

PRO-VE 2022

Preliminary Program

Lisbon / London time zone				PRO-VE 2022							
Monday – 19 Sep 2022				Tuesday – 20 Sep 2022			Wednesday – 21 Sep 2022				
09:00	Opening Session			09:00	D1 Architectures for Collaborative Enterprise Integration	D2 A Path Forward Towards the Green Deal	D3 Tutorial Collaborative Innovation through Digital Design Thinking	09:00	G1 Digital Twins in Industry	G2 Service Design for Society 5.0 and Industry 5.0	G3 AI Application in Collaborative Networks
09:30	Keynote 1 Cognitive Digital Twins: connecting the dots of Closed-Loop Lifecycle Management			10:30	Coffee break			10:30	Coffee break		
10:30	Coffee break			11:00	E1 Panel Society 5.0: How to offer citizens integrated services?		E2 Dynamic Interplay of Humans and AI in Collaborative Networks	11:00	Panel Research challenges in Society 5.0 and Industry 5.0		
11:00	A1 Digitalization in Collaborative Networks	A2 AI and Digital Tools for Collaborative Healthcare Networks 5.0	A3 Value Co-Creation in Ecosystems – part I	13:00	Lunch break			13:00	Lunch break		
13:00	Lunch break			14:30	Keynote 2 Collaborative Potential of AI and Human Ingenuity in Co-creating Value in Society 5.0			14:30	Keynote 3 Is resilience enough? Collaborative Networks towards antifragility		
14:30	B1 Collaborative Business Models and Digitalization	B2 Sociotechnical Strategies in Collaborative Systems	B3 Value Co-Creation in Ecosystems – part II	15:30	Coffee break			15:30	Coffee break		
16:00	Coffee break			16:00	F1 Panel Collaborative Lab (COLAB) Models		F2 Poster papers	16:00	H1 Contribution of Digital Transformation to Sustainable Supply Chains	H2 Risk and Resilience in Collaborative Networks	H3 Poster papers
16:30	C1 Agile and Responsive Supply Chains	C2 Digital Transformation Through the Lens of Sociotechnical Systems	C3 Shaping Values Through Collaborative Work	18:00	Conference dinner			17:30	Closing Session & Awards		
18:00	Welcome reception			19:00	Conference dinner			17:45	Closing Session & Awards		
19:00	Welcome reception			19:30	Conference dinner			18:15	Closing Session & Awards		

Monday – 19 Sept 2022

09:00 Opening Session

09:30 Keynote 1:

Cognitive Digital Twins: connecting the dots of Closed-Loop Lifecycle Management

Dimitris Kyritsis, EPFL, Switzerland

10:30 Coffee break

11:00 Parallel Sessions A:

A1: Digitalization in Collaborative Networks

Chair: Claudia-Melania Chituc

Influence of Collaboration in Sustainable Manufacturing Networks

Paula Graça and Luis M. Camarinha-Matos

Knowledge-driven Data Provision to Enhance Smart Manufacturing – A Case Study in Swedish Manufacturing SME

Wei Min Wang, Helena Ebel, Steffen Kohler and Rainer Stark

Toward a Collaborative Sensor Network Integration for SMEs' Zero-defect Manufacturing

Badreddine Tanane, Baudouin Dafflon, Mo-hand Lounes Bentaha, Nejib Moalla and Vincent Ferreiro

A Multi-supplier Collaborative Monitoring Framework for Informatics System of Systems

Carlos Gonçalves, Tiago Dias, A. Luís Osório and Luís Camarinha-Matos

A2: AI and Digital Tools for Collaborative Healthcare Networks 5.0

Chair: Elena Pessot, Daniele Spoladore

Care Pathway as the Basis for Collaborative Business Model Innovation in Healthcare

Julius Francis Gomes, Marika Iivari, Timo Koivumäki, Milla Immonen, Miia Jansson, Minna Pikkarainen, Kirsi Rasmus and Yueqiang Xu

A Semantic-based Collaborative Ambient-Assisted Working Framework

Turgut Cilsal, Daniele Spoladore, Alberto Trombetta and Marco Sacco

Simulation of Patient-centred Scenarios for the Improvement of Transportation Service in Hospitals

Rossana Fulgenzi, Simone Gitto, Gianluca Murgia and Elena Pessot

Digitalization in Professional Football: An Opportunity to Estimate Injury Risk

Laurent Navarro, Pierre-Eddy Dandrieux, Karsten Hollander and Pascal Edouard

A3: Value Co-Creation in Ecosystems – part I

Chair: Shaun West

Towards a Catalogue of Strategy Elements for Specifying a Digital Platform Business Strategy

