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## SCARECROW CONSULTANTS

# Agile in Systems Engineering for Beginners

Many businesses are starting to or intending to adopt an agile approach to Systems Engineering based on similar approaches from software engineering. However, most do so without any understanding of whether an agile approach is suitable or of the strengths and weaknesses of imposing such an approach onto Systems Engineering.

This thought-provoking workshop explores the good, the bad and the ugly of agile approaches, discusses which aspects work in a Systems Engineering context (and which don't) and reframes software engineering's 'Agile Manifesto' as 'The Systems Engineering Agile Manifesto'.

**Duration: 1 day**

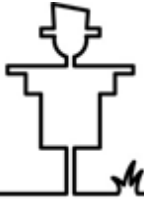
## Course Structure

- The origins of, and drivers for, Agile
- Terminology - Agility, Agile Systems-Engineering and Agile-Systems Engineering
- Agile practices from the software perspective
- The ethos of Agile and the Agile Principles
- Waterfall and V model life cycles versus Iterative life cycles
- The Value of Optimisation in Systems Engineering
- Model-Based Systems Engineering: the Agile enabler
- The scope of Systems Engineering processes compared with Agile and associated practices
- How an Agile Systems-Engineering process differs from Agile-Systems Engineering (a product strategy) and their relationships with modular systems
- Phased Systems Engineering developments and Incremental life cycles
- The Scaled Agile Framework and its assumptions on Systems Engineering
- The impact of System Complexity
- System contextual differences – the enablers/inhibitors to an Agile approach
- A guide to what Agile practices you should avoid, or promote, in Systems Engineering, and why
- A re-worked set of principles for Systems Engineering agility (SympleE)
- A reminder of why we practice Systems Engineering and how those goals relate to Agile

## Target Audience

This course is intended for Systems Engineers, particularly those designing and supporting bespoke systems incorporating physical solutions, who are not well-versed in Agile, but are voluntarily considering, being cajoled into, or even involuntarily forced into, using Agile methodologies.

Although relevant to all Systems Engineering, the content is significantly biased to engineered systems having a physical context, typically interacting directly with the physical world, rather than virtual systems such as information systems, business systems, or social systems.



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### Benefits

The benefits of this course are as follows:

- Understanding what 'Agile' means in the context of Systems Engineering and why it is inconsistent with software documented texts.
- Recognising the difference between Agile Systems-Engineering and Agile-Systems Engineering
- Understanding where and when an 'Agile approach' fits in engineering of systems.
- Comprehending why, for significant use of Agile in your engineering (processes) during development, MBSE is a critical enabler.
- Understanding the limitations of using an Agile Systems Engineering approach to the development of complex, physical systems, and why.

### Prerequisites

Attendance on our 1-day or 3-day Model-Based Approach to Systems Engineering course is a prerequisite for attending this course.

### Material

Delegates receive PDF copies of the course notes.

### More Information

For more information on this course, or any of our other offerings, please contact Scarecrow Consultants Limited using the details above.