# System of Systems Engineering Collaborators Information Exchange (SoSECIE)

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**Multi-Dimensional Classification of System of Systems**

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#### Abstract

An increasing number of application domains have to deal with system-of-systems (SoS) with the purpose to design or integrate a number of systems to create value that cannot be obtained from single systems alone. Although there seems to be a general understanding of what an SoS is, different types of SoS appear to be needed for different contexts. A number of studies have distinguished these different types of SoS and proposed various classifications. In general, though, each study proposes a classification from a particular, fixed perspective, which as such leads to a limited view of the SoS. This presentation will propose a novel multi-dimensional classification approach that builds on and enhances the reported existing classifications. In contrast to previous studies, a multi-dimensional classification of SoS is presented that has been derived after a thorough domain analysis process. The multi-dimensional classification is represented as a feature diagram that defines seven perspectives, with a total of 26 different types of SoSs, from which multiple different configuration types can be derived.

#### Biography

Bedir Tekinerdogan is full professor and chairholder of the Information Technology group at Wageningen University in The Netherlands. He received his MSc degree and a PhD degree in Computer Science from the University of Twente in The Netherlands. Until 2008 he was a faculty member at University of Twente, after which he joined Bilkent University until the end of 2014. At Bilkent University he has founded and led the Software Engineering Group.

He has more than 25 years of experience in software/systems engineering and information technology. He is the author of around 300 peer-reviewed scientific papers. He has been active in dozens of national and international research and consultancy projects with various large software and systems engineering companies whereby he has worked as a principal researcher and leading software/systems architect. He has developed and taught around 20 different academic courses and has provided software/systems engineering courses to more than 50 companies in The Netherlands, Germany, and Turkey.

His current research interests are in systems engineering, system of systems engineering, socio-technical systems, cyber-physical systems, artificial intelligence, machine learning, and information technology.

More details can be found on his LinkedIn Profile: https://www.linkedin.com/in/bedir.