

PRO-VE 2025

26th IFIP/SOCOLNET Working Conference on Virtual Enterprises

Porto, PORTUGAL

Hybrid Human-AI Collaborative Networks

PRELIMINARY PROGRAM

Monday – 27 Oct 2025				Tuesday – 28 Oct 2025				Wednesday – 29 Oct 2025			
08:30	Registration			09:00	C1 AI for Logistics and Supply Chain Management	C2 Human-Robot Collaboration in Future Enterprises	C3 Collaborative Healthcare Networks: Design	09:00	E1 Trust and Trustworthiness in Hybrid Human-AI Collaborative Networks	E2 People-Centred & AI-Driven Processes and Environments of Tomorrow	E3 Technologies for Adaptable Collaborative Networks
09:00	Opening Session			10:30	Coffee break			11:00	Coffee break		
09:30	Keynote 1 Human-AI Coevolution - <i>Dino Pedreschi</i>			11:00	Industry Round Table			11:30	Keynote 3 Bridging Intelligence: Human-in-the-Loop – <i>Bruno Silva</i>		
10:30	Coffee break			12:30	Lunch			12:30	Lunch		
11:00	A1 Society 5.0 and Collaborative Networks	A2 Collaborative Risk and Crisis Management	A3 Transition towards Collaborative Organizations 5.0: Methods	14:00	Keynote 2 Process Mining AI and Collaboration- <i>Vicente Traver</i>			14:00	F1 AI and Simulation-Supported Decision-Making	F2 AI-driven Sliding Work Sharing for Human-Robot	F3 Future Collaborative Workspaces in Organizations 5.0
12:30	Lunch			15:00	D1 AI-Driven Manufacturing-as-a-Service	D2 Multi-Agent Systems for Hybrid Human-AI Collaboration	D3 Collaborative Healthcare Networks: Decision Systems	15:30	Coffee break		
14:00	Research Challenges Panel			16:30	Coffee break			16:00	Closing Session & Awards		
15:30	Coffee break			17:00	Projects Forum & Posters I	Projects Forum & Posters II	IFIP WG5.5 (COVE) Members Meeting	16:30			
16:00	B1 AI as a Driver for Collaboration	B2 Impact of Collaboration in Sustainability	B3 Transition towards Collaborative Organizations 5.0: Cases Studies	18:30							
18:00											
19:00	Welcome Reception				Conference Diner						

Monday – 27 Oct 2025

08:30 Registration

09:00 **Opening session**

09:30 **Keynote 1:**

Human-AI Coevolution - *Dino Pedreschi, University of Pisa, Italy*

10:30 Coffee break

11:00 Parallel Sessions A

A1: Society 5.0 and Collaborative Networks

Chairs:

Hybrid Human-AI Performance Evaluation System for Collaborative Business Ecosystems
Paula Graça, Luís M. Camarinha-Matos

Extending Personal Data Sovereignty by Enabling Governance of AI Training on Personal Data
Vijon Baraku, Iraklis Paraskakis, Simeon Veloudis, and Poonam Yadav

Learning Factory 5.0: An Open Design Model for Human-Centric, Sustainable, and Flexible Technical Education
Rita Amaral, Hélio Castro, Filipe Pereira, João Bastos, Joaquim Moreira, Alzira Mota, and Paulo Ávila

A2: Collaborative Risk and Crisis Management

Chairs:

Study on the Identification of Risk Elements of Collaborative Networks Based on Power Grid Feasibility Study Reports
Yanan Xiao, Wenxin Mu, Minghong Liu, Xianing Jin, and Juanqiong Gou

Research on Risk Management System of Grid Reserve Project Based on Human-Computer Collaboration
Xina Zhu, Wenxin Mu, Wanyu Li, Xianing Jin, and Juanqiong Gou

Enhancing Organizational Antifragility through Financial and Market Strength Capabilities
Ariane Avila, Gustavo Dalmarco, Ricardo Zimmermann, and Rossana Fornasiero

