

Pathways towards a Modelling and Architecture Language for Interoperable Cyber-Physical Systems

Georg Weichhart, Hervé Panetto, Wided Guérdia, Gash Bhullar and Néjib Moalla

Founding of IFIP 5.8
Enterprise Interoperability 2008

Workshop starts 10:30

IFAC CC 5 and TC5.x chairs
INCOM2018

Workshop 8.

Pathways towards a Modelling and Architecture Language for Interoperable Cyber-Physical Systems

18 novembre 2020

10h30 - 12h30

Chair: Georg Weichhart, Herve Panetto

Rethinking Interoperable Cyber-Physical Systems (CPS) as Interactive Behavior *Designs*.

Christian Stary

Path simulation in BPMN workflow using resource aggregation.

Kawtar Ougaabal, Grégory Zacharewicz, Yves Ducq and Said Tazi

How to design a smart factory?

Magnus Åkerman, Patrik Fager and Åsa Fast-Berglund

Pathways to CP(P)S Modelling & Architecting.

Georg Weichhart, Hervé Panetto, Wided Guérdia, Gash Bhullar and Néjib Moalla

Join session

Close

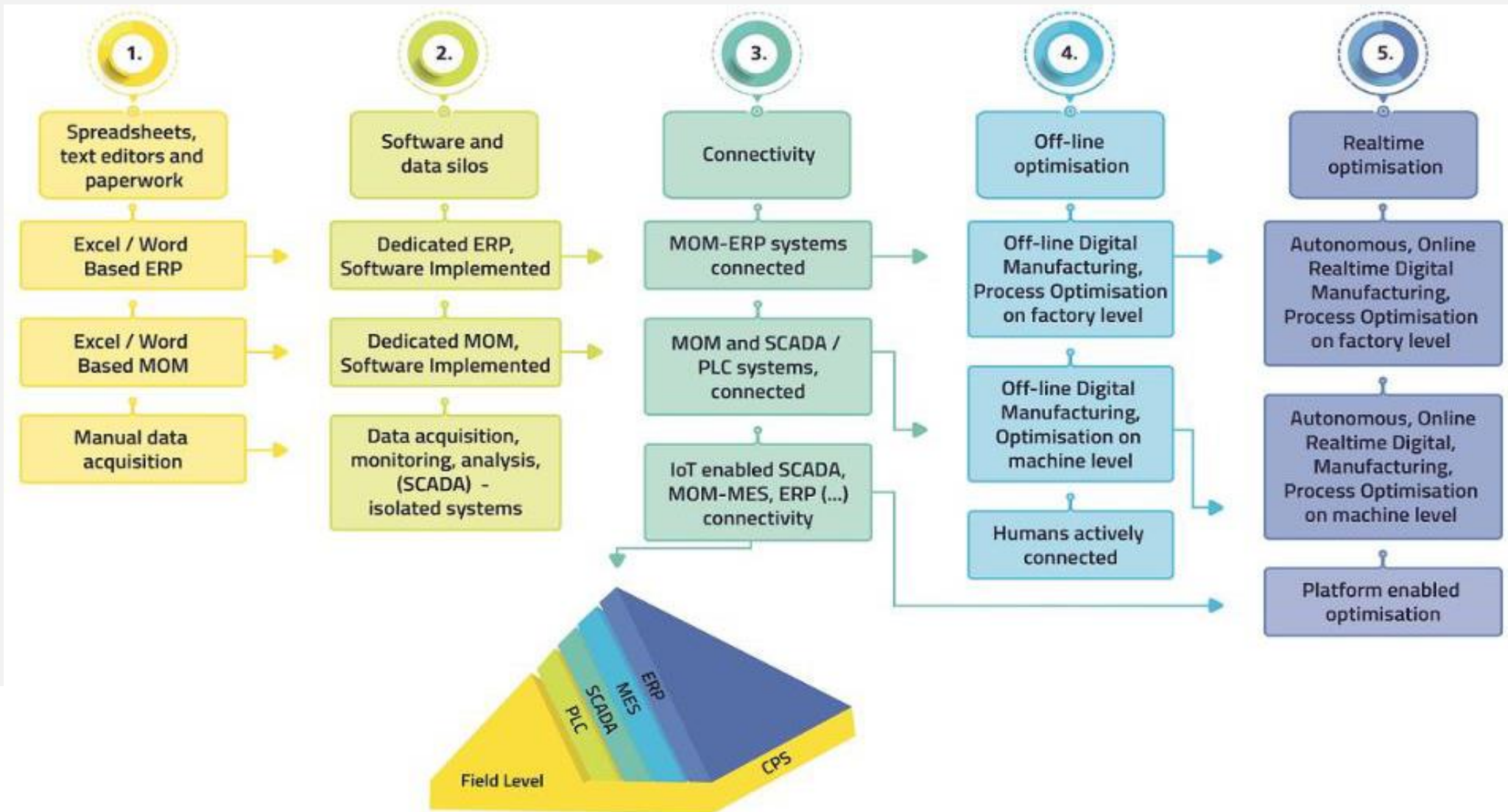


Pathways to CP(P)S Modelling & Architecting

Georg Weichhart, Hervé Panetto, Wided Guérdia,
Gash Bhullar and Néjib Moalla

I-ESA 2020 Workshop
Interoperable CPS Modelling & Architecting
(I-CPS 2020)

FROM **RESEARCH**
TO **PRODUCTION**



Pathways for Interoperable Cyber-Physical (Production) Systems

Aspect	Level I	Level II	Level III	Level IV	Level V
Technology	Closed Systems	System specific APIs	Open APIs	Standards	Infrastructure for Self-Organization of systems-of-systems
Semantics	Data Silos	Semantic Description	Ontological Data Structures	Open Data Sets	Advanced Reasoning and Planning of Agents
Organizational	Isolated Group of People	Hierarchies	Process Management	Agile Teams	Enterprise as Complex Adaptive System

Pathways for CPPS Modelling & Architecting

Aspect	Level I	Level II	Level III	Level IV	Level V
System	Isolated System	Adaptive System	Connected Systems	System-of-system	Cyber-Physical SoS
Model	Static Model of a system	Dynamic Model / Simulation	Heterogeneous models	Distributed Systems modelling	Agent-based modelling and negotiation
Interop. Environment	Compatible	Tight Integration	Standard Interfaces	Loose Integration	Federated Interoperability