

Proposal for Special Session at IEEE CASE 2021

Goal:

A semiconductor supply chain is an extremely complex and dynamic global system that involves multiple companies and sites. This is the reason semiconductor supply chains are often described with the terms semiconductor supply network or semiconductor supply chain network. The cycle times of the semiconductor supply chains vary from a few weeks to several months. Due to the extreme diversity and complexity of semiconductor manufacturing systems, several specialized semiconductor companies collaborate within the same supply chain.

Collaboration results in the exchange of ideas, knowledge, working together on issues, and minimizing different types of risks. This requires companies to share data and information to develop problem-solving approaches. This phase is important because it requires these companies to agree with each other on the definition of the concepts they use, which facilitates the analysis of the problems. These data or ontologies may be used to simulate, test resolution approaches, etc. Therefore, it is necessary to specify how we envisage ontologies, what characteristics are required, what is the degree of reliability of the proposed ontology concerning the problems to be treated.

The aim is to highlight leading-edge research on the sharing of knowledge and ontologies with a special focus on semiconductor supply chains.

Session Title: Collaborative ontologies for semiconductor Supply chains

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Expected contributions:

1. “Blockchain based Trust in Ontology” by Christoph Summerer and Emanuel Regnath
2. “Collaborative Ontology Development – Bridging the Gap Between Knowledge Engineers and Domain Experts” by Vitalis.Wiens and George Dimitrakopoulos
3. “An holistic ontology for sustainable supply chains” by Ismail Abdelgafar and Thomas Irene Eliza
4. Investigating Semantic Web as an enabler for supply chain collaboration in the domain of semiconductor and connected supply chains by Ti Yun and Moder Patrick
5. Ontologies by Frank Wawrzik and Prof. Dr. Christoph Grimm
6. “Reference Paper Title 4” by Name of First/Second Author

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