A3: Transition towards Collaborative Organizations 5.0: Methods

Chairs: *Arkadiusz Jurczuk, Fabiana Pirola*

Regionally Conditioned Development Paths in Hybrid Collaborative Networks
Arkadiusz Jurczuk, Luca Carminati, Fabiana Pirola, Chiara Cimini, Alexandra Lagorio, and Xavier Boucher

Comparison of Interfirm Collaboration Forms Based on Risk Assessment: Toward a Functional Economy
Claire Fabrer, Thècle Alix, Laurent Mora, and Nicolas Perry

Transition to Organisation 5.0 - Barriers and Enablers of AI Adoption in Accounting and Finance
Heli Kortessalmi, Lili Aunimo, Mariitta Rauhala, Stephan Schlögl

12:30 Lunch

14:00 **Research Challenges Panel**

TBD

15:30 Coffee break

16:00 Parallel Sessions B

B1: AI as a Driver for Collaboration

Chairs:

A Brief Survey on Human-AI Collaboration for Architecture Design of Industrial Systems
Antonio Monte Pegado, Luis M. Camarinha-Matos, and Andre Dionisio Rocha

The Collaborative Role of Generative Artificial Intelligence in Enterprise Architecture Modelling - Experience from Students
Sobah Abbas Petersen

RELIA: Empathetic Reading Guide with Generative Artificial Intelligence
Rômulo Sherman and Sílvia Araújo

Bridging the Gap: Identifying AI-Suitable Problems and Matching with Solution Providers
Thomas Schuster, and Marian Lambert

B2: Impact of Collaboration in Sustainability

Chairs:

The Role of Digital Twins in Building Climate Change Resilience
Carl Nils Konrad Toller Melén, Marco Bertoni, Giulia Wally Scurati, and Scott Young

Virtually Connected: How Do Older Adults Perceive Telepresence Systems in Terms of Social Dimensions and Trust?
Valeska Vitt, Sarah Mandl, Jennifer Brade, Philipp Klimant, Anja Strobel

Promoting ESG Performance in Collaborative Networks: A Systematic Literature Review
Livia Maria Bettini de Miranda, Fábio Müller Guerrini, and Jó Ueyama

Digital Technologies for the Transition to Collaborative Circular Economy through R-strategies – Insights from European Ventures
Rosanna Fornasiero, Gustavo Dal Marco and Ricardo Zimmermann

B3: Transition towards Collaborative Organizations 5.0: Cases Studies

Chairs: *Adrian Florea, Arkadiusz Jurczuk*

Augmented Reality-based Human-AI Remote Collaboration Model for Industry 5.0
A Case Study on the Inspection of Pressed-Metal Components
Rui Neves Madeira, Gabriel Marques, Pedro Albuquerque Santos, and Patricia Macedo

Nursing Home 5.0: A Case Study of Collaborative Approach for Working Organization Co-design
Elena Elias, Raksmei Phan, Xavier Boucher, Ghislain Mugisha, Nathalie Douard, and Theodora Yonkova

Democratizing Software Development: Low-Code as an Educational Pathway towards Sustainable and Collaborative Organizations
Monika Sořta, Damian Kedziora

Facilitating Agile Transformation Through Business Process Standardisation – a Case Study
Khaled Medini, Sandrine Berger-Douce

19:00 Welcome reception

Tuesday – 28 Oct 2025

09:00 Parallel Sessions C

C1: AI for Logistics and Supply Chain Management

Chairs:

Socio-Technical AI Maturity in Supply Chains: Insights from the Pulp and Paper Sector
Fernanda Freitas, Ricardo Zimmermann, Gaudencio Freires, Fabio Couto, Cristiano Fontes, António Lucas Soares, Gustavo Dalmarco, Donna Rhodes, and Jorão Gomes Jr.

