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# **From Enterprise Interoperability to Service Innovation: European Research Activities in Future Internet Enterprise Systems**

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**Abstract.** The speech will describe the recent evolutionary paths of European research about Enterprise Interoperability. In 2006, the Enterprise Interoperability cluster of European projects coined the term ISU (Interoperability Service Utility) as the new IT infrastructure able to provide interoperability services to all SMEs, at low cost and under non-rivalry and non-discriminatory principles. This concept has been studied and developed further by the COIN flagship Integrated Project (COllaboration and INteroperability for networked enterprises), coordinated by TXT e-solutions, which started in 2008 and developed a first prototype of ISU by means of a dynamic federation of open and trusted Generic Service Delivery Platforms as well as envisaging a set of innovative business models for Enterprise Interoperability as a Service-Utility. More recently, the advent of EU 2020 Strategy and Digital Agenda for Europe confirmed the importance of having “interoperability and standards” as one of the most important pillars for a single digital market for European citizens and enterprises. This evident commoditization trend could induce readers to think that in 10 years time interoperability will not matter anymore (N. Carr “IT does not matter”) and that it will soon be absorbed by Cloud Computing and Future Internet as one of the fundamental services of a so-called Universal Business System. However, more and more eminent scientists tend now to agree that it is when a technology really becomes a utility and apparently does not matter anymore (Z. Turk calls it sedimentation) that innovation could find the most fertile and promising ground to develop and grow. Based on the sound and solid base of Future Internet core platform and enterprise interoperability utility infrastructure, a new project, MSEE (Manufacturing SERVICE Ecosystem), coordinated by TXT and started in October 2011, is now trying to explore how the commoditization and openness of IT could become an enabler for service innovation in the manufacturing industry, allowing virtual factories and enterprises to adopt a value co-creation and service dominant logic instead of a traditional perspective of producing and selling just physical goods. It is thanks to Enterprise Modelling and Interoperability as an integrated part of a Universal Business System that a milling machine industry could sell “holes per minute” or that an aircraft engine industry could sell “flying hours” or that a traditional car manufacturer could sell “mobility kilometers”. As a future perspective, the speech will also address the key question whether technical-service-business innovation, implemented for instance by the Factories of the Future and the

MSEE project, could be sufficient for European manufacturing industry to overcome the current economic crisis or, instead, a re-thinking of skills and competencies of employees is needed in order to implement and take up the changes imposed by innovation. In this perspective, a new research initiative, coordinated by TXT and called TELL ME (Technology Enhanced Learning Livinglab for Manufacturing Environments), is going to be launched in November 2012 with the aim of implementing human-centric manufacturing and innovative methods and solutions for blue collar workers lifelong training, via open innovation and participative creativity Living Labs.

**Keywords:** enterprise interoperability; service innovation; Future Internet; Universal Business System; manufacturing industry

## **Brief Biography**

After several experiences in the research and software development domain, since July 2000, Sergio Gusmeroli is director of TXT Labs Corporate Research unit, counting now more than 20 researchers located in the TXT laboratories of Milano, Genoa and Bari. In the specific field of ICT infrastructures and architectures for enterprise interoperability and collaboration, his main research activities have been focusing on the following 3 major themes:

- Platforms and architectures for enterprise software and applications interoperability;
- Methodologies, models and software tools to support collaborative business in manufacturing;
- Methodologies, models and software tools to support the vision of the Internet of Things.

Sergio has been recently coordinating the European Commission FP7 ICT COIN (COllaboration and INteroperability for networked enterprises) Integrated Project, successfully concluded in December 2011 and he is currently the Technical Coordinator of the FP7 Factories of the Future MSEE (Manufacturing SERVICE Ecosystem) Integrated Project, promoting service innovation in virtual factories and enterprises through enterprise modeling and enterprise interoperability. In the field of Technology Enhanced Learning, Sergio will soon coordinate the TELL ME (Technology Enhanced Learning Livinglab for Manufacturing Environments) Integrated Project, aiming at developing new participative and creative methods and tools for re-skilling and up-skilling blue collar workers at the manufacturing workplaces.