



**PRO-VE 2019**

**20 th IFIP/ SOCOLNET Working Conference on Virtual Enterprises  
*Collaborative Networks and Digital Transformation***

23-25 September 2019 – Turin, Italy

**Scientific workshop composed with two special sessions**

**COLLABORATIVE DECISION-MAKING FOR VALUE CREATION NETWORKS LIFE-CYCLE MANAGEMENT**

**Abstract:** Value creation networks aim at efficient and flexible industrial symbioses of enterprises contributing to a value chain. The efficiency and flexibility of process configuration and optimization within these networks is a core challenge in today's manufacturing industries and influence their supply chain environments.

Collaborative decision-making is considered as a key capability of these flexible and changing organizations: enterprises are required to observe and react in a time-efficient manner to changing conditions of value-creating networks they are participating in. The baseline for this decision-making capabilities has been established by digitalization and connectivity initiatives in recent years: integration of physical and virtual layers in the industry have resulted in smart production systems and logistic chains; inter-organizational collaboration networks target novel, connected value chains and business models that advance the development of innovative digital product-service systems, impacting manufacturing processes.

The scientific workshop aims at gathering scientific points of views on complementary challenges for the design and implementation of 'data-based collaborative decision-making' for value networks life-cycle management:

- Challenge 1: the methodological and technological advances to manage industrial data sets that enable sharing data within trusted networks, as input for decision-making processes. These industrial data markets are confronted with (a) security, privacy and data sovereignty, (b) data quality, interoperability and corresponding data standards, (c) cross-domain enabling data exchange using data context brokers, semantic interoperability, and data relevant contracting, (d) novel technical solutions on data collection, data access and data analytics layer (e) ecosystem and community management to ensure ethical code of conduct and legally binding and business compliant certification frameworks.
- Challenge 2: The integration of the heterogeneous landscape of data, information and knowledge required to enable collaborative decision-making for planning, operation and post-operation phase. With sensors and smart devices providing huge data streams in real time on different levels of abstraction and from varying internal and external providers, there is still a strong need of human knowledge to interpret outcomes and to make possible continuous organizational learning reflecting market evolutions.
- Challenge 3: The development, experimentation and validation of collaborative decision-making solutions, to support decision processes at different stage of value network life-cycle management: design and configuration of network, operation management, upgradability of the solution.

**To address these challenges, the workshop gathers two special sessions (see below):**

- **Data management to support collaboration in value creation network's life-cycles**
- **Collaborative decision-making for life-cycle management of value creation networks**

**The workshop is supported by the following research projects:**

- DIGIFoF - The FOF-DESIGNER: Digital Design Skills for Factories of the Future, Erasmus+ Project
- DISRUPT - Transform manufacturing for Industrie 4.0, H2020 Project
- COFINDUS - Sustainable Industrialization of Territorial Ecosystem, AURA Region International Project



**PRO-VE 2019**

**20 th IFIP/ SOCOLNET Working Conference on Virtual Enterprises  
*Collaborative Networks and Digital Transformation***

23-25 September 2019 – Turin, Italy

**Special Session 1- Data management to support collaboration in value creation network's life-cycles**

This special session addresses the two first challenges of the workshop, thus the integration and management of data, information and Knowledge to support these collaborative life-cycles.

Topics of interest include but are not limited to:

- Data integration and interoperability for value network life-cycle management.
- Ecosystems of industrial data marketplace (e.g. architectures, reference processes, certification frameworks and standards)
- Data usage control and identity management (e.g. identity management, access control, policy enforcement environment)
- Data access service and usage (e.g. automated contracting data access capabilities like secrecy, time to live, anonymization, separation of duties, scope of usage) to support collaboration.
- Data analysis to create added-value
- Analysis, visualization and knowledge management techniques (e.g. analysis support, preventive vs corrective approaches)

Coordinators

- Pr. Dimitris Karagianis, [dk@dke.univie.ac.at](mailto:dk@dke.univie.ac.at)
- Dr. Mario Lezoche, [mario.lezoche@univ-lorraine.fr](mailto:mario.lezoche@univ-lorraine.fr)

**Special Session 2- Collaborative decision-making for life-cycle management of value creation networks**

This special session addresses the third challenge of the workshop, on collaborative decision-making processes and solutions to support life-cycle management.

Topics of interest include but are not limited to:

- Collaborative decision making techniques for value creation (e.g. intelligent/smart mechanisms, machine learning and training)
- Conceptual modelling and configuration methods to manage collaborative decision making (e.g. knowledge models for machine interpretation, machine learning, data models, data policy administration and evaluation)
- Collaborative decision-process for value network creation and life-cycle management
- Decision-Making to support for value creation in circular economy
- Collaborative management and governance structures of value creation networks (e.g. digitized business models, domain models, collaboration models)
- Data driven solutions for collaborative industrial networks life-cycle management (e.g. zero-defect manufacturing, additive manufacturing, disruptive business models)

Coordinators:

- Pr. Xavier Boucher, Mines Saint Etienne, France, [boucher@emse.fr](mailto:boucher@emse.fr)
- Pr. David Romero, Tecnológico de Monterrey, Mexico, [david.romero.diaz@gmail.com](mailto:david.romero.diaz@gmail.com)

**Submission procedure:** Papers accepted for this session are included in the PRO-VE 2019 conference proceedings and follow the same reviewing process.

**Important dates:**

- Abstracts: 17 Mar 2019
- Full paper: 07 Apr 2019
- Acceptance notification: 18 May 2019
- Camera ready: 28 May 2019

Acceptance of papers is based on the full paper (up to 8 pages). Each paper will be evaluated by three members of the International Program Committee. However, prospective authors should submit a short abstract in advance, in order to check if the proposed topic fits within the conference scope. When submitting on the web site, you have to indicate the name of the special session.

Submission on: [www.pro-ve.org](http://www.pro-ve.org), with copy by email to the chairs of the special session.