Collaborating with Algorithms: AI for Collaborative Supply Chain Management
Fábio Couto, Mariana Curado Malta, and António Lucas Soares

A Conceptual Framework to Design Patterns of Horizontal Collaboration in Co-opetitive Logistics Partnerships
Leandro Carvalho, Jorge Freire de Sousa, and Jorge Pinho de Sousa

C2: Human-Robot Collaboration in Future Enterprises

Chairs: *Sanaz Nikghadam, José Barata*

Enabling Proactive Industrial Cobots: An Artificial Intelligence Approach to Enhanced HRC
Dario Antonelli

Application of AI-Enhanced Processes for Industrial Stone Scanning Machines
Jorge S. Calado, Luka Boljević, Anja Zdovc Derbashi2, Gerardo Minella, Pedro Alfaro, Bruno Rêga, João Mendonça, and José Ferreira

Methods for Measuring the Effectiveness of Human-AI Collaboration in an Organization
Radostaw Wolniak, Agnieszka Kowalska-Styczeń, Izabela Jonek-Kowalska, and Aneta Michalak

C3: Collaborative Healthcare Networks: Design

Chair: *Safa Layeb*

Collaborative Processes for the Deployment of Rural Medical Homes: Simulation Study
Huguet Marius, Boucher Xavier, Augusto Vincent, Mezni Nour, and Chloé Gouttefangeas

Interoperable Tools for Deploying Patient Deterioration Collaborative Monitoring during Hospitalization
Joan Lario, Miguel Ángel Mateo, Llanos Cuenca, and Ángel Ortiz

Design of a Sustainable Food Waste Management System for Collaborative Healthcare Facilities
Safa Chabouh, Imen Bouajila, Ghassen Abid, Helmi Ben Amara, and Sondes Hammami

10:30 Coffee break

11:00 **Industry Round Table**

TBD

12:30 Lunch

14:00 Keynote 2:

Process Mining, Ia And Collaboration With Decision Makers To Make Sustainable Value Based Healthcare Systems – *Vicente Traver, Universitat Politècnica de València, Spain*

15:00 Parallel Sessions D

D1: AI-Driven Manufacturing-as-a-Service

Chairs:

A Recommendation System-based Framework for Enhancing Human-Machine Collaboration in Industrial Timetabling Rescheduling: Application in Preventive Maintenance
Kévin Ducharlet, Liwen Zhang, Sara Maqrot, and Housseem Saidi

Machine Passport: Transforming Industrial Equipment Lifecycle Management through Integrated Data and AI
Grigorios Tzionis, Georgia Kougka, Ilias Gialampoukidis, Stefanos Vrochidis, Ioannis Kompatsiaris, and Maro Vlachopoulou

Manufacture of Metal Parts as a Service
Ángel Ortiz Perez, Miguel A. Mateo-Casali, Pablo Rocamora Montoro, and Angel Ortiz

D2: Multi-Agent Systems for Hybrid Human-AI Collaboration in Industry

Chairs: *Davide Carneiro*

An Agentic Framework for Rapid Deployment of Edge AI Solutions in Industry 5.0
Jorge Martinez-Gil, Mario Pichler, Nefeli Bountouni, Sotiris Koussouris, Marielena Márquez Barreiro, and Sergio Gusmeroli

A Human-Centric Agent Architecture for Hybrid Industrial Collaboration in Industry 5.0
José Sousa, Filipe Oliveira, Davide Carneiro, António Soares, and Bruno Silva

Generative AI as a Catalyst for Collaborative Knowledge Management: Impacts Across Individual, Intra, and Inter-Organizational levels
Rosalina Ribeiro Silva, Henrique Diogo Silva, António Lucas Soares

D3: Collaborative Healthcare Networks: Decision Systems

Chairs:

Generative Responsiveness in Assistive Care Ecosystem - GRACE
Thais A. Baldissera, Cristiano De Faveri, and Luis M. Camarinha-Matos

