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Special Issue on: "Digital Transition: Towards Complex and Resilient Inter-Enterprise Collaboration Processes"

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Achieving digital transformation refers to a variety of models, mechanisms, tools and platforms with a large number of collaboration issues. This special issue aims to present relevant research addressing effective digital transformation initiatives, highlighting how collaboration structures and processes contribute to value co-creation.

Regardless of the specificities of the application domains, digitalisation shares the common need to connect and interoperate multiple stakeholders, business processes, software components, etc., in a networked environment.

Digitalisation and intense interconnection of components, systems, products, and processes trigger the development of new collaborative business models. The implementation of digital transformation is requested to ensure connectivity with the existing, as well as the new, involved digital assets. These implementations are supported by a variety of approaches, fostering networked collaboration models: knowledge engineering, trust modelling, competency models, negotiation and contracting, collaborative business processes, interoperability, security infrastructure and blockchains, smart contracts, etc.

In addition, research methodologies may deal with the variety and the reliability of data sources, the exploitation of IoT networks, the efficiency of decision support systems, the integration of ontologies and semantic enrichment in integrated computational and physical capabilities (e.g. cyber-physical systems). Moreover, the digital transition towards agile and resilient processes requires the development of dynamic capabilities considering both qualitative and quantitative latent factors with more complex modelling aspects.

Furthermore, collaboration processes with AI techniques for massive data exploitation and decision-making contribute to creating the idea of sensing, smart and resilient systems where concepts, models, IT solutions, networks of machines or subsystems, etc., are relevant research topics.

The papers of interest to this special issue are ideally expected to contain already implemented case studies. The Special Issue is open to any international submission addressing the scope and topics below. The Guest Editors will also invite substantially extended versions of selected papers presented at the IFIP PRO-VE'2021 Working Conference on Smart and Sustainable Collaborative Networks 4.0

Subject Coverage

Suitable topics include, but are not limited, to the following:

- Digitalisation approaches and their impact on collaborative networks
- Simulation and visualisation of collaborative networks
- Blockchain technology and smart contracts in collaborative networks
- Ontology for collaboration,
- Collaborative knowledge exchange mechanisms
- Interoperability requirements for digital transformation
- Model-driven engineering and interoperability
- Interoperability of IoT networks
- Collaborative IoT and CPS for smart manufacturing
- Machine/deep learning and big data analytics for collaborative CPS applications
- Intelligent decision support systems in collaborative networks
- Scheduling, optimisation and logistics management in collaborative networks
- Using VR, AR, XR for collaborative network engineering / management

Notes for Prospective Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. In case of publication of an extended version from PRO-VE'2021, the article must be sufficiently different to make it a new, original work. As a guideline, the rewritten article can have a similarity index with the original conference paper of no more than 50%.

All papers are refereed through a peer-review process.

All papers *must* be submitted online. To submit a paper, please read our [Submitting articles](#) page.

During the paper submission, please indicate the Special Issue's title.

Please send a copy of your submission systematically to Prof. Néjib Moalla.

Important Dates

Manuscripts due by: *31 March, 2022*

Notification to authors: *15 June, 2022*

Final versions due by: *15 September, 2022*