Frank Berkers, Oktay Turetken, Baris Ozkan and Paul Grefen

Boosting Value Co-creation in Design through the Product-Service System Digital Twin: Questions to be Answered

Marco Bertoni

Value Co-creation in Data-driven Product-Service Systems: An Industrial Perspective

Carl Nils Konrad Toller and Marco Bertoni

Boosting Value Co-creation in the Road Construction Industry through Virtual Prototyping

Giulia Wally Scurati, Alessandro Bertoni and Marco Bertoni

13:00 Lunch

14:30 Parallel Sessions B:

B1: Collaborative Business Models and Digitalization

Chair: Carlos Gonçalves

The Business Ecosystem Perspective in Digital Strategies

Martin van den Berg and Klaas Brongers

Improving Forecasting Capability and Capacity Utilization in Less Digitized Industries Through Participation in the Platform Economy

Jonas Müller, Julian Lassen, Gerrit Hoeborn, Ruben Conrad, Volker Stich and Nick Lober

A Framework for Collaborative Virtual Power Plant Ecosystem

Kankam O. Adu-Kankam and Luis M. Camarinha-Matos

B2: Sociotechnical Strategies in Collaborative Systems

Chair: Paul de Vrieze

Collaborative Networks and Sustainability in Education 4.0: An Approach to Achieve Complex Thinking Competencies in Higher Education

Jhonattan Miranda, María Soledad Ramírez-Montoya, Edgar O. López-Caudana, Yesica Escalera-Matamoros, Arturo Molina

Responsible Research and Innovation through Gender-Responsive Collaborative Virtual Hubs

Ana Inês Oliveira, Sanaz Nikghadam-Hojjati and Filipa Ferrada

Roadmapping towards Mature Collaborative Reconfigurable Manufacturing System

Ehsan Yadegari and Xavier Delorme

B3: Value Co-Creation in Ecosystems – part II

Chair: Tobias Larsson, Xavier Boucher

Designing Value-robust Product-Service Systems by Incorporating Changeability: A Reference Framework

Raj Jiten Machchhar and Alessandro Bertoni

Assessing Digital Platform Requirements from Value Co-Creation Perspective

Noor Jungerius, Baris Ozkan, Onat Ege Adali and Oktay Turetken

Assessing the Readiness of the Emerging Ecosystem (Actor) for the Pay-per-outcome Business Model

Prasanna Kumar Kukkamalla, Veli-Matti Uski, Olli Kuismanen, Hannu Kärkkäinen and Karan Menon

16:00 Coffee break

16:30 Parallel Sessions C:

C1: Agile and Responsive Supply Chains

Chair: Sanaz Nikghadam-Hojjati

Becoming an Agile Organization: Development of a Morphology for Strategic Agile Management Systems

Clara Herkenrath, Ruben Conrad and Volker Stich

A Decision Support System for Better Qualitative Supply Chain Diagnoses

Anthony Fouqué, Matthieu Lauras, Frederick Benaben and Hamideh Afsarmanesh

Blockchain Implementation Process Model for Supply Chains - From Technology Awareness to Scaling

Marc Hübschke, Eugen Buss, Stefan Lier, Elmar Holschbach

C2: Digital Transformation Through the Lens of Sociotechnical Systems

Chair: António Lucas Soares

Exploiting User-generated Content for Service Improvement: Case Airport Twitter Data

Lili Aunimo and Luis Martin-Domingo

Understanding the Organizational Impact of Robotic Process Automation: A Socio-Technical Perspective

Rafael Götzen, John von Stamm, Ruben Conrad and Volker Stich

Impact Maximisation of Collaborative Projects through Informal Leadership

Tiina Leino, Omar Veledar, Georg Macher, Margherita Volpe, Eric Armengaud and Niina Koivunen

C3: Shaping Values Through Collaborative Work

Chairs: Julia Friedrich, Christian Zinke-Wehlmann

Conceptualizing Sustainable Artificial Intelligence Development

Christian Zinke-Wehlmann, Julia Friedrich, Amit Kirschenbaum, Mandy Wölke and Anja Brückner

Value Driven Transformation of Care Work – A Use Case

Vanita Römer, Julia Friedrich, Christian Zinke-Wehlmann, Robert Wolf

Exploring the Barriers and Mitigation Strategies in Collaborative Network Development: A Case Study from Equipment Manufacturing Company

