

INNOVATION SCALES

The SCALES framework for identifying and extracting resilience related indicators: preliminary findings of a go-around case study

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SESAR Innovation Days, Madrid, 2014

Resilience Engineering (RE)

“A system is resilient if it can adjust its functioning prior to, during, or following events (changes, disturbances, and opportunities), and thereby sustain required operations under both expected and unexpected conditions” (Hollnagel & P16.01.02)

Some lessons learned, body of knowledge documented in SCALES D1.1

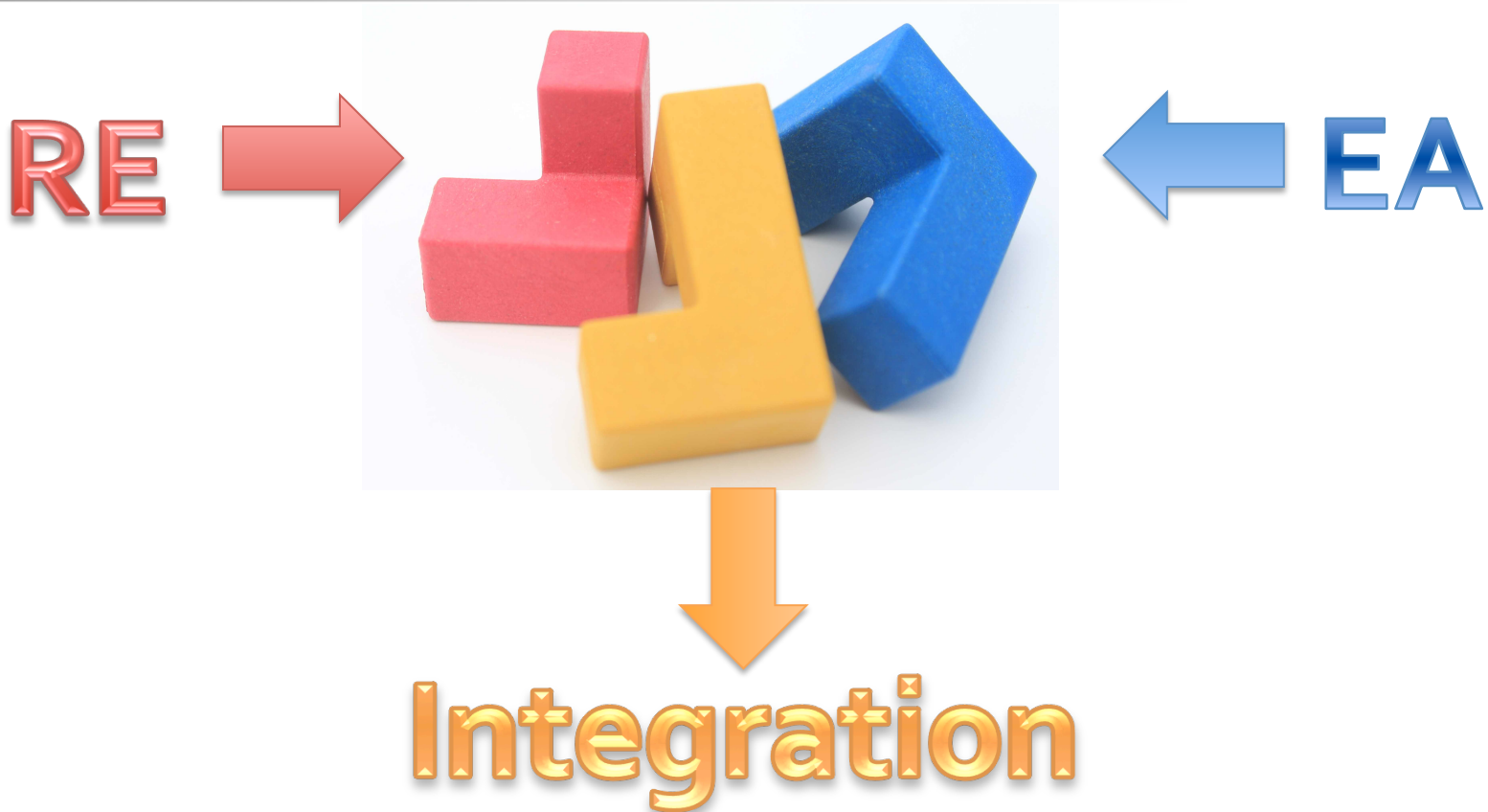
Enterprise Architecture (EA)

