- Developing Sustainable Business Models
- Open Source in Logistics
- AI & Digital Twins in Logistics
- Warehouse Robotics Technologies & Human Interaction

Interactive approach...

- ✓ *key note and impulse*
- ✓ *live demonstrations*
- ✓ *interactive workshops with various methods*
- ✓ *reflection and transfer to own use cases*

MODULE 1

DEVELOPING SUSTAINABLE BUSINESS MODELS

Goal of the module

Sensitization for holistic sustainability approaches, the opportunities of digitalization, and transfer into the practical context of the participants. Thereby the participants will learn about different business model development methods to create attractive and sustainable business models for their customers.

Key Insights

- Different concepts and the importance of sustainability
- Tools for sustainable business model development
- Understanding the role of digitalization

Methods applied

- Interactive workshop format in small groups
- Use case from own practical business context
- Different Canvasses for a structured process

MODULE 1

DEVELOPING SUSTAINABLE BUSINESS MODELS

Time	Content
09:00	Welcome and introduction of the participants
9:30	Setting the stage: Keynote on current aspects and concepts of sustainability <ul style="list-style-type: none">• Different concepts of sustainability and holistic approaches & legal aspects and regulations• Sustainability through digitalization and sustainability of digitalization• Impact on daily business and customer segments & framework for developing sustainable business models
10:15	Coffee Break
10:30	Interactive Part I: Get to know your customer <ul style="list-style-type: none">• Analysis of customer pains and requirements w.r.t. sustainability
11:30	Interactive Part II: Pain relievers and Gain creators <ul style="list-style-type: none">• Analysis of current business model and products in response to customer needs
12:30	Lunch
13:30	Interactive Part III: Creation of sustainable solutions <ul style="list-style-type: none">• Creative process for identifying sustainable products and services• Prioritization and mapping along customer needs
14:45	Coffee Break
15:00	Reflection <ul style="list-style-type: none">• Presentation in the plenum• Outlook and next steps in the respective companies• Discussion of dichotomy between internal aspects and external sustainability aspects• Wrap-up and Feedback
16:00	End of the day

MODULE 1

DEVELOPING SUSTAINABLE BUSINESS MODELS



Dipl.-Ing. Josef Kamphues

Josef Kamphues is Head of the department "Supply Chain Development & Strategy" at Fraunhofer IML. He has studied machine engineering at Leibniz Universität Hannover. His department is responsible for developing sustainable supply chain solutions and designing the respective implementation strategies.



Carina Culotta (M.Sc.)

Carina Culotta is research associate in the department "Supply Chain Development & Strategy" at Fraunhofer IML. She has studied Economics at Maastricht University and Ruhr-University Bochum. In her research she deals with the strategic development of digital, open-source, and platform-based sustainable business models.

MODULE 2 OPEN SOURCE IN LOGISTICS

Goal of the module

Do you usually look for new innovations and highlights for your company and try to find unique selling points that set you apart from your competitors? In our Deep Dive module you will need to rethink your approach as we take a close look at the tools, processes and functions that do not differentiate your business from the others. There is huge hidden potential for efficiency that can be unlocked by collaborating with other companies on basic services and components using open source software. Today, companies often develop such software in-house. Open source solutions can significantly reduce the costs and risks of such an approach – while ensuring rapid market acceptance and distribution. The Open Logistics Foundation team looks forward to introducing you to the idea of open source and working with you in our workshop format to think out of the box and identify exciting collaborative project ideas.

