

EXCELLENCE IN HUMAN-CENTERED LOGISTICS 4.0

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Book of Abstracts
X-HuLog4.0 Thematic Workshop and Seminars
01.10.-02.10.2025, Darmstadt

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1 Acknowledgement of EU Funding

This project has received funding from the European Union under

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as part of EU Horizon-CSA.

Views and opinions expressed are those of the authors and do not necessarily reflect those of the European Union.

2 Relevance for the project

The X-HuLog4.0 project addresses the need for human-centered, sustainable and technologically advanced logistics systems in Europe. As logistics operations evolve under the influence of digitalisation, automation, and Industry 4.0 concepts, it becomes important to ensure that innovation also improves working conditions, health, safety, and inclusion of the logistics workforce. The project combines technical research, human-factor studies, and training activities to develop knowledge and skills across Europe's research and practitioner communities.

The seminar held in Darmstadt was organised by Technical University of Darmstadt, Institute of Production and Supply Chain Management (PSCM), as part of the university's leading role in WP2 of the project.

2.1 Contribution to WP2

The seminar on Human-Centered and Technology-Driven Decision Support in Logistics directly supports the objectives of work package (WP2) by bridging the gap between theoretical human factor models and practical logistics applications.

- The seminar facilitates the transfer of knowledge and sharing of best practices by bringing together early-career researchers and industry professionals from TU Darmstadt and external stakeholders.
- By exploring human-technology integration and digital innovations, the seminar provides the technological context necessary to study technology affinity – a key aspect of WP2 – ensuring that the models developed are both human-centric and technologically viable.

3 Welcome note from the host

It is a great pleasure to welcome all participants to the X-HuLog4.0 Thematic Workshop and Seminars here at Technical University of Darmstadt (TU Darmstadt) on October 1st and 2nd, 2025. Following the insightful sessions in Saarbrücken, we are delighted to continue this exchange of knowledge with a specific focus on "Integrating Human Factors in Decision Support Models for Logistics".

This gathering serves as a vital pillar for the WP2 objectives of our collaboration, specifically aimed at enhancing the research profile and excellence capacity of VILNIUSTECH. By sharing best practices and transferring knowledge on integrated models, we aim to empower staff and researchers to develop sophisticated systems that account for critical human variables such as learning effects, aging, and technology affinity.

At TU Darmstadt, our sessions explore the intersection of human cognition and expertise with advanced decision-support systems. The goal is to move beyond purely technical solutions and create models that recognize the human operator as a central element of logistics efficiency and adaptability. This workshop provides a unique space for early-career researchers, industry professionals, and students to jointly shape the foundations of human-centred logistics.

We extend our sincere gratitude to the European Union for funding this initiative, which allows us to foster the cross-border collaboration necessary for sustainable and inclusive supply chains. We also thank our co-hosts and all contributors for their dedication to bridging the gap between human factors research and logistical practice.

On behalf of the organizing team at TU Darmstadt, I thank you for your contributions and look forward to the innovative models and partnerships that will emerge from our time together.

Thank you for being part of this important endeavour.

Prof. Dr. Christoph Glock

Institute of Production and Supply Chain Management, Technical University of Darmstadt

Host of the X-HuLog4.0 Thematic Workshop and Seminars at Technical University of Darmstadt

