

How will blockchain evolve logistics and supply chain management?

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The session aims to study the perspectives and prospects of blockchain and smart contract and the applications in logistics and Supply Chain Management (SCM). In the light of the salient characteristics of blockchain and smart contract [1], the recent literature has already explored its great potential in operations management, including manufacturing [2], logistics and SCM [3]. The most promising applications are, for example, supply chain digitalisation (e-CMR, e-B/Ls), product provenance and asset traceability [4], secure data exchange and transaction, or autonomous IoT devices based on smart contracts (see the application cases surveyed in [5]). However, since it is still in its infancy, some questions, especially related to the field of logistics and SCM, have not been adequately studied, for examples, the issues of cost-effectiveness and sustainability, transparency with pseudonymity in large and multi-actor networks, blockchain-based distributed logistics optimisation. Application impediments should also be further studied.

This special session provides a forum for researchers and practitioners investigating the applications of blockchain and smart contract in logistics and SCM, including works of conceptual framework development, proof-of-concept or demo, real-life use cases. Examples of topics are (but not limited to):

- Adaptation of blockchain for logistics and SCM digitalisation, analysis of scalability, time- and cost-effectiveness, sustainability;
- Blockchain and smart contract for multi- or synchro-modal freight transport;
- Open, private or consortium blockchain, data governance and privacy
- Interoperability for seamless and secure data exchange and transaction;
- Product and asset visibility and traceability in supply chain;
- Architecture and mechanism design in real-life applications;
- Protocols and algorithms for distributed, federated optimisation in large scale logistics network;
- Smart contract and IoT devices or platforms for logistics and SCM;
- Applications in supply chain finance.

Submission Instruction

All submissions must be done by email to bcscm2020@inria.fr.

Talk proposals should include a title, a short abstract and a PDF document featuring either a 1-page abstract, a short paper from maximum 5 pages, or a slide deck file.

An author of an accepted paper is required to register for the conference at the author rate and the paper must be presented by an author of that paper at the conference unless the session co-Chairs grant permission for a substitute presenter before the conference. Accepted and presented short papers will be published in the IEEE Xplore Digital Library.

References

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- [5] N. Kshetri, Blockchain's roles in meeting key supply chain management objectives, *Int. J. Inf. Manag.* 39 (2018) 80–89. <https://doi.org/10.1016/j.ijinfomgt.2017.12.005>.