Key Insights

- General Information about open source
- Areas of open source application
- Potential of open source in logistics and supply chain management

Methods applied

- Interactive teamwork in small groups
- Design Thinking workshop formats

MODULE 2 OPEN SOURCE IN LOGISTICS

Time	Content
09:00	Welcome and introduction of the participants
09:15	Keynote: Introduction to open source <ul style="list-style-type: none">• General introduction to open source• Licenses and intellectual properties• Open source communities
10:00	Interactive part: Ideation phase <ul style="list-style-type: none">• Why open source and Logistics are a perfect match!• Teambuilding
10:30	Coffee break
10:45	Interactive part: Ideation phase <ul style="list-style-type: none">• Joint idea generation• Selection of ideas• Emphasize and define phase
12:15	Lunch
13:15	Interactive part: Prototyping phase <ul style="list-style-type: none">• Prototyping: Let your ideas come to life• Pitch preparation
14:45	Coffee Break
15:00	Reflection <ul style="list-style-type: none">• Group pitch in the plenum• Wrap-Up and outlook
16:00	End of the day

MODULE 2 OPEN SOURCE IN LOGISTICS



Nathalie Böhning (M.A.)

Nathalie has a background in innovation and entrepreneurship. She joined the Open Logistics Foundation in 2023 as Innovation and Project Manager. In this role, she is responsible for topic oversight and is actively involved in the Ideation process to generate and develop new project ideas and guide them through the project implementation process. Nathalie plays a crucial role in facilitating the journey towards active open source implementation by providing methodological support and using project management tools to support the Working Groups.



Dipl.-Inform. Andreas Nettsträter

Andreas has been CEO of the Open Logistics Foundation since 2022 and is responsible for strategy, open source content, community and network management. He works on open source solutions for logistics and supply chain management with a special focus on the Internet of Things, artificial intelligence and autonomous systems. Andreas has a background in computer science and is a member of several initiatives working on the digitalisation of logistics and supply chain management, such as ALICE, the European Technology Platform on Logistics and Plattform Industrie 4.0.

MODULE 3

ARTIFICIAL INTELLIGENCE & DIGITAL TWINS

Goal of the module

Current logistics networks experience multiple challenges: One of the main challenge is the increasing complexity in production and supply chain planning attributed amongst others to the increasing digitalization and thus global connectedness of partners, plants and supply chains. At the same time, digitalization helps us to tackle these challenges. The increasing availability of data allows the introduction of so-called digital twins that can help visualizing the supply chain. In addition, the existing data basis creates potentials for applications of artificial intelligence. Artificial intelligence itself can help not only to visualize the supply chain and increase planning security but engage in forecasting. However, companies experience different obstacles when implementing digital twins and artificial intelligence such as the identification of “good” use cases and the selection of the adequate data basis.

In this workshop we will discuss the current trends and applications in the field of digital twins and artificial intelligence as well as their interplay. At the same time we will “demystify” the power of artificial intelligence and asks how we can unlock the potentials of digital twins and artificial intelligence in order to deliver new values.

Key Insights

- Different concepts and the importance of AI and digital twins
- Overview about the application of AI and digital twins
- Implementation guides and hints for AI and digital twins on a strategical level

Methods applied

- Interactive workshop format in small groups
- Use cases from own practical business context

MODULE 3

ARTIFICIAL INTELLIGENCE & DIGITAL TWINS

Time	Content
09:00	Welcome and introduction of the participants
9:30	Introduction AI <ul style="list-style-type: none">• Introducing AI and Working Fields in business (main focus logistics)• How do I create an AI strategy?
10:00	Interactive Part AI <ul style="list-style-type: none">• Starting to Development of an AI Strategy• Discussing and developing potential Use Cases
10:45	Coffee Break
11:00	Introduction Digital Twin <ul style="list-style-type: none">• Definition and Modelling of digital twins and applications in logistics• Impact on daily business and benefits for complex planning tasks
11:30	Interactive Part Digital Twin: Challenges and Benefits <ul style="list-style-type: none">• Analysis of the current challenges for introducing a digital twin (e.g. database, expert knowledge)• Development of a necessary environment for the implementation and usage of a digital twin (what do we need ?)
12:30	Lunch
13:30	Interactive part: Potentials for digital twins and artificial intelligence <ul style="list-style-type: none">• Creative process for identifying Potentials for combining digital twins and artificial intelligence• Brainwriting and collection of existing applications• Prioritization and mapping
14:45	Coffee Break
15:00	Reflection <ul style="list-style-type: none">• Presentation of the workshop results in the plenum, Outlook and next steps in the respective companies → development of a road-map Wrap-up and Feedback
16:00	End of the day

