

PRO-VE 2026

27th IFIP / SOCOLNET Working Conference on Virtual Enterprises



Dynamics of Hybrid Collaborative Networks

PROGRAMME

Padova, Italy
26 – 28 October 2026

Dynamics of Hybrid Collaborative Networks

Society is undergoing a profound transformation towards a hybrid world characterized by increasingly close collaboration between humans, smart machines, and intelligent software agents across nearly all sectors of economic activity. Although this transition is progressive, its pace is accelerating, fundamentally reshaping the nature and dynamics of socio-economic ecosystems. In this context, Hybrid Collaborative Networks (HCNs), involving human-AI collaboration, are emerging as a central mechanism for value creation in digitally enabled, globally distributed, and socio-technical ecosystems.

This convergence between AI and Collaborative Networks leads to the new concept of Hybrid Human-AI Collaborative Networks, which is the focus of the PRO-VE 2026 Conference theme, “Dynamics of Hybrid Collaborative Networks.

After several decades of scientific contributions addressing the various dimensions of the design and management of collaborative networks in general, the PRO-VE Conference is now embracing this new challenge of building hybrid collaborative intelligence. The highly adaptive and continuously evolving nature of HCNs calls for an open and multidisciplinary science of collaborative networks, in which engineering disciplines closely interact and collaborate with socio-human and managerial sciences. Beyond the inherent complexity to achieving effective human-AI integration, the scalability and evolution of AI systems, together with the establishment of trust in hybrid collaboration, require the definition of innovative design methods and frameworks, adaptive governance, and life-cycle management models.

PRO-VE 2026 is a forum for sharing and discussing current developments and experiences regarding the role of collaborative networks in the age of combined intelligence between humans and AI. Contributions are welcomed from a wide range of disciplines, including engineering, managerial and socio-human sciences: industrial and electrical engineering, computer science, manufacturing, organization science, logistics, management, and social sciences, among others.

PRO-VE 2026, this year organized in Padova, Italy, is the 27th event in this series of successful conferences, including:

PRO-VE 1999 (Porto, Portugal), PRO-VE 2000 (Florianopolis, Brazil), PRO-VE 2002 (Sesimbra, Portugal), PRO-VE 2003 (Lugano, Switzerland), PRO-VE 2004 (Toulouse, France), PRO-VE 2005 (Valencia, Spain), PRO-VE 2006 (Helsinki, Finland), PROVE2007 (Guimarães, Portugal), PRO-VE 2008 (Poznan, Poland), PRO-VE 2009 (Thessaloniki, Greece), PRO-VE 2010 (St. Etienne, France), PRO-VE 2011 (São Paulo, Brazil), PRO-VE 2012 (Bournemouth, UK), PRO-VE 2013 (Dresden, Germany) , PROVE 2014 (Amsterdam, The Netherlands), PRO-VE 2015 (Albi, France), PRO-VE 2016 (Porto, Portugal), PRO-VE 2017 (Vicenza, Italy), PRO-VE 2018 (Cardiff, UK), PRO-VE 2019 (Torino, Italy), PRO-VE 2021 (Valencia, Spain), PRO-VE 2021 (Saint-Etienne, France), PRO-VE 2022 (Lisbon, Portugal), PRO-VE 2023 (Valencia, Spain), PRO-VE 2024 (Albi, France), and PRO-VE 2025 (Porto, Portugal).

Welcome to Padova

The National Research Council of Italy (CNR) warmly welcome you to the historic city of Padua. It is a great honour for the Department DIITET and the Institute CNR-IEIIT to host the **27th PRO-VE IFIP/SOCOLNET Working Conference on Virtual Enterprises**. We invite participants from academia, research, and industry to engage in vital discussions around our central theme: **Dynamics of Hybrid Collaborative Networks**.

The conference venue is the **Cultural Center Altinate San Gaetano**, located in the vibrant heart of Padua. Originally a 16th-century monastery and now a dynamic architectural hub, the center blends centuries of heritage with contemporary space to offer an inspiring backdrop for collaboration. We are excited to welcome you, bringing the rich tradition of PRO-VE debates, keynotes, and social gatherings to this historic venue.

The conference is held under the patronage of the University of Padua and with the collaboration of the Department of Industrial Engineering, the Department of Information Engineering, and the Department of Management and Engineering.

PRO-VE 2026 brings together international experts to address the complex dynamics of hybrid human-AI networks across physical, digital, and organizational boundaries. Building on decades of multidisciplinary collaboration through SOCOLNET and IFIP WG 5.5, the conference highlights how collaborative networks adapt, evolve, and deliver value in an era of rapid technological and societal transformation.

Our organizing team is dedicated to supporting participants with logistics, venue information, and any questions during your stay. We hope you enjoy exploring the rich history and beauty of Padua while contributing to high-impact discussions on the future of collaborative networks. Please do not hesitate to reach out to the organization team at any time—if we don't have the answer right away, we will gladly help you find it!

Looking forward to welcoming you at PRO-VE 2026 in Padova !



Rosanna Fornasiero
Conference Chair

Welcome to PRO-VE 2026

With this **27th edition**, PRO-VE offers a very rich and exciting program, focused on the **Dynamics of Hybrid Collaborative Networks**. Since its first edition in Porto, Portugal, in 1999, PRO-VE has played a fundamental role in the development of the discipline of Collaborative Networks (CNs) and its associated research community. Along the years, PRO-VE has been recognized by a number of distinct characteristics, such as: providing space for lively discussions of leading edge topics, promoting highly inspiring interactions among the experts from different backgrounds and disciplines with mutual appreciation, and recognition of the need for an **interdisciplinary perspective** to address collaborative networks challenges, and seeking excellence through adopting scientific solutions to real world applications; thus contributing to development of sounder theories, methods, and tools.