4 Agenda



TECHNISCHE
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Time	Session	Speaker	Location	Topic
Day 1: Wednesday, October 1, 2025 Time: 09:00 – 18:00				
09:00 – 09:30	Welcome Coffee	-	S1 05 Room: 24	
09:30 – 09:45	Opening Discussion	Christoph Glock/Subrata Panja	S1 05 Room: 22	Workshop introduction
09:45 – 10:30	Presentation 1	Subrata Panja	S1 05 Room: 22	Generative AI in logistics and supply chain management
10:30 – 11:15	Presentation 2	Aurelija Burinskiene	S1 05 Room: 22	Strategic decisions for digital transformation to setup automated warehouse
11:15-12:00	Presentation 3	Dominik Loske	S1 05 Room: 22	When domain specialization helps and when it backfires: The case of technology-driven augmentation for truck drivers
12:30 – 13:30	Lunch Break	-	S1 05 Room: 24	
13:30 – 14:30	Workshop Session A	Michael Spitzhirn	S1 05 Room: 22	Ema Software Suite – Digital planning of sustainable factories with productive and ergonomic work processes
14:30 – 15:00	Presentation 5	Amir Zare	S1 05 Room: 22	Human-Centric Design in Human-Robotic Systems for Warehousing
15:00-15:30	Coffee break	-	S1 05 Room: 24	
15:30 – 16:00	Presentation 6	Olga Lingaitiene	S1 05 Room: 22	A case study on the activity of SMEs in EU countries in applying product and process innovation
16:00 – 16:30	Presentation 7	Diana Daškevič	S1 05 Room: 22	The Role of Decision-Making in Digital Transformation within Logistics
12:30 – 13:30	Lunch Break	-	S1 05 Room: 24	
13:30 – 14:30	Workshop Session A	Michael Spitzhirn	S1 05 Room: 22	Ema Software Suite – Digital planning of sustainable factories with productive and ergonomic work processes
14:30 – 15:00	Presentation 5	Amir Zare	S1 05 Room: 22	Human-Centric Design in Human-Robotic Systems for Warehousing
Day 2: Thursday, October 2, 2025 Time: 09:00 – 14:30				
09:00 – 09:30	Morning Coffee	-	S1 05 Room: 24	
09:30 – 10:00	Presentation 9	Ting Zheng	S1 05 Room: 22	Motion tracking accuracy evaluation of Azure Kinect and Captiv system
10:00 – 10:30	Presentation 10	Arturas Serackis	S1 05 Room: 22	Predicting Delivery Delays using XGBoost and Deep Learning Models on the Delivery Logistics Dataset
10:30 – 11:00	Presentation 11	Edita Leonavičienė	S1 05 Room: 22	National Culture and Sustainability Impact on MNE Management
11:00 – 11:30	Presentation 12	Arunas Burinskas	S1 05 Room: 22	Upstream Shocks, Downstream Outcomes: EU Demand, Input Shortages, and Supply Chain Resilience
11:30-12:00	Presentation 13	Subrata Panja	S1 05 Room: 22	Exploring the Potential of Chatbots in Demand Forecasting: A Comparative Study
12:00 – 12:30	Presentation 14	Ali Heidari	S1 05 Room: 22	A Comprehensive View on Machine Learning in Inventory Control.
12:30-13:30	Farewell Lunch	-	S1 05 Room: 24	
13:30-14:30	Discussion and final remarks	-	S1 05 Room: 22	

5 Thematic Workshops and Seminars Organization and Steering



Christoph H. Glock – Technical University of Darmstadt

Christoph H. Glock is a Professor of Production and Supply Chain Management at TU Darmstadt, Germany. His research interests include inventory management, warehousing, sustainable production, and specifically the integration of human factors in logistics and inventory systems. His work has appeared in leading international journals such as *Decision Sciences*, the *Journal of Business Logistics*, and the *European Journal of Operational Research*.

As an area editor for *OR Spectrum*, *Computers & Industrial Engineering* and *Applied Mathematical Modelling*, Prof. Glock brings a wealth of editorial and research expertise to the X-HuLog4.0 Project.

Subrata Panja - Technical University of Darmstadt

Subrata Panja is a Postdoctoral Research Associate at TU Darmstadt, Germany. He earned his Ph.D. from Vidyasagar University, West Bengal, India. His research expertise lies at the intersection of traditional logistics and cutting-edge technology, with specific interests in inventory management, supply chain management, and the application of Generative AI within supply chain contexts. His research appearing in prestigious international journals, including *Computers & Industrial Engineering*, *Journal of Cleaner Production*, and *Engineering Applications of Artificial Intelligence*.

6 Dissemination and Public Visibility



To ensure the workshop's outcomes reach a wide audience and to bolster its academic impact, a comprehensive dissemination strategy was implemented throughout the sessions at TU Darmstadt. Visual documentation played a key role, with photography capturing the technical discussions, collaborative modelling sessions, and the vibrant exchange of ideas between researchers and practitioners. A professional group photo was taken to commemorate the gathering of international experts dedicated to advancing human-centered logistics. The event maintained a strong digital presence on social media. Updates and highlights were shared via the official LinkedIn handle of the Institute for Production and Supply Chain Management (PSCM) at TU Darmstadt, as well as the dedicated X-HuLog4.0 project account. By tagging partner institutions, including VILNIUSTECH, and acknowledging the contributions of early-career researchers, this online activity amplified the workshop's reach.

