

Special Issue on
**Scalable Distributed Decision-Making and
 Coordination in Large and Complex
 Systems: Methods, Techniques, and
 Models**

CALL FOR PAPERS

Human society, global economy, and Internet are becoming ever more decentralized while millions of computers connected to the Internet facilitate engineering of systems whose scale goes beyond spatial and computational boundaries of individual organizations.

The decision-making authority in this context is distributed throughout a system and the decisions are made locally arising from interactions of an individual with the rest of the system and with its environment. A desired global behavior following the identifiable interest of the whole system is the result of system intelligence that emerges from the system's belief system and system's collective actions and, as such, is a shift away from the hierarchical system paradigm. Distributed Decision-Making (DDM) models are usually used to support group decision-making in such large and complex systems where each agent holds only limited information and where the cooperation between agents is crucial for the system's performance.

In this special issue, we invite the submission of original research articles that focus on the design and implementation of new methods, techniques, and models that adapt or hybridize findings from Distributed Optimization, Multi-Agent Systems, Network Science, and Distributed Computing and facilitate distributed/parallel/multi-agent decision-making and coordination for solving complex computational and real-life problems in large systems. Moreover, we welcome articles focused on any aspect of intelligent and distributed decision-making and coordination in large and complex systems including its formal analysis, with an intention to balance between theoretical research ideas and their practicability. Review articles on the State-of-the-Art in DDM are also welcome.

Potential topics include but are not limited to the following:

- ▶ DDM and distributed coordination models and algorithms
- ▶ DDM architectures and protocols
- ▶ DDM ownership
- ▶ Delegation and direct participation in DDM
- ▶ Emerging behaviors in DDM
- ▶ Fault-tolerance, reliability, and availability in DDM
- ▶ Hybrid DDM in systems involving software agents and human actors
- ▶ Individual versus system DDM performance
- ▶ (Meta)-heuristics for DDM
- ▶ Network intelligence and DDM
- ▶ Resolving gridlocks in DDM organizational structure
- ▶ Self-organization and adaptability of DDM
- ▶ Specification, semantics, verification, and testing of DDM
- ▶ Time-efficiency in DDM
- ▶ DDM in groups and crowds, Internet, logistics, multi-robot systems, and transport
- ▶ DDM in intelligent grid and cloud infrastructures
- ▶ DDM in mobile adaptive networks
- ▶ DDM in unmanned aerial vehicles

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/complexity/sddm/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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