- Use of different perspectives of the system.
- These are normally called viewpoints.
- Harmonize to SESAR European ATM Architecture (EATMA)

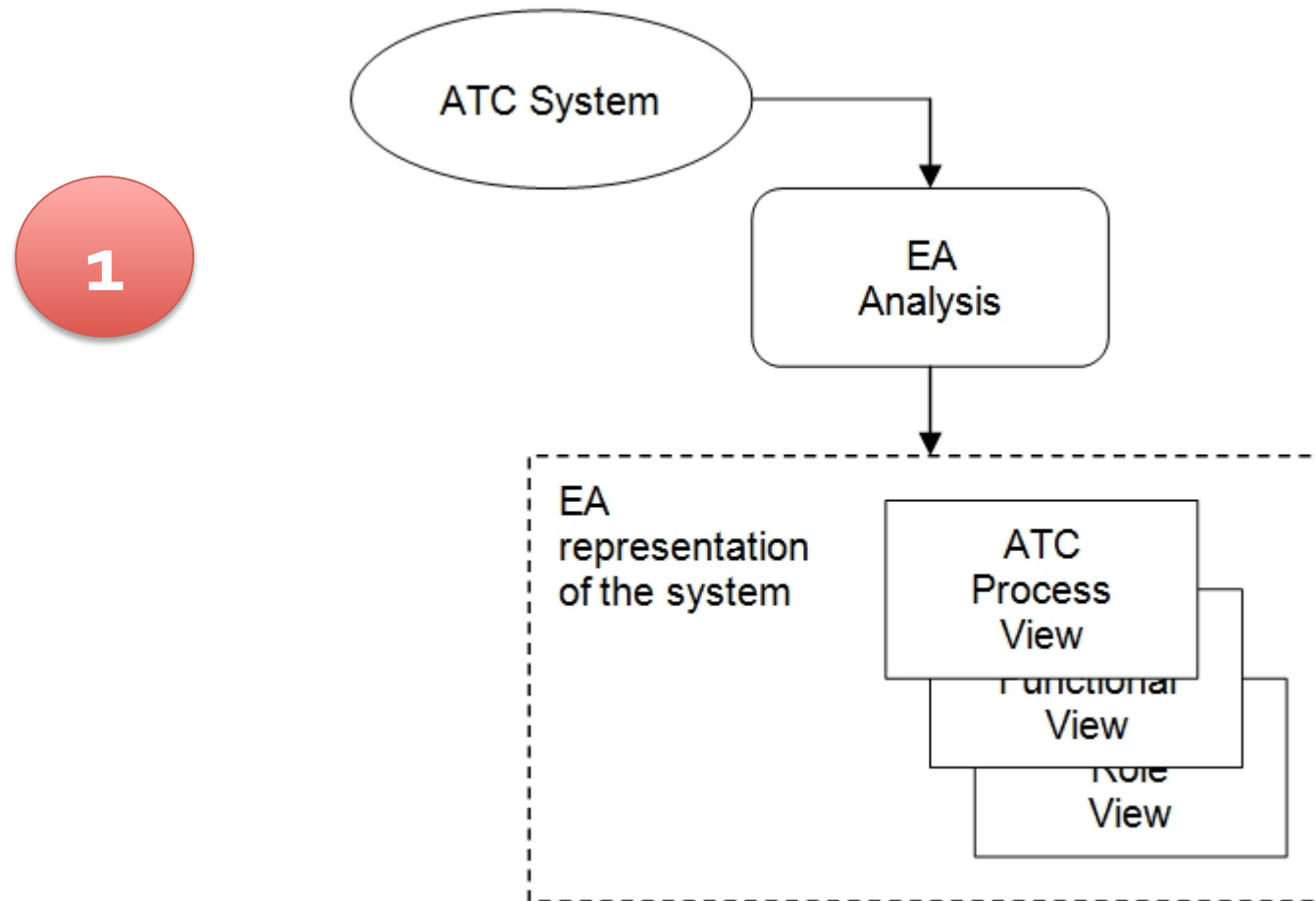


What added value can the combination of Resilience Engineering (RE) with Enterprise Architecture (EA) bring to measure the resilience potential of the ATM system?