Yan Zhang, Juanqiong Gou and Shuyao He

19:00 Reception

Tuesday – 20 Sept 2022

09:00 Parallel Sessions D:

D1: Architectures for Collaborative Enterprise Integration

Chair: Arturo Molina

Design of a Virtual Platform to Counter Economic Recession

Fernando Zatt Schardosin, Amanda Lentz, Carlos R. De Rolt and Gabriela Botelho Mager

Enterprise Integration and Interoperability in the Footwear Industry: Challenges for Collaborative Digital Manufacturing Networks in Society 5.0

Claudia-Melania Chituc

Collaborative Management of Traffic Accidents Data for Social Impact Analytics

A. Luis Osório, Cláudia Antunes, Luis M. Camarinha-Matos and Carlos Gonçalves

D2: A Path Forward Towards the Green Deal

Chair: Thomas Schuster

A Framework of Collaborative Multi-Actor Approach Based Digital Agriculture as a Solution for the Farm to Fork Strategy

José Barata, Javad Jassbi and Sanaz Nikghadam-Hojjati

Collaborative Optimization Tool for Sustainable Planning of an Agricultural Supply Chain Preserving Farmers' Independence

Ana Esteso, MME Alemany, Ángel Ortiz and Mario Lezoche

Collaborative Eco-Industrial Networks: A Case Study

Ovidiu Noran

D3: Tutorial & Hands-on

Collaborative Innovation through Digital Design Thinking: The Scene2Model Approach

Wilfrid Utz, OMILAB, Germany

Iulia Vaidian, OMILAB, Germany

Xavier Boucher, Ecole des Mines-Saint Etienne, France

10:30 Coffee break

11.00 Parallel Sessions E:

E1: Panel I

Society 5.0: How to offer integrated services to citizens?

Moderator: Angel Ortiz, Luis Osório

Panelists:

- *Pedro Mourisca, ViaVerde*
- *Pedro Pereira, Metropolitano de Lisboa*
- *Francisco Travassos, CTT Locky*
- *Sérgio Silvestre, CLARANET*
- *Rui Ribeiro, IP Telecom*
- *Rui Pimentel, Banco de Portugal (TBC)*

E2: Dynamic Interplay of Humans and AI in Collaborative Networks

Chair: Bernd-Friedrich Voigt, Thomas Suesse

Process Wins and Losses in Dynamic Human-AI Interplay - A Socio-Psychological Research Perspective on Collaborative Performance

Kimberly Meyer and Bernd-Friedrich Voigt

Collaborative System for Question Answering in German Case Law Documents

Christoph Hoppe, Nico Migenda, David Pelkmann, Daniel Hötte and Wolfram Schenck

How Does the Implementation of AI Agents Affect Human Agents' Job Profiles? Insights from Two Industrial Cases

Antonia Schulte, Wilhelm Klat and Thomas Süße

The Social Perception of Robots Scale (SPRS): Developing and Testing a Scale for Successful Interaction Between Humans and Robots

Sarah Mandl, Maximilian Bretschneider, Frank Asbrock, Bertolt Meyer and Anja Strobel

13:00 Lunch

14:30 Keynote 2:

Collaborative Potential of AI and Human Ingenuity in Co-creating Value in Society 5.0
Massimiliano Luca Dragoni, European Commission

15:30 Coffee break

16:00 Parallel Sessions F:

F1: Panel II

Collaborative Lab (COLAB) Models

Moderator: Xavier Boucher

Panelists:

- *Joana Mendonça, President of ANI (National innovation Agency)*
- *José Barata, SFCOLAB*
- *André Matos, DTX*
- *Paulo Reis, DataColab*
- *Joana Maria, VORTEX*
- *Ana Londral, VALUE4HEALTH*
- *TBD*

F2: Poster papers I

Chair: Kankam Adu-Kankam, Paula Graça

I Knew it all Along: There is a Confirmation Bias in Online Mental Health Information Seeking
Katharina U. Siebenhaar & Georg W. Alpers

Developing digital skills by learning Robotic Process Automation (RPA) technology
Julia Siderska, Arkadiusz Jurczuk, Damian Kedziora

Framework for business model change through continual projects of digital transformation. The role of digital capabilities development in SMEs

José M. González-Varona, Natalia Martín-Cruz, Fernando Acebes, Adolfo López-Paredes

From product to service ramp-up management

Juliette Héraud, Shervin Kadkhoda-Ahmadi, Khaled Medini

19:30 Conference diner

Wednesday – 21 Sept 2022

09:00 Parallel Sessions G:

G1: Digital Twins in Industry

Chair: Filipa Ferrada

A Photorealistic Digital Twin for a Tank Truck Washing Robotic System

Luís Vicente, Pedro Lomelino, Fernando Carreira, Francisco M. Campos, Mário J. G. C. Mendes and J. M. F. Calado

Incorporating a Prediction Engine to a Digital Twin Simulation for Effective Decision Support in Context of Industry 4.0

Rushan Arshad, Paul Ton de Vrieze and Lai Xu

Cognitive Digital Twin enabling Smart Product-Services Systems: A literature Review

Daisy Valle Enrique and António Lucas Soares

G2: Service Design for Society 5.0 and Industry 5.0

Chair: Gary Frigidis

From Digitization to Digital Collaborative Service Designs: A Systematic Literature Review on the Categories, Concepts and Constructs of Industry 5.0

Nicola Moosbrugger, Florian Maurer and Jens Schumacher

Customer-Centric Service Design: Featuring Service Use in Life Practices

Garyfallos Frigidis and Dimitri Konstantas

Designing Smart Products for Industry 4.0 – An Information Systems Architecture Prototype

Günther Schuh, Max-Ferdinand Stroh and Paul Krüger

G3: AI Application in Collaborative Networks

Chair: Ana Inês Oliveira

Characterization of the Spatiotemporal Behavior of a Sweeping System Using Supervised Machine Learning Enhanced with Feature Engineering

Bechir Ben Daya, Jean-François Audy and Amina Lamghari

Using Evolutionary Algorithms to Promote Sustainable Collaboration Networks through Partner Selection

Ricardo Santos, Polinpapilinho F. Katina, Jose Soares, Pedro Carmona Marques, Anouar Hallioui, Joaquim Monteiro and Ona Egbue

Maturity of Artificial Intelligence in SMEs: Privacy and Ethics Dimensions

Thomas Schuster and Lukas Waidelich

10:30 Coffee break

11:00 Panel III

Research challenges in Society 5.0 and Industry 5.0

Moderator: Luis M. Camarinha-Matos

Panelists:

- Arturo Molina, Monterrey Tec, Mexico
- Ovidiu Noran, Griffith University, Australia
- Gary Frigidis, International Hellenic University, Greece
- Paul Grefen, University of Twente, Netherlands
- Matthieu Luras, IMT Albi, France
- Christian Zinke-Wehlmann, Institut für Angewandte Informatik (InfAI), Germany
- Thomas Schuster, Pforzheim University, Germany

13:00 Lunch

14:30 Keynote 3:

Is resilience enough? Collaborative Networks towards antifragility

Salvatore Ammirato, University of Calabria, Italy

15:30 Coffee break

16:00 Parallel Sessions H:

H1: Contribution of Digital Transformation to Sustainable Supply Chains

Chair: Ricardo Zimmermann

The Role of Visibility and Trust in Textile Supply Chains

Ricardo Zimmermann, César Toscano, João Oliveira and Antonio Carrizo Moreira

Impacts of Digital Transformation on Supply Chain Sustainability: A Systematic Literature Review and Expert Assessment

Martha Orellano and Sanaa Tiss

Meeting the Challenges of Collaborative Network Compliance – An Exemplary View

Oyepaju Oyekola, Lai Xu and Paul de Vrieze

H2: Risk and Resilience in Collaborative Networks

Chair: Tiago Dias

A Simulation Framework Dedicated to Characterizing Risks and Cascading Effects in Collaborative Networks

Tianyuan Zhang, Jiayao Li and Frédérick Bénaben

A Risk Model to Promote Collaborative Logistics Networks

Vitor Anes, António Abreu, Ana Dias and João Calado

Resilience and Sustainability of Freight Transport: A Comprehensive Review

Nesrine Kharrat, Nadia Hamani, Mounir Benaïssa and Lyes Kermad

H3: Poster papers II

Chair: José M. Gonzalez-Varona

AI-based crisis management utilizing scenarios

Stefan Leachu, Stefanie Berninger, Jokim Janßen and Volker Stich

Machine Learning Algorithm to Predict Crises in Psychotherapy

Friedrich-Samuel Taubitz, Katharina Ulrike Siebenhaar, Björn Büdenbender and Georg W. Alpers

Simulation-Based Assessment of Access Gates Fluidity at a Seaport during a Major Expansion Project

Ben Daya Bechir and Jean-Francois Audy

17:30 Break

17:45 Closing Session & Awards