MODULE 3

ARTIFICIAL INTELLIGENCE & DIGITAL TWINS



Dipl.-Wirt.-Math. Martin Friedrich

Martin Friedrich is Senior Scientist at the department for “Transportation Logistics” at Fraunhofer IML. He holds a Diploma in Mathematics of Economics from Friedrich Alexander University Nuremberg-Erlangen. During his work he deals with different kinds of logistics location problems and network optimization projects in the industry. His main focus of research are the implications of AI applications in the logistics environment. He also works as AI-Coach at the Mittelstand-Digital-Zentrum where he supports SME to implement AI in their daily routine.



Nikolas Moroff (M.Sc.)

Nikolas Moroff is team leader in the field “Supply Chain Management” in the department “Supply Chain Engineering” at Fraunhofer IML. He studied Mechanical Engineering at the Ruhr-University Bochum with a focus on computer science engineering. His research topics are supply chain optimization, demand management, simulation and digital twin.

MODULE 4

WAREHOUSE ROBOTICS TECHNOLOGIES & HUMAN INTERACTION

Goal of the module

Artificial intelligence, augmented- and virtual reality but also many other robot assisting systems such as autonomous vehicles have the potential to revolutionize the way we work. They increase efficiency and enhance industrial safety. In addition, new warehouse technologies can counteract the increasing skill shortage. However, when implementing those new technologies firms encounter various challenges: Besides insecurities regarding the return on investment, often the main challenge is the acceptance of the user. Consequently, human-machine-interaction and the deployment of new technologies require a user-friendly design. In the end, the technology always should fulfill the purpose of aiding the person but not replacing him or her. Further, the market of robotic solutions is steadily growing and finding the right type of robot for the given task is a crucial part.

In this workshop we do not only focus on the economic and technological potentials of new warehouse technologies but also on the social consequences. Therefore, we ask how can human-machine interaction be designed in such a way that high acceptance rates are assured and the return on investment is given? How can we build a robot from scratch which can be designed in a flexible and scalable way?

Key Insights

- Different types of robots and human-technology interaction
- Understanding important features on how to build a robot

Methods applied

- Interactive workshop format in small groups
- Use case from own practical business context
- Different methods e.g., world café

MODULE 4

WAREHOUSE ROBOTICS TECHNOLOGIES & HUMAN INTERACTION

Time	Content
09:00	Welcome and introduction of the participants
9:30	Setting the stage: Keynote on current aspects and concepts of warehouse robotics technologies & human interaction <ul style="list-style-type: none">• Importance of new ways of human-technology interaction• Various solutions for automatization with robots
10:00	Coffee Break
10:20	Interactive Part I: Trends and potentials of new technologies and their impact <ul style="list-style-type: none">• Analysis of customer pains and requirements w.r.t. ecology, human factors, economics
11:30	Interactive Part II: How to build a robot <ul style="list-style-type: none">• State of the art of robots and robotic frameworks
12:40	Lunch
13:40	Interactive Part III: World café for AI & robotics <ul style="list-style-type: none">• Creative process for identifying new areas for AI and robotics
14:40	Coffee Break
15:00	Reflection <ul style="list-style-type: none">• Presentation in the plenum• Outlook and next steps in the respective companies• Wrap-up and Feedback
16:00	End of the day