The main theme for this edition is aligned with the undergoing profound transformation towards a hybrid world characterized by increasingly **close collaboration between humans, smart machines, and intelligent software agents** across nearly all sectors of economic activity. Although this transition is progressive, its pace is accelerating, fundamentally reshaping the nature and dynamics of socio-economic ecosystems. In this context, Hybrid Collaborative Networks, involving human-AI collaboration, are emerging as an extension of collaborative networks and a central mechanism for value creation in digitally enabled, globally distributed, and socio-technical ecosystems. With an eye on these trends, PRO-VE 2026 provides a forum for sharing experiences, discussing trends, and identifying new opportunities together with innovative solutions to cope with challenges ahead towards a hybrid human-centric collaborative society.

With the support of the SOCOLNET international Society of Collaborative Networks and IFIP (International Federation of Information Processing), especially through the WG 5.5 COVE, PRO-VE has contributed not only to the consolidation of the research community of Collaborative Networks but also to the identification of future research directions. We hope that this 27th edition continues with the same tradition, with your proactive involvement in all its activities.

A special word of thanks goes to the members of the International Program Committee that carried out the heavy task of evaluating the large number of submissions. Finally, we also want to express our gratitude for the work of the local organizing committee coordinated by Dr. Rosanna Fornasiero, as well as the support of the various sponsors of this year's event.

We wish you a great and memorable working conference in Padova.



*Luis M. Camarinha-Matos
Program Committee Chair*



*Angel Ortiz
Program Committee Co-chair*



*Xavier Boucher
Program Committee Co-chair*

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Special Session: From Collaboration to Cognition: The Collaborative Intelligence Network

Sanaz Nikghadam-Hojjati, NOVA University Lisbon, CTS-UNINOVA, Portugal
 José Barata, NOVA University Lisbon, CTS-UNINOVA, Portugal
 Eda Marchetti, CNR-ISTI, Italy
 Anikó Costa, NOVA University Lisbon, CTS-UNINOVA, Portugal

Special Session: Agentic Skills in Hybrid Collaborative Networks

Wico Mulder, TNO, The Netherlands
 Bernd-Friedrich Voigt, South Westphalia Univ. of App. Sc., Germany
 Thomas Süße, Bielefeld University of Applied Science, Germany
 Harmen de Weerd, University of Groningen, The Netherlands

Special Session: AI as Human Mediator in Hybrid Networks

Raksmey Phan, Mines Saint-Etienne France
 Juanqiong Gou, Beijing Jiaotong University, China

Special Session: Doing business in Society 5.0 Collaborative Environments

Patrizia Garengo, University of Padova, Italy
 Francesco Ferrati, University of Padova, Italy
 Frida Betto, University of Padova, Italy
 Avishan Sarmast, University of Padova, Italy

Special Session: Resilient Networks in the AI Era

Sanaz Nikghadam-Hojjati, NOVA University Lisbon, CTS-UNINOVA, Portugal
 Thomas Schuster, Pforzheim University, Germany
 Jose Barata, NOVA University Lisbon, CTS-UNINOVA, Portugal

Special Session: Sustainable and Resilient Collaborative Agri-Food Networks

Ana Estesó, CIGIP, Universitat Politècnica de València, Spain
 M. M. E. Alemany, CIGIP, Universitat Politècnica de València, Spain

Special Session: Distributed Safety-Critical Systems

Alberto Morato, CNR IEIIT, Italy
 Claudio Zunino, CNR IEIIT, Italy

Special Session: Explainable AI for Collaborative Healthcare Ecosystems

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 Sabatina Criscuolo, CNR, Italy
 Daniele Spoladore, CNR STIIMA, Italy
 Ruggero Colombari, Universitat Internacional de Catalunya, Spain

Special Session: Decision-Making in Human-AI Collaboration

Diletta Toso, CNR-IEIIT, Italy
 Letizia Mortara, University of Cambridge, UK

Constanze Leeb, University of Cambridge, UK

Special Session: Navigating the Socio-Technical Frontiers of Digital Ecosystems

Diletta Tosetto, CNR-IEIIT, Italy

Awlad Sagar, University of Chittagong, Bangladesh

Rosanna Fornasiero, CNR-IEIIT, Italy

Andrea Zangiacomi, CNR-STIIMA, Italy

Special Session: Managing Dynamics in Circular Economy ecosystems

Laura Macchion, University of Padova, Italy

Edoardo Rampazzo, University of Padova, Italy

Francesco Passuello, University of Padova, Italy

Special Session: Hybrid Collaborative Networks for Critical and Complex Situations