This multi-channel approach, combining professional visual records with dynamic social media outreach, ensured that the insights gained at TU Darmstadt resonated across the European research landscape, further strengthening the project's commitment to integrating human factors into the future of Logistics 4.0.

7 Speakers and Topics

Subrata Panja – Technical University of Darmstadt

Subrata Panja is a Postdoctoral Research Associate at the TU Darmstadt, Germany. He earned his Ph.D. from Vidyasagar University, West Bengal, India. His research expertise lies at the intersection of traditional logistics and cutting-edge technology, with specific interests in inventory management, supply chain management, and the application of Generative AI within supply chain contexts.



7.1 Generative AI in logistics and supply chain management

In his presentation, Subrata focused on the transformative potential of Generative AI as a cornerstone for innovation in logistics and supply chain management. He reflected on a systematic analysis of 43 peer-reviewed studies to demonstrate how technologies like GANs, VAEs, and Transformers extend beyond traditional AI by enabling synthetic data generation and advanced decision support. Through a newly developed classification framework, he mapped these technologies to core functions such as inventory control and warehouse management. He highlighted that while research currently thrives in operational optimization and forecasting, critical areas like sustainability and transportation remain underexplored. Furthermore, he pointed out a scarcity of empirical field studies, noting that the field is currently dominated by predictive modeling. Ultimately, his presentation consolidated fragmented research to identify promising future avenues for digital transformation in the industry.

7.2 Chatbots in Demand Forecasting: A Comparative Study

In this presentation, he focused on an experimental approach to verify whether Generative AI, specially chatbots, can meaningfully contribute to demand forecasting. He compared chatbot-generated forecasts with established statistical methods such as ARIMA and exponential smoothing across a

range of demand patterns. By systematically applying prompt engineering techniques, he investigated how forecast accuracy evolves as chatbot interaction is refined. He highlighted the conditions under which chatbots approximate or diverge from traditional forecasting performance. Beyond accuracy, he reflected on the practical effort required to engineer effective prompts for reliable forecasting. His findings position chatbots not as replacements for classical models, but as complementary tools under specific demand contexts. Overall, the presentation advanced the discussion on how Generative AI can be operationalized for demand planning rather than remaining a conceptual innovation.

Aurelija Burinskienė – Vilnius Tech

Aurelija Burinskienė is professor at the Faculty of Business Management at Vilnius Tech, Lithuania. She is expert in business economics and supply chain management. She has published a substantial number of papers in reputed international journals in the field of warehousing and logistics 4.0.



7.3 Strategic decisions for digital transformation to setup automated warehouse

In her presentation, she focused on bridging the gap between the urgent need for warehouse automation and the strategic frameworks required to ensure such investments meet business goals. She reflected on the common pitfall where companies rush into automation without a holistic digital transformation strategy, leading to implementations that fail to deliver expected results. To address this, she proposed a comprehensive approach that combines the theoretical background of automated warehouse setups with an adjusted Stacey matrix to guide strategic technology selection and project management. Furthermore, she emphasized that leaders must look beyond simple costs, advocating

for a rigorous monetary evaluation that includes cost-benefit, ROI, and sensitivity analyses. She specifically highlighted the importance of including environmental benefits in these evaluations, demonstrating through a case study on Automated Guided Vehicles (AGVs) how accounting for "green" factors can significantly enhance the perceived value and success of a technology investment.

Dominic Loske – DB Schenker

He is currently the Head of Collection and Distribution (CoDi) Europe at DB Schenker, where he spearheads CoDi operations across the European region. In this role, he is responsible for shaping and implementing the CoDi strategy in close alignment with key stakeholders, steering investment processes, and leading the transformation of the fleet. He also supports the development and rollout of route optimization tools across Europe. Previously, he was a Research Associate at the University of Göttingen, Germany, where he completed his PhD.



7.4 When domain specialization helps and when it backfires: The case of technology-driven augmentation for truck drivers

In the presentation, he discussed how technology-driven augmentation interacts with domain specialization in truck-driving operations. His research examined when domain specialization enhances operational performance, such as reducing fuel consumption, and when it backfires, leading to performance declines despite advanced technological support. The findings demonstrate that the impact of specialization is non-linear, particularly in contexts where technology provides both decision support

and direct control. His work contributes to the emerging Industry 5.0 perspective by highlighting the importance of aligning technological potential with human diversity, and it offers practical insights for road haulers navigating cost pressures alongside increasingly strict emission regulations.

