



Smart and Sustainable Collaborative Networks 4.0

22nd IFIP/SOCOLNET Working Conference on Virtual Enterprises



In recent years, PRO-VE Conferences have introduced the notion of Collaborative networks 4.0 (CN4.0) as the new generation of collaborative networks, in the era of applied Artificial Intelligence and Digital Transformation. Meanwhile since last year, the world has encountered major health and economic crises caused by the Corona pandemic, emphasizing that disruptive situations, at different scales, tend to be increasingly frequent, while having strong impact in the society. Smart and digital technologies supporting agility, scalability, resilience, and adaptability, characterize CN 4.0. These properties have become critical features for most sectors of our modern societies, including manufacturing industry and services sectors. CN 4.0 can contribute to building a more resilient and sustainable world.

Agile and sustainable systems and business models, based on open collaborative processes, are not only an answer to the increasing need for customization but can also provide higher resilience, i.e. joint reconfigurations of market-offers, production processes, and consumption patterns, among others. Digitalization of both products and services enable a transition towards a larger vision of value creation: digitalization strengthens research trends on societal impacts and makes it possible to progressively focus on more ecological value chains, based on circular and collaborative economy.

Combined with the current boom of applied Artificial Intelligence and learning, Collaborative Networks show high potentials to boost Industry 4.0. But digitalization also concerns many other activity sectors where agility, resilience, and sustainability are key challenges, e.g. the Health 4.0, Agriculture 4.0, Cities 4.0, Transportation 4.0, Logistics 4.0, Education 4.0, and even Tourism 4.0. With an eye on this diversity of application fields, PRO-VE 2021 will provide a forum for sharing experiences, discussing trends, and identifying new opportunities, thus introducing innovative solutions for the new generation of **Smart and Sustainable Collaborative Networks 4.0**.

Contributions are invited from a wide range of disciplines, both from the Engineering/science and the Managerial/Socio-Human communities, including: industrial engineering, computer science, manufacturing, organization science, logistics, managerial and social sciences, and the above mentioned 4.0 sectors, which are well tuned to fuel both the interdisciplinary nature of the research and development on Collaborative Networks, as well as the multidisciplinary networking spirit of the PRO-VE Working Conferences.

IMPORTANT DATES

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|------------------------------|-------------------|
| ▪ Abstract Submission | March 15, 2021 |
| ▪ Special Session Submission | February 29, 2021 |
| ▪ Full paper submission | April 16, 2021 |
| ▪ Acceptance notification | May 31, 2021 |
| ▪ Camera ready copy | June 20, 2021 |

*Proceedings to be published by **Springer**, IFIP AICT series, and will be submitted to be indexed by Scopus, Web of Science, and DBLP.*

Evaluation of papers will be double-blind, based on full text, and considering their original scientific and technological contributions. However, prospective authors should also submit a short abstract to the conference site in advance, in order to be checked if the proposed topic fits within the conference scope.

Paper submission: www.pro-ve.org



Topics

- Artificial Intelligence and digital transformation for collaborative models, platforms and systems
- Distributed cognition in collaborative systems
- Business ecosystems and collaboration in Industry 4.0
- Collaborative and sustainable business models for production systems
- Cloud-based manufacturing
- Manufacturing as a collaborative Service (MaaS)
- Cyber-physical systems and their applications in collaborative network 4.0
- Smart & collaborative product-service systems
- Collaborative e-services for sustainable networks
- Value co-creation processes
- Hybridization of collaboration – organizations, people, machines, systems
- Skills, competencies and human factors in the digital transition
- Agility, resilience and sustainability of networked organization
- Risks, performance, and disruptions in collaborative networked systems
- Agile business models and value networks
- Value creation and social impact of collaborative networks
- Monetization of collaboration
- Collaboration for circular economy and sustainable industrial systems
- Collaborative healthcare networks; Resilience and collaboration for health systems
- Digitalized and collaborative logistics and transportation networks
- Smart and resilient supply, production, or distribution networks
- Collective intelligence and collaboration in advanced/emerging applications
- Big data analytics for distributed and collaborative intelligence
- Semantic data/service discovery, retrieval, and composition, in a collaborative networked world
- Ontologies for collaborative networks
- Ethics, trust, culture of collaboration and sustainability in CNs
- Open application fields:
 - Collaborative manufacturing and factories of the future
 - e-health and care,
 - Food, agribusiness, agriculture 4.0
 - Crisis and disaster management
 - Digital supply chains
 - Collaborative e-government
 - Mobility networks
 - Urban logistics and smart cities
 - Collaborative energy systems



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