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## **Just Enough Ontology for Innovation in Systems Engineering**

### **Summary**

Designing and implementing systems capable of capturing and expressing the complex and rapid dynamic transformations of our contemporary information intensive operational environments, requires inherent capabilities to support ongoing innovation.

In order to provide these capabilities, systems engineers need to be able to understand and manage the underlying and emergent socio-technical complexities that enable innovation, and in their evolutionary contexts. Ontologies are among the most popular artefacts adopted by information management science in recent years to support the development and management of complex information structures. However developing ontologies 'fit for purpose' can become a massive undertaking requiring considerable resources.

In this tutorial , we follow the footprints of 'just enough' approaches established in the field of 'structured analysis' (Just Enough Structured Analysis, Ed Yourdon), and propose 'just enough' ontology development approach for systems engineer, with particular regard to the role of agility in promoting and sustaining innovation.

This tutorial contributes two complementary perspectives to systems engineering: ontology development [1] and open innovation for operational intelligence [2],.

It is based on recent publications by the author on the respective subjects.

### **Tutorial Structure (Draft Outline, can be adjusted)**

- Systems Engineering , an Overview
- The role of innovation in Systems Engineering
- Open Innovation, and its impact on systems development and management
- The role of conceptual modelling
- Just Enough Ontology Engineering : an overview of principles and artefacts
- Interactive Session with Participants

**Tutorial Duration:** half a day (4 hours)

**Tutorial Target Audience:** Systems Engineers who need to acquire familiarity with ontology engineering concepts and techniques

[1] <http://www.cutter.com/bia/fulltext/reports/2009/03/index.html>

[2] <http://cutterconsortium.com/content/bia/fulltext/reports/2008/12/index.html>

**ABOUT THE TUTOR:**

Paola Di Maio is an information systems engineer, with more than ten years experience in researching and lecturing information management and knowledge engineering. She speaks fluently four languages, holds an MSc in Information Systems, a BA Hons in International Business. She has a professional background in information, communication and intellectual property, and covered a variety of roles, from communication to research and management. She specialises in Operational Intelligence and Systems Engineering, and has been publishing authoritative, cutting edge papers for the Business Intelligence and Enterprise practice at Cutter Consortium ([cutter.com](http://cutter.com))