MODULE 4

WAREHOUSE ROBOTICS TECHNOLOGIES & HUMAN INTERACTION



Dr.-Ing. Jana Jost

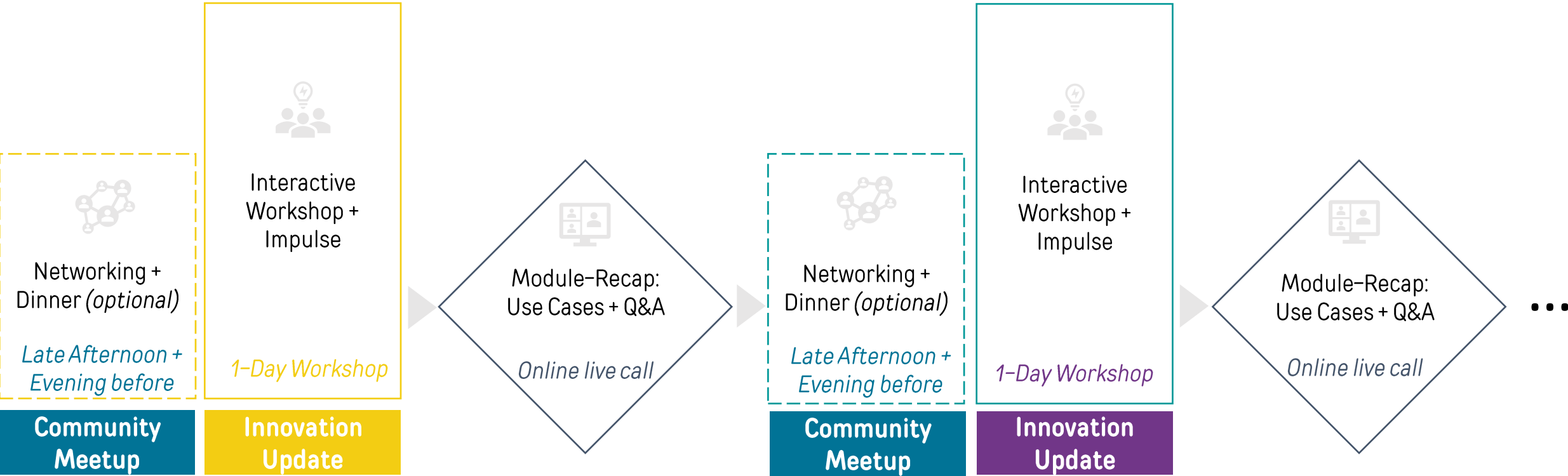
Jana Jost is head of the department “Robotics and Cognitive Systems” at Fraunhofer IML. She has finished her PhD in Mechanical Engineering in 2021 at TU University Dortmund. In her research, she focusses on (mobile) robots, especially the coordination of a large fleet of robots and on human–technology interaction. Here she addresses topics like mixed reality and ergonomic cognitive systems.



Sebastian Hoose (M.Sc.)

Sebastian is team leader for “Perception and Human–Robot–Collaboration” within the department “Robotics and Cognitive Systems” at Fraunhofer IML. He studied Computer Science with a focus on robotics at TU Dortmund University. In his team, perception topics such as computer vision and human sensors, alongside human machine interaction topics are covered – commonly in robotics applications.

HOW DOES IT WORK?



BUDDY PROGRAMME

LOCATION



In the heart of Dortmund with access to the laboratories and premises of the Fraunhofer Institute.

GENERAL CONDITIONS

Included services

- Access to training materials
- Participation in the Transfer.festival of the Digital Hub Logistics
- Participation in Digital Hub Logistics community events even after the end of the programme
- Catering on the attendance days and get-together

Conditions of participation and cancellation

The Leadership Development Programme takes place with a minimum of 10 participants. Registration can be cancelled up to four weeks before the start of the programme for a processing fee of € 100 plus VAT. If the cancellation is made at a later date, half the fee will be charged. If a paying substitute participant is provided, the participant will be re-registered and no fees will be charged. In the event of non-attendance, the full fee will be charged or, if requested, a credit note will be issued for the next training session. Payment of the training costs after receipt of invoice before the start of the programme. We ask for your understanding that there may be changes in the planning of events.



In cooperation with:



SIGN-UP NOW!

FOR EMPLOYEES:

4.950 € per person (plus VAT)

FOR COMPANIES

upon request from 8 participants



You want to learn more about the programme?

Hub manager Maria Beck looks forward to hearing from you and will be happy to answer your questions.

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