Thais Baldissera, NOVA University Lisbon, CTS-UNINOVA, Portugal

Ana Inês Oliveira, NOVA University Lisbon, CTS-UNINOVA, Portugal

Filipa Ferrada, NOVA University Lisbon, CTS-UNINOVA, Portugal

Patrícia Macedo, IPSetubal, CTS-UNINOVA, Portugal

Special Session: Collaborative Governance of Resilient Ecosystems

Ariane Avila, INESC TEC, Portugal

Gustavo Dalmarco, INESC TEC, Portugal

Ricardo Zimmermann, INESC TEC, Portugal

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DETAILED PROGRAM SCHEDULE

Monday – 26 Oct 2026				Tuesday – 27 Oct 2026				Wednesday – 28 Oct 2026			
08:30	Registration							09:00	E1	E2	E3
09:00	Opening Session			09:00	C1	C2	C3		Collaborative Healthcare Ecosystems	Resilient Networks in the AI Era	Collaborative Business Governance
09:30	Keynote 1			10:45	Coffee break			10:45	Coffee break		
10:30	The Liminality of AI: Why We Study AI More Like a Social Actor Than a Tool - <i>Dominik Stemon</i>			11:15	Research Challenges Panel			11:15	Keynote 3		
11:00	Coffee break			12:45	Lunch			12:15	Humans and Robots Together: The Future of Collaborative Assembly Lines - <i>Olga Battaia</i>		
12:45	A1	A2	A3	14:15	Keynote 2			13:45	F1	F2	F3
	Doing Business in Society 5.0 Collaborative Environments	Decision-Making in Human-AI Collaboration: Frameworks	Agentic Skills in Hybrid Collaborative Networks	15:15	D1	D2	D3		Explainable AI for Collaborative Healthcare Ecosystems	Navigating the Socio-Technical Frontiers of Digital Ecosystems	Collaborative Governance of Resilient Ecosystems
14:15	Lunch			16:30	Coffee break			15:30	Coffee break		
15:45	Industry Round Table			17:00	Project Forum & Posters		Posters Forum	16:00	Closing Session & Awards		
16:15	Coffee break			18:30	Conference Diner			16:30			
18:00	B1	B2	B3								
19:00	Welcome Reception										
	From Collaboration to Cognition	Decision-Making in Human-AI Collaboration: Models	Sustainable and Resilient Collaborative Agri-Food Networks								

Venue – Centro Culturale San Gaetano

Via Altinate, 71, 35121 Padova PD

Ground-floor:

- Agorà: Poster Exhibition and welcome reception
- Room Spazio 35: Sessions 2, Project Forum II, EEN presentation
- Room Acquario: Sessions 3
- Coffee break and lunch

Floor -1:

- Registration Desk
- Auditorium: Plenary, Keynotes, Sessions 1, Project Forum I
- Room Botte: Projects Forum II

Monday – 26 Oct 2026

08:30 Registration (*Registration Desk - floor -1*)

09:00 Opening Session (*Auditorium - floor -1*)

Paolo Giuseppe Ravazzani, CNR-IEIIT

Andrea Vinelli, Università di Padova

Luis Camarinha-Matos, Uninova

Rosanna Fornasiero, CNR-IEIIT

09:30 Keynote 1 (*Auditorium - floor -1*)

The Liminality of AI: Why We Study AI More Like a Social Actor Than a Tool

Dominik Siemon, LUT University, Finland

10:30 Coffee break (*Ground floor*)

11:00 Parallel Sessions A

A1 - Doing Business in Society 5.0 Collaborative Environments (*Auditorium - floor -1*)

Organizers: Patrizia Garengo, Francesco Ferrati, Frida Betto, Avishan Sarmast

Position paper: Intelligent Interaction in Collaborative Networked Business: Trends, Challenges, and Research Directions

Paul Grefen and Anna Wilbik

Balancing between Value Co-creation and Risk Mitigation of Open Government Data: Outbound Collaborative Innovation towards Society 5.0

Haitao Huang, Tieqiang He, Hao Wang, Tianqi Wang, Zhizhong Wang, Wenchi Ying

Developing Human Centered Approach by Leveraging on Collaborative Networks: A Preliminary Empirical Investigation

Patrizia Garengo, Avishan Sarmast, and Frida Betto

Exploring AI Adoption in HRM: Preliminary Evidence from Italian and Finnish manufacturing SMEs

Adnan Hussain, Patrizia Garengo, Juhani Ukko, and Minna Saunila

A2- Decision-Making in Human–AI Collaboration: Frameworks (*Spazio 35 - ground floor*)

Organizers: Diletta Toso, Letizia Mortara, Constanze Leeb

A Framework for Enhanced Human-AI Collaboration in Dynamic Environments

Sebastian Scholze, Ana Correia, Gunnar Große Hovest

A TTF-Based Configuration Toolset for AI Agents in Human-AI Collaborative Decision-Making: Typology, Taxonomy, and Decision Path

Taiyao Yang, Xun Zhang, Wenchi Ying

A Human-Centered Multi-Agent Architecture Framework for AI-Based Hybrid Decision Support in Product Engineering

Eric Kempkens, Dorian Gleß, Yannik Hermann, and Rainer Stark

Integrating Social Robots and AI Agents for Elderly Care

Thais A. Baldissera, Luis M. Camarinha-Matos and Cristiano De Faveri

A3 - Agentic Skills in Hybrid Collaborative Networks (*Room Acquario - ground floor*)

Organizers: Wico Mulder, Bernd-Friedrich Voigt, Thomas Süße, Harmen de Weerd

Distributed Agency in Hybrid Collaborative Networks: Agentic Skills in AI-Assisted Clinical Data Conversion

Talko Bernhard Dijkhuis, Joran Jan Arends, and Hinderikus Marten Groenboom

Design Principles for Human-AI Symbiosis – A Practical Approach to Designing Solutions to Support Humans and AI Working and Learning Collaboratively

Zacharoula Papamitsiou, Sobah Abbas Petersen

The AI Trias Politica: Redefining Roles in the Modern Workplace

Mahya Ameryan, Pascal van den Bosch, Ando Emerencia, and Frank Blaauw

Effects of Subgoal Granularity on Perceived Explainability in Agent Behaviour

Philip Maurice Scheidig, Thomas Süße, and Christian Schwede

12:45 Lunch (*Ground floor*)

14:15 Industry Round Table (*Auditorium - floor -1*)

Session organised with the support of the National Cluster of Intelligent Factories (CFI)

Moderator: Stefania Bruschi, National Cluster CFI Board Member

Introductory remarks: Tullio A.M. Tolio, President of the CFI Scientific Technical Committee

Panelists:

Alberto Longobardi, CTS-CFI Member, Adige BLM -Italy

Giuseppe Paronetto, CEO Alia Mentis, President of RIR M3NET – Italy

Nicola Gramegna, President of RIR SINFONET -Italy

Alessandro Beghi, Board Member of IMPROVENET -Italy

15:45 Coffee break (*Ground floor*)

16:15 Parallel Sessions B

B1 - From Collaboration to Cognition (*Auditorium - floor -1*)