The SCALES core elements

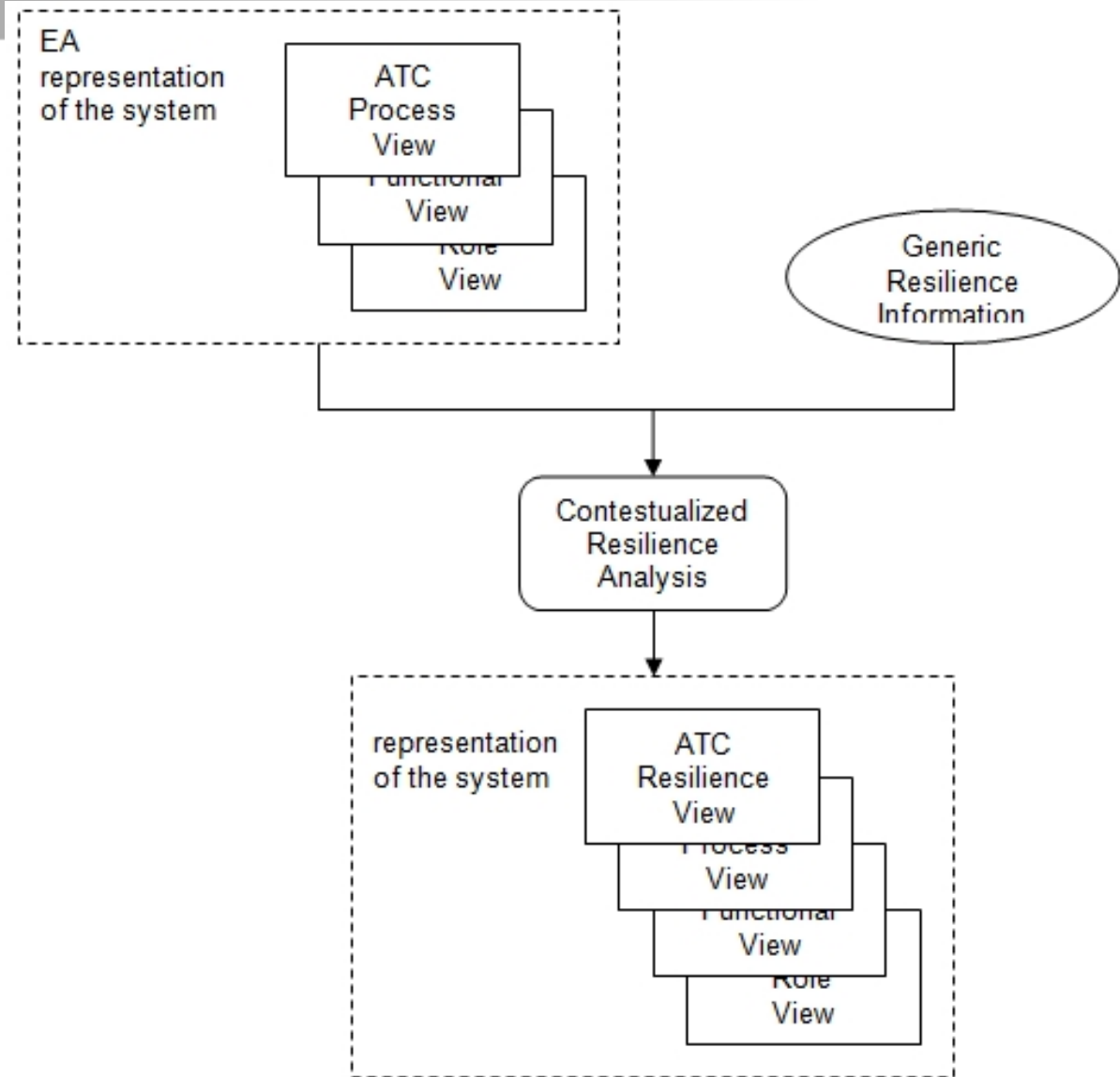


The SCALES process

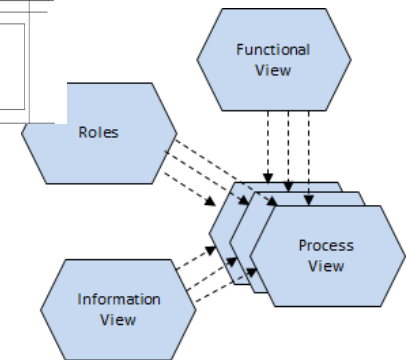
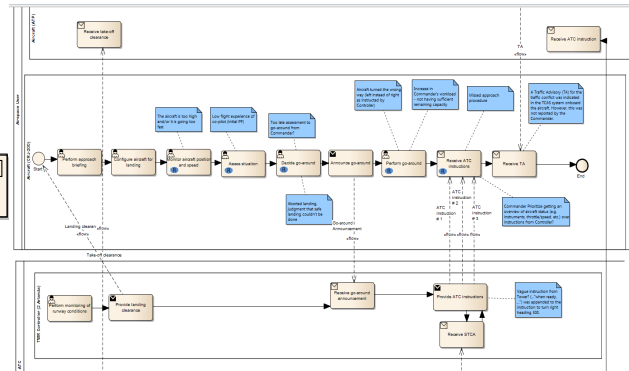
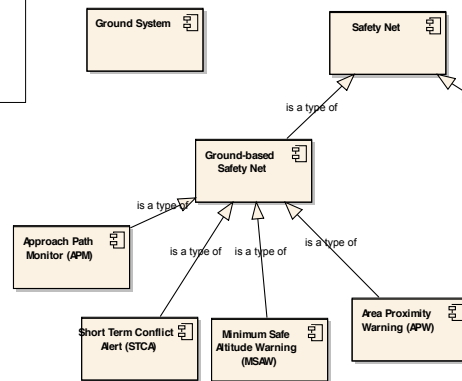
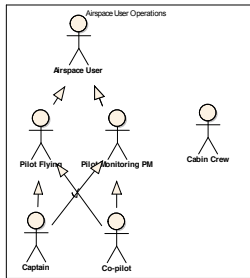


The SCALES process

2



EA viewpoints example: demo



Validation through case studies

- 4 selected case studies
- Missed approach procedure
 - Go-around procedure

Preliminary conclusions



With regard to RE

- SCALES support identification of RE related indicators
- Common RE vocabulary and modelling capabilities
- New RE viewpoint under development
- EATMA harmonization makes possible to evaluate current operation and SESAR changes

With regard to EA

- Combination of RE & EA support contextualization of indicators related to specific operations
- Rather than a static tool and method we have been able to develop a tool that is able to evolve

With regard to the Framework

- Need to improve guidance
- Refine resilience viewpoint
- Include more case studies, not only incident also observations of everyday operation and validate



Thanks for your attention...
Any Questions?