Valentas Gružasuskas – Vilnius Tech

Valentas Gružasuskas is an Associate Professor and Senior Researcher at the Faculty of Mathematics and Informatics (MIF), Vilnius University. His research interests include governance and ethics of AI agent-based modeling and simulation of complex systems, machine learning and deep learning in the contexts of remote sensing, food supply chains, and social welfare.

7.5 Integrating Graph-Neural Traffic Forecasts with an Agent-Based Digital Twin of Urban Road Networks for Human-Centred Logistics Decision

This work addressed the growing complexity of urban logistics driven by rapid urbanization and the expansion of e-commerce. It focused on the challenge of making reliable traffic and logistics decisions in cities where road networks are only partially monitored and data availability is limited. The study highlighted the inadequacy of traditional macroscopic traffic models in capturing fine-grained, human-centred logistics dynamics such as last-mile delivery, routing behaviour, and curb-space usage. To address this gap, the topic proposed integrating graph-neural traffic forecasting with an agent-based digital twin of urban road networks. This combined approach enables scalable, data-driven simulation of traffic conditions across unobserved network segments. The work emphasized decision support for city planners and logistics operators under rising congestion, emissions, and policy constraints. By aligning technological innovation with sustainability goals, his work contributes to human-centred logistics and supports evidence-based urban planning in line with the EU Green Deal.

Michael Spitzhirn – imk Industrial Intelligence

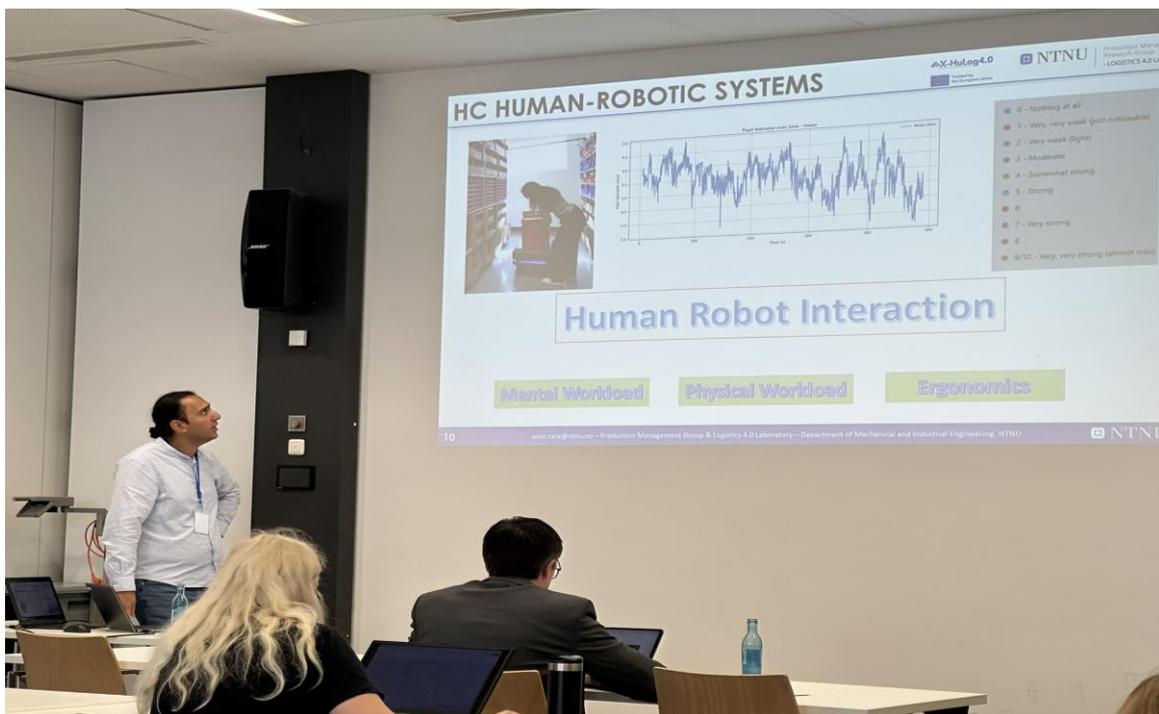
Michael Spitzhirn is a Specialist in Digital and Virtual Ergonomic Methods at imk Industrial Intelligence, where he has been working since 2018. In his role, he coordinates research projects and the ema Education program, supporting the development of the ema Software Suite and managing collaborations with academic and non-commercial partners. His work focuses on ergonomic, age-appropriate, and economically efficient design and optimization of work processes. He also specializes in training, user-oriented software design, and the virtual design and evaluation of human–robot interactions, contributing to human-centred and digitally supported industrial planning.

