



## OFFICE OF THE DEPUTY ASSISTANT SECRETARY OF DEFENSE SYSTEMS ENGINEERING

### System of Systems Engineering Collaborators Information Exchange (SoSECIE)

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11:00 a.m. to Noon Eastern Time*

#### **A Conceptual Model for Analyzing Information Quality in System-of-Systems**

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A System-of-Systems (SoS) is an integration of a finite number of Constituent Systems (CSs), which are networked together for achieving a certain higher goal. Therefore, integration is the key viability of any SoS. Although the integration of CSs can be achieved by the exchange of information, no existing work has considered the quality of such information. Without considering Information Quality (IQ), a CS may depend on inaccurate, incomplete, inconsistent, invalid, and/or untrustworthy information, which might lead to its failure, and in turn to catastrophic incidents in the case of critical SoS. The main objective of the brief is proposing a novel conceptual model that provides the required concepts for analyzing for SoS. We illustrate the utility of the model with an example concerning the Intelligent Transportation System (ITS) domain.

#### **Biography**

Dr. Mohamad Gharib is currently a postdoctoral researcher under the supervision of Prof. Andrea Bondavalli at the University of Florence. He is conducting research in modeling and analyzing Cyber-Physical System of Systems, with special emphasis on three main areas: 1- Information Quality, 2- Functional Safety Requirements and 3- Privacy Requirements.

He was a postdoctoral researcher under the supervision of Prof. John Mylopoulos at the Department of Information Engineering and Computer Science, University of Trento, Italy. He has obtained a Ph.D. in April 2015, from the same University, under the supervision of Prof. Paolo Giorgini. His Ph.D. work mainly focused on Modeling and Reasoning about Information Quality Requirements for Socio-technical Systems.