Territorial Collaboration and Personalisation to Improve Healthcare Pathways: The Case Study of Hip or Knee Arthroplasty
Ahmed Bakali El Kassimi, Marianne Sarazin, Xavier Boucher, Ghada Ben Meriem, and Pierre Luc Fresard

Towards a Data-driven Decision Support System for Enhanced Healthcare Collaboration
Safa Bhar Layeb, Leah Rifi, Audrey Fertier, Sébastien Rebière, Nicolas Salatgé, Olivier Oger, Philippe Olivier, and Franck Fontanili

16:30 Coffee break

17:00 Parallel Sessions

Projects Forum & Posters I

Chairs:

Project - DiMAT-Digital Modelling and Simulation for Design, Processing and Manufacturing of Advanced Materials, *EU Consortium*
Presentation by University Politecnica de Valencia, Spain

Project - PRIN 4.0 - Paths and bundles in industry 4.0, *EU Consortium*
Presentation by University of Siena, Italy

Project - Fraunhofer FLAGSHIP Project EMOTION: Empathetic Technical Systems for Resilient Manufacturing Systems
Fraunhofer Institute for Production Systems and Design Technology, Germany

Project - 4InnoPipe2- The Collaborative and Innovative Network for Academic Entrepreneurship, *EU Consortium*
Presentation by Kozminski University, Poland

Project - Digital Evidence Preservation in Consumer Protection: A DLT-Based Solution with Crowd Verification
Hochschule Pforzheim, Germany

Projects Forum & Posters II

Chairs:

Poster - Towards Sustainable AI Readiness: Introducing the FLOWER Framework
Zofia Pietka-Danilewicz, Syrine Ben Aziza and Paolo Pileggi, Netherlands.

Project - CoDEMO 5.0: Co-Creative Decision Makers for 5.0 Organizations, *EU Consortium*
Presentation by OMILAB, Germany.

Project - Artificial Human Intelligent (KMI - Künstlich Menschlich Intelligent)
Institute for Applied Informatics (InfAI), Germany.

Project - MultiAI-PASS- AI-Enhanced Adaptive Learning, *EU Consortium*
Presented by Politecnico Di Torino, Italy.

Project - Robo-Rally: Use of Telepresence Systems in collaborative task handling
Chemnitz University of Technology, Germany.

[Project - Additional demand under processing, University of York]

IFIP WG 5.5 (COVE) Members meeting

(Members only)

19:30 Conference dinner

Wednesday – 29 Oct 2025

09:00 Parallel Sessions E

E1: Trust and Trustworthiness in Hybrid Human-AI Collaborative Networks

Chair: *Wico Mulder*

Conditions of Trust and Trustworthiness in Top Executive-AI Teaming: Insights from a Qualitative Study among German Top Managers

Bernd-Friedrich Voigt, Klemens Bleyer

Faulty Trust: A Pilot Study on Trust in the Social Robot Navel in a Collaborative Task

Sarah Mandl, Valeska Vitt, and Anja Strobel

Think Like a Doctor: Theory of Mind and Common Ground for Justification and Trust in Human-AI Collaborative Clinical Decision-making

Andra Cristiana Minculescu, Wico Mulder, and Harmen de Weerd

Understanding the Dynamics of Blockchain Implementation: A Comprehensive Analysis of Adoption Factors and Barriers Including Trust

Marc Hübschke, Tobias Hünemeyer, Eugen Buss, Stefan Lier, and Elmar Holschbach

E2: People-Centred & AI-Driven Processes and Environments of Tomorrow

Chair: *Daniele Spoladore*

A Method to Design Human-Centered AI Teammates

Wenqiang Li, Juanqiong Gou, Luis M. Camarinha-Matos, and Fangcong Zhang

Co-Designing Digitally-Enhanced and Inclusive Patient Pathways in Dental Care: A Case Study Combining Modelling, Simulation and Collaborative Innovation