Organizers: Sanaz Nikghadam-Hojjati, José Barata, Eda Marchetti, Anikó Costa

Position paper: Unity of Knowledge and Action: A Multi-Agent Human-AI Collaborative System

Juanqiong Gou, Yue Shang, Kathy Ning Shen, Yizhe Chen and Zhe Wang

Collaborative Intelligence for Trustworthy Hardware-Software Co-Engineering in Adaptive and Collaborative Innovation Ecosystems

Eda Marchetti, Sanaz Nikghadam-Hojjati, Anikó Costa, Antonello Calabrò, and José Barata

Human-Centered Cognitive Computing for Collaborative Intelligence: A Speech-Based Approach to Affect and Creativity

Sepideh Kalateh, Nastaran Farhadighalati, Sanaz Nikghadam-Hojjati, and José Barata

Collaborative AI Agents for Legal Text Analysis and Question Answering

Goran Marković, Ana Meštrović

B2 - Decision-Making in Human–AI Collaboration: Models (*Spazio 35 - ground floor*)

Organizers: Diletta Tosetto, Letizia Mortara, Constanze Leeb

Generative AI Assisted Multi-Round Collaborative Decision Making for Natural Disaster Management

Gustavo R. Lemos, Pedro S. Zanchett, Ricardo J. Rabelo

Human-AI Collaboration for Multi-Agent Financial Transaction Anomaly Detection

Nastaran Farhadighalati, Sepideh Kalateh, Sanaz Nikghadam-Hojjati, and José Barata

Opening the Black Box of Human-AI Augmentation: A Qualitative Investigation into the Erosion of Personal Control

Diletta Tosetto, Constanze M. Leeb, and Letizia Mortara

How AI Service Attributes Shape Consumer Happiness: Evidence from Scenario-Based Experiments

Yicheng Song, Mengyu Pan, Haoyu Fan

B3 - Sustainable and Resilient Collaborative Agri-Food Networks (*Room Acquario - ground floor*)

Organizers: Ana Estesó, M.M.E. Alemany

Building Resilient Supply Chains in the Digital Era: How Wine-Sector SMEs use Industry 4.0 Technologies?

Gustavo Dalmarco, Marco Rostellato, Ana Cristina Simões

A Multi-Stage Optimisation Framework for Sustainable Collaborative Production Planning in CSA Systems

Ana Esteso, M.M.E. Alemany, Angel Ortiz, and Mario Lezoche

Developing and Assessing a Generative AI Maturity Model for Human-AI Collaboration in SMEs

Heli Kortessalmi, Vesa Kauppinen, Hannele Lampela

Few-Shot and Zero-Shot Time Series Transformers for Industrial Energy Forecasting: A Benchmarking Study in Food Processing

Francisco Fraile, Carlos Baviera, Ángel Ortiz, Raúl Poler

19:00 Welcome Reception (*Agorà - ground floor*)

Tuesday – 27 Oct 2026

09:00 Parallel Sessions C

C1 - AI as Human Mediator in Hybrid Networks (*Auditorium - floor -1*)

Organizers: Raksmei Phan, Juanqiong Gou

Position paper: Ecosystem Futuremaking Space: Problem Analysis and Design Objectives

Kirsimarja Blomqvist, Dominik Siemon, Katri Valkokari and Jaakko Paasi

Human-Centred AI Mediators: An Engineering Framework for AI-Mediated Coordination in Hybrid Collaborative Networks

Raksmei Phan, Thomas Franck, Xavier Boucher

From Requirement Providers to Human-AI Team Co-Designers: Business Experts Bridged with IS/IT Experts by AI Mediator

Yizhe Chen, Juanqiong Gou, Wenqiang Li, Lifei Zhang, Kathy Ning Shen

AI-Assisted Augmented Documentation as Collaborative Infrastructure for Hybrid Human-AI Cultural Heritage Storytelling Networks

Akrivi Katifori, Myrto Koukoulis, Anastasia Vasileiou, Maria Boile, Chairi Kiourt, Alexandru Stan, Preslav Rachev, George Ioannidis, Yannis Ioannidis

C2 - Collaborative Networks in Manufacturing (*Spazio 35 - ground floor*)

Chair: Sobah Abbas Petersen

Position paper: A Data-Driven Bottom-Up Approach to Supply Chain Management

Francisco J. Ferriols, Josefa Mula, and Manuel Díaz-Madroño

A Self-Managing Lifecycle Model of Manufacturing Systems – An Approach based on Collaborative Cyber-Physical Systems, Standards, and Data Sovereignty

Marcos R. Momo, Ricardo J. Rabelo, Emanuel Spanhol, and José Barata

A Security-by-Design Digital Product Passport Architecture for Military Infrastructure Proceedings

Konstantinos Gkouvas, Foivos Psarommatis, Chrysostomos Stylios

Enhancing Remote Collaborative Assembly through Human-AI Integration

Romina Druta and Radu Ciurescu

C3 - Managing Dynamics in Circular Economy Ecosystems (and Manufacturing) (*Room Acquario - ground floor*)

Organizers: Laura Macchion, Edoardo Rampazzo, Francesco Passuello

Closing the Water Loop in Abrasive Waterjet Cutting: A Traceability-Based Case Study

Claudio Sassanelli, Mariantonietta Ferrante, Salvatore Digiesi, Giorgio Mossa

Proposing a Data driven Model Linking AI and Digital Technologies Adoption with Circular Economy
Outcomes: Preliminary Findings

Francesco Passuello, Rosanna Fornasiero, Laura Macchion

Employees Apps as Sociotechnical Infrastructures for Thinking Hybrid Collaborative Networks:
Evidence from a Manufacturing Organisation