7.6 Ema Software Suite – Digital planning of sustainable factories with productive and ergonomic work processes

In his talk, he addressed the challenges of digital transformation in industry with a focus on efficient and human-centered factory planning. He introduced the ema Software Suite as an integrated solution for digital factory and production planning that brings together ergonomic, economic, and organizational aspects. Through a practical use case, he demonstrated how the combined design of production and logistics processes can enhance both operational efficiency and workplace ergonomics. His presentation highlighted the importance of seamless interaction between production and intralogistics in modern factory systems. He also discussed the role of ema Education in actively involving students and equipping them with hands-on experience using advanced digital planning tools. Framed within the Industry 5.0 paradigm, his work emphasized human-centered design, flexibility, and sustainability. Overall, his talk provided insights into future-oriented industrial systems enabled by digital and ergonomic innovation.

Amir Zare – NTNU

Amir Zare is a PhD candidate at the Production Management Research Group at the Department of Mechanical and Industrial Engineering, NTNU. His research area includes human-centric logistics support, intelligent logistics solution through robotics, automation and smart designing in logistics workplaces.



7.7 Human-Centric Design in Human-Robotic Systems for Warehousing

His research focused on human-centric robotic systems in warehouse order-picking environments. He addressed the challenge of integrating robotics into one of the most labour-intensive warehouse tasks while balancing operational efficiency with worker safety, comfort, and well-being. Rather than treating automation purely as a performance-driven solution, his work emphasized the design of robotic systems that actively support and complement human workers. The findings highlighted existing gaps in how worker experience, engagement, and well-being are considered in current robotic implementations. To address this, his research proposed a structured human-centric framework for human-robot collaboration in order picking. Overall, the proposed topic aimed to guide the development of warehouse robotics that enhance productivity while fostering sustainable, supportive, and worker-friendly environments.

Olga Lingaitiene – Vilnius Tech

Olga Lingaitienė is an Associate Professor at the Department of Business Technologies and Entrepreneurship at Vilnius Tech. Her research expertise spans circular economy, sharing economy, global planning and logistics processes, and waste management. Her work focuses on developing sustainable and resource-efficient business and logistics models. She explores how circular and sharing-economy principles can be integrated into global supply chains to support environmental sustainability and informed managerial decision-making.

7.8 A case study on the activity of SMEs in EU countries in applying product and process innovation

In her research, she explored product and process innovation patterns among small and medium-sized enterprises (SMEs) across Europe. She investigated the critical role of R&D, digital transformation, and open innovation frameworks in driving innovation outcomes. Her work highlighted the positive relationship between certain types of process innovations – particularly in information and communication methods, and new-to-firm product innovations. By examining country-level differences, she uncovered distinct regional innovation profiles, showing how SMEs follow diverse innovation pathways depending on national contexts. Her findings revealed that strong process innovation does not always translate into product innovation, and that SMEs often outperform the general firm population in specific innovation dimensions. Overall, her research contributes to understanding dynamic capabilities and technology transfer, while emphasizing the importance of regional diversity in shaping SME innovation strategies.

Diana Daškevič, Vilnius Tech

She is pursuing her PhD in Management, focusing on the role of digital technologies in enhancing competitiveness within the logistics sector. Her research expertise enables her to integrate evidence-based insights with executive decision-making, translating complex data into actionable strategies.

7.9 The Role of Decision-Making in Digital Transformation within Logistics

In her research, Diana investigated how structured project management frameworks can support the adoption of digital technologies and enhance competitive advantage in the logistics sector. She focused on EU-based logistics firms to understand how strategic decision-making aligns digital innovations with organizational goals. Her work integrates Innovation Diffusion Theory with methodologies such as Agile, Scrum, Kanban, and Waterfall, using tools like the Stacey Matrix to navigate technological complexity. Through a mixed-methods approach combining expert interviews and quantitative analysis, she demonstrated a positive relationship between digital technology implementation and improved organizational performance. Her research emphasized the importance of strategic foresight, structured planning, and organizational readiness for change. She also highlighted that tailoring project methodologies to the complexity of innovation can significantly improve implementation success. Overall, her work bridges theoretical insights with practical guidance, offering logistics firms evidence-based strategies to build resilience, efficiency, and long-term competitiveness in a rapidly evolving digital landscape.