Raksmey Phan, Edlecio Moreno, and Xavier Boucher

Centralised or Decentralised? Decision Factors for Healthcare Supply Chain Configurations

Elena Pessot, and Jacopo Lolli

Interdisciplinary Collaboration for Designing with Intelligence: A Qualitative Study on the Development of AI Tools for Home Adaptation for Older Adults

Daniele Spoladore, Federica Romagnoli, Atieh Mahroo, Teresa Villani, Tiziana Ferrante, and Marco Sacco

E3: Technologies for Adaptable Collaborative Networks

Chairs:

A Digital Twin System to Enable better Healthcare Management

Simone Gitto, Ginevra Giuliani, Alberto Lasciarrea

IT Applications, Systems, and Services Towards an Agnostic Digital Ecosystem

A. Luís Osório, Carlos Gonçalves, Paula Urze, Mário Pinheiro

A Blockchain-Integrated Deep Learning Approach for Robust Anomaly Detection in IoT Systems
Chaima Khalfaoui

Unified Model for Complex IT Infrastructures Governance: SCAFE Case Study
Rabia Azzi, Punita Raj, Ioana Filipas, François Marmier, Chaima Khalfaoui, Mathieu Gros, and Bertrand Rose

11:00 Coffee break

11:30 **Keynote 3:**

Bridging Intelligence: Human-in-the-Loop AI for Predictive Quality in Industrial Operations – *Bruno Silva, Muvu Technologies, Portugal*

12:30 Lunch

14:00 Parallel Sessions F

F1: AI and Simulation-Supported Decision-Making in Collaborative VUCA Environments

Chairs:

Clarifying the Concept of Meta-Models for Collaborative Decision-Making in Engineering Complex Systems
Mubeen Ur Rehman, Alessandro Bertoni, and Johan Wall

An Intelligent Collaborative Decision Support System for Climate Disaster Management
Pedro S. Zanchett, Gustavo R. Lemos, Ricardo J. Rabelo

Leveraging AI Data Analytics Methodology for Social Sustainability of Working Environments: An Integrated Framework
Diletta Tosetto, Andrea Zangiacomi, David F. Nettleton, Giulia Perin¹ and Rosanna Fornasiero

F2: AI-driven Sliding Work Sharing for Human-Robot / Human-AI Collaboration

Chair: *Sebastian Scholze*

Context Aware Sliding Work Sharing for Human-AI Collaboration in Logistics Domain
Sebastian Scholze, Ana Correia, and Gunnar Große Hovest

Identifying Relevant Digital Skills in Collaborative Network of Jobs using Eigenvectors and Eigenvalues Analysis
Laura Andreica, Oliviu Matei, and Văduva Bogdan

A Recommendation System for Stress Management at the Workplace Using RAG-based LLM
Panagiotis Mavrogiannis, Christos Panagopoulos, Andreas Menychtas, Paris Gallos, and Ilias Maglogiannis

F3: Future Collaborative Workspaces in Organizations 5.0

Chairs: *Thomas Süße, Adrian Florea*

Navigating the Future of AI Integration: Competency Development, Ethical Considerations, and Workforce Adaptability in „Organizations 5.0”

Adrian Florea, Vlad Toncian, Radu Cretulescu, Alin David, Daniel Morariu, Razvan Toghe and Catalin Stan

A Process-Oriented Framework for Operationalising Agile Transformation
Cheikh S-A-M Taleb, Khaled Medini, Gaya El Dib, Antoine Zimmermann

Educational Pathways for Industry 5.0: Development and Evaluation of a Collaborative Learning Cube Defining Learning Objectives, Curriculum Structure, and Certification Processes across Different Professional Levels
Philipp Korte, Luca Carminati, Thomas Süß, Maria Kobert, Chiara Cimini, Alexandra Lagorio, and Fabiana Pirola

15:30 Coffee break

16:00 **Closing Session and Awards**