Paula Urze, Paulo Fernandes, Emília Araújo, Ana Pacheco Pereira, Beatriz Andres

Collaborative Agents for Production Negotiation in a Manufacturing-as-a-service Environment

Andy J. Figueroa, Beatriz Andres, Raul Poler, and Paco Santacatalina Marti

10:45 Coffee break (*Ground floor*)

11:15 Research Challenges Panel (*Auditorium - floor -1*)

Moderator: Paul Grefen - TUE

Gustavo Dalmarco -INESC TEC Porto

Heli Kortessalmi - Haaga-Helia University of Applied Science

Radosław Wolniak - Politechnika Śląska

Wico Mulder - TNO

12:45 Lunch (*Ground floor*)

14:15 Keynote 2 (*Auditorium - floor -1*)

Generative AI in the Design, Planning and Operation of Human-Centric Manufacturing Systems

Dimitris Mourtzis, *University of Patras, Greece*

15:15 Parallel Sessions D

D1 - Evolution Towards Collaborative Ecosystems (*Auditorium - floor -1*)

Chair: Adamantios Koumpis

Collaborative Networks in Football: A Multi-Layer Collaborative Network Model for UEFA Euro 2024
Passing Systems

Javad Jassbi, Hamed Jassbi, Jose Barata

A Simulation Framework for Evaluating Collaborative Strategies in Last-mile Logistics

Dionisio Fama Noque, Luis M. Camarinha-Matos and Ana Inês Oliveira

Patterns of AI Adoption in Polish Organisations: From Fragmentation Towards Collaborative
Networks

Radosław Wolniak, Aneta Michalak, Agnieszka Kowalska-Styczeń, and Izabela Jonek-Kowalska

D2 - Distributed Safety-Critical Systems (*Spazio 35 - ground floor*)

Organizers: Alberto Morato, Claudio Zunino

Wireless and Embedded Time-Sensitive Networking for Real-Time Mobile Robotics: Architecture,
Metrology, and Control Performance

Alberto Morato, Federico Tramarin, Claudio Zunino, Manuel Cheminod

AI-Assisted Time-Sensitive Networking (TSN): LLM-Based Gate Control List Synthesis for IEEE
802.1Qbv

Alberto Morato

Rethinking Business Technology Alignment for
Digital Collaborative Ecosystems

A. Luís Osório, Ricardo J. Rabelo, Paula Urze, Tiago Dias, Carlos Gonçalves

D3 - Hybrid CNs for Critical and Complex Situations (*Room Acquario - ground floor*)

Organizers: Thais Baldissera, Ana Inês Oliveira, Filipa Ferrada, Patrícia Macedo

An ISOs-Based Hybrid Collaborative Network for AI-Enabled Aviation Maintenance Ecosystems

Carlos Goncalves, Tiago Dias, and A. Luís Osório

Agentic AI in Hybrid Collaborative Networks for Critical and Complex Situations

Thais A. Baldissera, Ana Inês Oliveira, Cristiano De Faveri and Filipa Ferrada

A Sociotechnical AI Digital Twin Framework for Modelling and Assessing Hybrid Human-Artificial Actor Networks

Vítor Pereira, Fábio Couto, António Lucas Soares

16:30 Coffee break (*Ground floor*)

17:00 Projects Forum & Posters

Projects Forum & Posters - I (*Auditorium - floor -1*)

Chair: Diletta Tosetto

Project & Poster - Smart Transform 5.0: Co-creative transformation towards Industry 5.0

Presentation by University of Applied Sciences and Arts (HSBI), Germany

Project & Poster - DATAWiSE: Intelligent and Sustainable Building Management powered by Cross-Sectoral Lifecycle

Presentation by Universitat Politècnica de València, Spain

Project - HEALTH-LOG-AI: Advancing AI Competencies in Healthcare Logistics

Presentation by University of Siena, Italy

Project - UniMaaS: Unified Modeling and Automated Scheduling for Manufacturing as a Service

Presentation by Universitat Politècnica de València, Spain

Project - PREBIODUNES: PREserving BIODiversity in coastal DUNES from tourism pressure

Presentation by Industrial Systems Institute, Greece

Project & Poster - RéCLaSIF: French Labeled Campus Network for Industry 5.0

Presentation by Ecole des Mines de Saint-Étienne, France

17:00 **Projects Forum & Posters - II** (*Spazio 35 - ground floor*)

Chair: Alberto Morato

Poster - Towards a Hybrid Human-AI Collaborative Platform for Cultural Heritage

Yannis Ioannidis, Maria Roussou, Chairi Kiourt, et al., Greece.

Poster - Designing Hybrid Collaborative Networks for Human-Supervised Robotic Storage

Maria Boluda-Prieto, Joan Lario, Beatriz Andres and Ángel Ortiz, Spain.

Poster - Enabling Agentic Information Systems Using Service Dominant Architecture (SDA): Theorizing Design for the Insurance Business

Peter Weiss, Germany.

17:40 Session organised by EEN - European Enterprise Network (*Spazio 35 - ground floor*)

Chair: Monica Favaro, CNR-ICMATE, EEN sustainability adviser

Panelist:

Filippo Mazzariol, Unioncamere del Veneto, EEN FriendEurope Coordinator

Alberto Baesso, President, Società Italiana Remanufacturing

Mario Spano, Veneto Clima ed Energia

Alberto De Lazzari, Chief Scientist, Larus BA

20:00 Conference dinner

Wednesday – 28 Oct 2026

09:00 Parallel Sessions E

E1 - Collaborative Healthcare Ecosystems (*Auditorium - floor -1*)

Chairs: Izabela Jonek-Kowalska, Agnieszka Kowalska-Styczeń

A Multidimensional Conceptual Model of Territorial Healthcare Collaborative Networks

Meryam Moutaouaffiq, Xavier Boucher, Marius Huguet, Chloé Gouttefangeas, and Thomas Guyonnet