Ting Zheng, Technical University of Darmstadt

Ting Zheng is a postdoc and research associate at the Institute of Production and Supply Chain Management at TU Darmstadt, Germany, since 2021. His research interests primarily relate to Industry 4.0, Eye tracking technology, Behavioural operations management, and Human-technology interaction. His works appeared in *Computers & Industrial Engineering* and the *International Journal of Production Research*, among others.



7.10 Motion tracking accuracy evaluation of Azure Kinect and Captiv system

In this research, Ting investigated the accuracy of non-intrusive motion tracking for improving human well-being and workplace design in human-centric manufacturing and logistics. He focused on marker-less systems, such as Azure Kinect and Captiv, as promising alternatives to traditional motion tracking, while examining their reliability for ergonomic risk assessment. His work benchmarks these systems against gold-standard measurements, evaluating upper-body movements like trunk flexion, shoulder abduction, and wrist angles to quantify tracking accuracy and identify potential measurement drift. He also compared ergonomic risk scores using methods such as RULA and OWAS to assess consistency across systems. His research highlighted both the strengths and limitations of marker-less motion tracking, providing practical insights into their applicability for occupational health and ergonomics in modern industrial environments.

Arturas Serackis-Vilnius Tech

Artūras Serackis is a professor at the Department of Electronic Systems, Vilnius Tech. His research interests include the development of intelligent image and video analysis algorithms, research on intelligent systems application for signal processing in medicine, and intelligent IT solutions.

7.11 Predicting Delivery Delays using XGBoost and Deep Learning Models on the Delhivery Logistics Dataset

In his research, he explored the prediction of delivery delays in logistics using advanced machine learning and deep learning techniques. He applied models such as XGBoost, DNN, LSTM, and Transformers to analyze complex delivery data, combining comprehensive data pre-processing, feature engineering, and model evaluation to ensure robust results. His findings show that XGBoost achieves the best predictive performance, while the Transformer model demonstrates strong potential for capturing intricate interactions within logistics data. Through the work, he provides practical insights

into model selection for logistics operations, enabling firms to proactively manage and mitigate delivery delays. Overall, his research bridges data-driven methods and operational decision-making, supporting more efficient and reliable logistics management.

Edita Leonavičienė - Vilnius Tech

Edita Leonavičienė is lecturer at the Department of Business Technologies and Entrepreneurship, Vilnius Tech. Her research area includes business fundamentals, business negotiations, entrepreneurship and business organization.



7.12 National Culture and Sustainability Impact on MNE Management

Edita investigated how national culture influences sustainability practices in multinational enterprises (MNEs), with a focus on the adoption of Environmental, Social, and Governance (ESG) principles and Integrated Reporting (IR). She highlighted that, despite sustainability’s growing importance in business strategy, cultural factors are often overlooked. Her work applied Hofstede’s cultural dimensions and institutional theory, combining quantitative analysis of top EU-based MNEs with qualitative insights from expert interviews. She also employed Directed Acyclic Graph (DAG) analysis to support causal interpretation. The findings suggest that cultural dimensions, such as collectivism and long-term orientation, significantly shape sustainability outcomes. Through this research, she

emphasized the importance of developing culturally adaptable ESG frameworks that align with diverse national contexts, helping MNEs implement effective and context-sensitive sustainability strategies.

Arūnas Burinskas - Vilnius Tech

Arūnas Burinskas is a senior research fellow and associate professor at the Department of Business Technologies and Entrepreneurship, Vilnius Tech. His research focuses on quantifying damages, assessing causality, conducting counterfactual analysis, and providing economic evidence in competition, regulation, and state aid contexts.