A Collaborative Digital Health Platform for Multi-Actor Coordination in Hypertension Management
Llanos Cuenca, Begoña Martinez-Salvador, Miguel Angel Mateo-Casali, José Manuel Ventura-Cerdá and Enrique Rodilla

The Onion Data Structure: A Layered Model for Temporal and Evolutionary Data Representation in Medical Applications
Kyriakos Chatzidimitriou and Adamantios Koumpis

Designing a Conceptual Framework for AI Literacy in Healthcare Logistics
Ruggero Colombari, Enrico Libera, Elena Pessot

E2 - Resilient Networks in the AI Era (*Spazio 35 - ground floor*)

Organizers: Sanaz Nikghadam-Hojjati, Thomas Schuster, José Barata

Digital Sovereignty at Process Level: Tensions, Trade-offs, and Governance in Collaborative Networks
Andreas Schneider and Thomas Schuster

Augmentation Episodes: A Distributed Human-AI Teaming Framework for Resilient Collaborative Networks in the AI Era
Mario Bosslau and Thomas Schuster

Sovereign Multi-Agent Collaboration: A Compliance-Aware Guardrail Architecture for Resilient B2B Networks
Thomas Schuster and Marian Lambert

The Effects of Generative AI on Collaboration and Social Networks Among Knowledge Workers
Giuseppe Soda, Alessandro Iorio and Leonardo Rizzo

E3 - Collaborative Business Governance (*Room Acquario - ground floor*)

Chairs: António Lucas Soares

Towards a Socio-technical AI Profiling Tool for Supply Chain Contexts: Insights from Iterative Focus Groups
Ricardo Zimmermann, Gaudencio Freires, Cristiano Fontes, João Gomes Jr., Fernanda Freitas, Fabio Couto, Gustavo Dalmarco, António Lucas Soares

A Governance Design Framework for Human-AI Collaboration in SMEs' Production Management
Fábio Couto, Mariana Curado Malta, and António Lucas Soares

Social Media Marketing and SME Performance in Bangladesh: Investigating the Mediating Role of Value Co-creation
Tunazzina Sultana, Sultana Razia Chowdhury, and Mohammed Jamal Uddin

A Hybrid RAG Architecture Based on Multi-Agent State-Graphs
Marcos Terol, Francisco Fraile, Pedro Gómez-Gasquet, Andres Boza

10:45 Coffee break (*Ground floor*)

11:15 Keynote 3 (*Auditorium - floor -1*)

Humans and Robots Together: The Future of Collaborative Assembly Lines
Olga Battaia, KEDGE Business School, France

12:15 Lunch (*Ground floor*)

13:45 Parallel Sessions F

F1 - Explainable AI for Collaborative Healthcare Ecosystems (*Auditorium - floor -1*)

Organizers: Elena Pessot, Sabatina Criscuolo, Daniele Spoladore, Ruggero Colombari

An Explainable and Adaptive Collaboration Framework for Human-AI Cooperation in Type 1 Diabetes Ecosystems

Sabatina Criscuolo, Marisa Pesola, Lutgarda Bozzetto, and Pasquale Arpaia

Towards Explainable Governance of Synthetic Health Data in Collaborative Healthcare Ecosystems

Antonio Pelusi, Alberto Trombetta, Daniele Spoladore, Stefano Braghin

Towards a Collaborative Network for Interoperable and Explainable Job Matching System for People with Disabilities

Daniele Spoladore, Sabatina Criscuolo, Ariele Babini, Federico Bottaro, Elena Pessot, Alberto Trombetta, and Marco Sacco

From Self-Observation to Dermatological Consultation: Public Perceptions of Collaborative AI-Assisted Skin Lesion Assessment

Mirco Gallazzi and Daniele Spoladore

F2 - Navigating the Socio-Technical Frontiers of Digital Ecosystems (*Spazio 35 - ground floor*)

Organizers: Diletta Tosetto, Awlad Sagar, Rosanna Fornasiero, Andrea Zangiacomi

Cohesion in Collaborative, Multi-Actor Business Models

Paul Grefen, Rein van den Bosch, Frank Bosma, Toine van Vliet

Discovering Key Elements for Enterprise Interoperability Graph

Riina Henriksson, Lea Kutvonen

Enabling Collaboration in sustainability through Digitalization and the Role of Supply Chain Resilience

Diletta Tosetto, Andrea Zangiacomi, Laura Macchion, and Rosanna Fornasiero

Including an Embodied Digital Technology in Task Change Reorganizes Social Dynamics of Hybrid Interaction – Observations of Informal Leadership Shifts During Humanoid Robot Commissioning

Bernd-Friedrich Voigt, Tatjana Starosta

F3 - Collaborative Governance of Resilient Ecosystems (*Room Acquario - ground floor*)

Organizers: Ariane Avila, Gustavo Dalmarco, Ricardo Zimmermann

Exploring Collaboration Practices for Circular Strategies in Packaging Value Chains

Gustavo Dalmarco, Julia Anna Oleszczyńska, Barbara Ocicka

Stress-Driven Coalition Dynamics in Hybrid Collaborative Networks

Javaneh Ramezani, Luis Gomes, and Paula Graça

Ecosystem Embeddedness and Post-Disruption Performance: A Configurational Analysis of Resilience Capabilities in SMEs

Ariane Avila, Gustavo Dalmarco, Ricardo Zimmermann, and Rosanna Fornasiero

Controlled Collaboration in European Defence Supply Chains: A Governance Framework for Resilience, Security of Supply and Internationalization

Paulina Zamelek

15:30 Coffee break (*Ground floor*)

16:00 Closing Session & Awards (*Auditorium - floor -1*)

16:30 Farewell

The Liminality of AI: Why We Study AI More Like a Social Actor Than a Tool

Assoc. Prof. Dominik Siemon, LUT University, Finland

Abstract. Artificial intelligence is increasingly moving beyond the role of a passive tool toward that of an active collaborator and co-equal partner in joint value creation. This keynote argues that AI occupies a liminal position between technology and social actor, fundamentally changing how we understand collaboration, value creation, responsibility, effort, and human development. Building on research in human-AI collaboration, social loafing, psychological ownership, and human teamwork, the talk explores why many classical theories of human-human interaction are now becoming relevant for studying AI-enabled collaboration. The keynote discusses how hybrid human-AI networks reshape agency, autonomy, and collaborative dynamics, and why understanding AI as “something in between” is critical for the future design and governance of collaborative ecosystems.

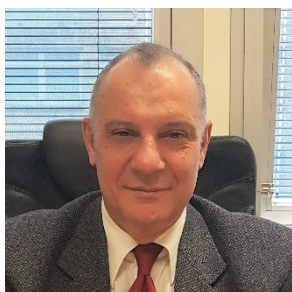


Bio. Dominik Siemon, Dr. rer. pol., is an Associate Professor (tenure track) of Information Systems and Software Development at LUT University, Finland. He serves as Head of the Master's Programme in Digital Systems and Service Development. His research focuses on human-AI collaboration, intelligent information systems, digital service innovation, and the organizational implications of artificial intelligence. His recent work particularly examines AI teammates, AI companions, generative AI in work contexts, and the design of intelligent systems for complex human environments.

Generative AI in the Design, Planning and Operation of Human-Centric Manufacturing Systems

Prof. Dimitris Mourtzis, University of Patras, Greece

Abstract. The transition towards Industry 5.0 leads to human-centric manufacturing systems. However, design, planning, and operation decisions rely heavily on expert knowledge that stays fragmented across tools, documents and people. Generative Artificial Intelligence (AI) and Large Language Models provide access to knowledge through natural language interaction and can generate design variants, process plans, and operational instructions on demand. This work investigates how Generative AI can support engineers and operators across the three phases, without replacing them. At the design stage, LLM-based assistants turn requirements into candidate concepts and descriptions for Computer-Aided Design. At the planning stage, generative models draft and compare process plans for human review. At the operation stage, a conversational assistant coupled with a Digital Twin provides context-aware guidance for maintenance and assembly, while the operator keeps the final decision. A layered reference framework is proposed, in which Generative AI acts as a collaborator with human-in-the-loop. Open challenges include the reliability and explainability of generated outputs, the integration of Generative AI with existing manufacturing systems, and the trust and skills required by operators to work effectively alongside such systems.



Bio. Professor D. Mourtzis — Department of Mechanical Engineering and Aeronautics, University of Patras (UoP) ([Link](#)), has extensive administrative experience and currently serves as Vice-President of the Research Committee of the University of Patras (2020 to date). He is a Fellow of the International Academy for Production Engineering (CIRP), of the International Federation of Information Processing (IFIP WG 5.7), and of the International Federation of Automatic Control (IFAC 5.2). He has served as a member of the Presidential Council and is an active member of the Scientific Committee of the International Association of Learning Factories (IALF), of the European Factories of the Future Association (EFFRA), of the American Society of Mechanical Engineers (ASME), of the Society of Manufacturing Engineers (SME), of the Institute of Electrical and Electronics Engineers IEEE (IEEE), and of the Society of Automotive Engineers (SAE). His scientific field is Manufacturing Systems Planning and Control Methods, and his research interests focus on the Simulation, Design, Planning and Control of Manufacturing

Systems and Networks, on Robotic Systems, on Automation, and on Virtual and Augmented Reality. Moreover, over the past decade his research interests have also focused on the Design, Development and Implementation of solutions based on Cloud Technologies, Digital Twins, 5G Networks, Artificial Intelligence, and Product-Service Systems (PSS). He is actively engaged in research on the Digital Transformation of manufacturing companies and on the application of practices of the Fourth Industrial Revolution (Industry 4.0), as well as of the emerging Fifth Industrial Revolution (Industry 5.0/Society 5.0). He is the author of three scientific books, he has published more than four hundred fifty (450) scientific papers — one hundred thirty-eight (138) in high-prestige international scientific journals, one hundred sixty-seven (167) in international scientific conferences with full-paper peer review, thirty-eight (38) book chapters, sixteen (16) editorials, and four (4) white papers, among others. The unique external citations to his published work exceed 25,000 (h-index 80 / i-10 index: 271).

Humans and Robots Together: The Future of Collaborative Assembly Lines

Prof. Olga Battaïa, KEDGE Business School, France

Abstract. The new generation of assembly lines increasingly relies on close and dynamic collaboration between human workers and robots. Rather than replacing human capabilities, collaborative robotics offers the opportunity to combine the flexibility, creativity, dexterity, and decision-making abilities of people with the precision, strength, repeatability, and computational capabilities of robots. This keynote explores the evolving role of human–robot collaboration in modern assembly systems and the challenges involved in designing truly collaborative production environments. Particular attention is given to task allocation and scheduling, adaptation to individual worker capabilities and availability, safety and ergonomics, and the ability of robotic systems to respond to changing production conditions in real time. Moving beyond a technology-centered perspective, the keynote argues that the successful implementation of collaborative assembly systems requires a human-centered approach in which workers are active participants in the design and operation of intelligent manufacturing systems. The presentation will discuss emerging research directions and industrial opportunities for creating adaptive, resilient, and sustainable assembly lines in which humans and robots work together to achieve higher productivity while improving flexibility and working conditions.