7.13 Upstream Shocks, Downstream Outcomes: EU Demand, Input Shortages, and Supply Chain Resilience

In his presentation, Arūnas examined how firms navigate overlapping demand contractions and input scarcities that challenge supply chain resilience. He drew on survey evidence from 405 internationally trading Lithuanian firms to show how declining EU demand and shortages of production inputs act as upstream shocks that trigger cascading operational and macroeconomic disruptions. He emphasized that these systemic shocks play a stronger role than firm competitiveness in shaping resilience outcomes. Framing the analysis through a dynamic capabilities and complexity lens, the research highlights the importance of early sensing and adaptive reconfiguration in interrupting disruption cascades. He demonstrated that operational disturbances serve as the key transmission mechanism through which shocks propagate across tightly coupled supply chain networks. From a managerial perspective, the findings stress the role of demand sensing, buffer capacity, and sourcing flexibility in sustaining performance under stress. From a policy standpoint, he underscored the need to support technologies and capabilities that accelerate firm-level reconfiguration. Overall, his presentation positioned supply chain resilience not merely as a defensive response, but as a strategic lever for maintaining competitiveness, growth, and stability in turbulent environments.

Ali Heidari - Technical University of Darmstadt

Ali Heidari is a doctoral candidate at the Institute of Production and Supply Chain Management, TU Darmstadt. He has a background in logistics, materials and supply chain management. His research focuses on use machine learning techniques in inventory management.



7.14 A Comprehensive View on Machine Learning in Inventory Control

In his presentation, Ali addressed the growing limitations of traditional inventory control models in coping with the complexity of modern logistics systems. He synthesized insights from two systematic literature reviews to show how machine learning is reshaping inventory decision-making through adaptive and data-driven approaches. While existing research largely emphasizes supervised and reinforcement learning, he drew attention to the underexplored potential of unsupervised learning in inventory control. He highlighted how unsupervised techniques enable clustering, anomaly detection, and intelligent classification of inventory items beyond predefined rules. By positioning these methods alongside established machine learning approaches, he illustrated how hybrid learning architectures can enhance responsiveness and robustness. The findings also offered a critical assessment of the current research landscape, identifying gaps and emerging opportunities. Overall, his presentation aimed to stimulate discussion on the path toward more autonomous, resilient, and self-adaptive inventory systems.

8 Impressions



9 List of Participants

Registered Participants for X-HuLog4.0 Thematic Workshops and Seminars TU Darmstadt.

Last Name	First Name	Participant University / Employer
Burinskiene	Aurelija	Vilniustech
Gružauskas	Valentas	Vilniustech
Lingaitiene	Olga	Vilniustech
Daškevič	Diana	Vilniustech
Serackis	Arturas	Vilniustech
Leonavičienė	Edita	Vilniustech
Burinskas	Arunas	Vilniustech
Daškevič	Faustina	Vilniustech
Glock	Christoph	TU Darmstadt
Panja	Subrata	TU Darmstadt
Heidari	Ali	TU Darmstadt
Zheng	Ting	TU Darmstadt
Best	Julian	TU Darmstadt
Zare	Amir	NTNU Trondheim
Serackiene	Greta	Vilniustech
Ranasinghe	Thilini	Universität des Saarlandes
Bauer	Michael	Universität des Saarlandes
Abdollahi	Alireza	Universität des Saarlandes
Loske	Dominic	DB Schenker
Spitzhirn	Michael	imk Industrial Intelligence

10 Acknowledgements

The organizing team of the X-HuLog4.0 Thematic Workshop and Seminars would like to express its sincere gratitude to everyone who contributed to the success of this event.

We thank the European Union for funding the X-HuLog4.0 project under the Horizon Europe programme. This support made it possible to bring together researchers, practitioners, and industry partners from across Europe and to create a platform for sharing knowledge on human-centered and sustainable logistics.

Special thanks go to our project partners and participating companies, whose expertise and active involvement in discussions and demonstrations enriched the workshop and strengthened the link between academic research and real-world practice.

We would also like to acknowledge the valuable contributions of all participants – researchers, early-stage researchers, and practitioners – for their presentations, insights, and engagement throughout the sessions. Their dedication and collaborative spirit turned the workshop into a truly interactive and inspiring event.

Our gratitude extends to TU Darmstadt, in particular the Institute of Production and Supply Chain Management (PSCM), Department of Law and Economics, for hosting the event and providing excellent facilities and organizational support. The commitment of the local team was essential in ensuring a smooth organization and a welcoming environment for our international guests.

Finally, we appreciate the efforts of everyone who contributed behind the scenes – from technical and administrative staff to communication teams – for their role in enabling the successful dissemination of the workshop's outcomes.

Together, this joint effort reflects the European spirit of collaboration and underlines the importance of connecting science, industry, and society in advancing the goals of human-centered Logistics 4.0.