Bio. Prof. Olga Battaïa is a Full Professor at the Department of Operations Management and Information Systems at KEDGE Business School. With an extensive academic and institutional leadership career, she previously served as Associate Dean for Research (2020–2025), where she provided strategic oversight to nine research centers and more than 200 faculty members. She currently serves as Associate Editor for leading journals including IISE Transactions, Omega – The International Journal of Management Science, and Journal of Manufacturing Systems. She is also a member of the Editorial Board of the International Journal of Production Economics and a member of the International Advisory Board for Nexus

2050 (The International Center for a Green and Low-Carbon Hydrogen Economy) and acts as DEI Chair of the IFAC Technical Committee on Management and Control in Manufacturing and Logistics. Prof. Battaïa's research lies at the intersection of supply chain management, sustainable manufacturing, business analytics, and equity-aware decision support. She co-authored more than 270 scientific publications and supervised 18 PhD and DBA students and over 120 Master's students. She has coordinated and contributed to numerous competitive research projects funded by the French National Research Agency, the German Research Foundation (DFG), and the European Union, addressing complex challenges such as decision-making under uncertainty, sustainable and reconfigurable production systems, and human-centric operations management. An internationally recognized speaker, she has presented her work across Europe, Africa, the Americas, Asia, and Australia.

SOCIAL EVENTS

Welcome reception

26th October, 7pm - Centro Culturale S.Gaetano (conference venue)

Kick off PRO-VE 2026 with a relaxed welcome cocktail at the Agora of the conference venue. A perfect opportunity to meet fellow participants, reconnect with colleagues, and start the conference in a friendly and informal atmosphere.



Conference dinner

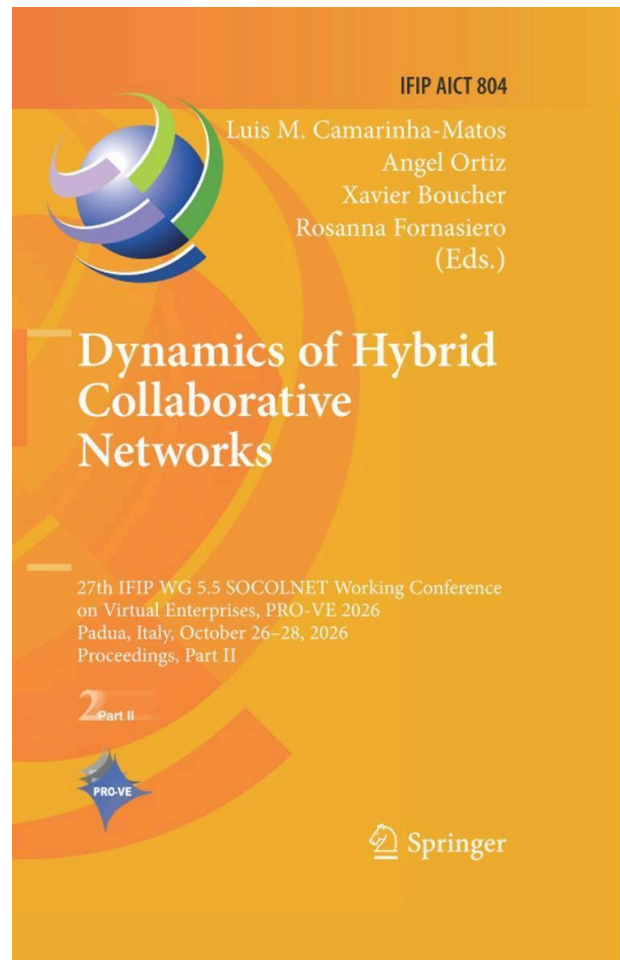
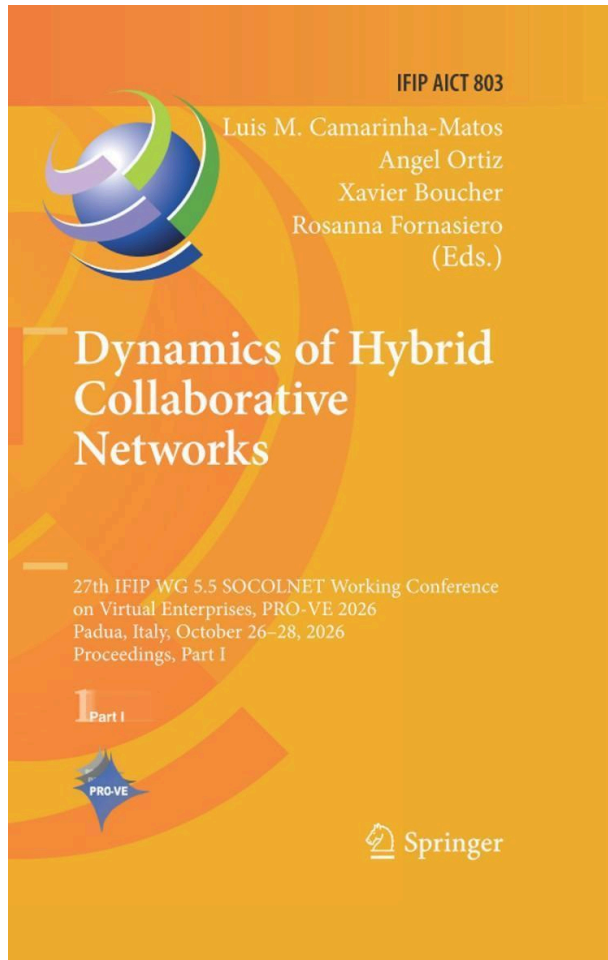
27th October, 8pm - Caffè Pedrocchi (Via VIII Febbraio, 15 – 35122 Padova, Italy)

Join us for the PRO-VE 2026 Conference Dinner at the historic Caffè Pedrocchi, one of Padua's most iconic landmarks. Located in the heart of the city, it is renowned for its elegant architecture, rich history, and unique atmosphere, providing the perfect setting for an unforgettable evening.

Enjoy a delightful dinner while connecting with fellow conference participants in one of the city's most prestigious venues.



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