

MBSE *mis*Use-Cases

Stories of misconceptions, miscommunication and missed opportunities on the road to large scale agile implementation.

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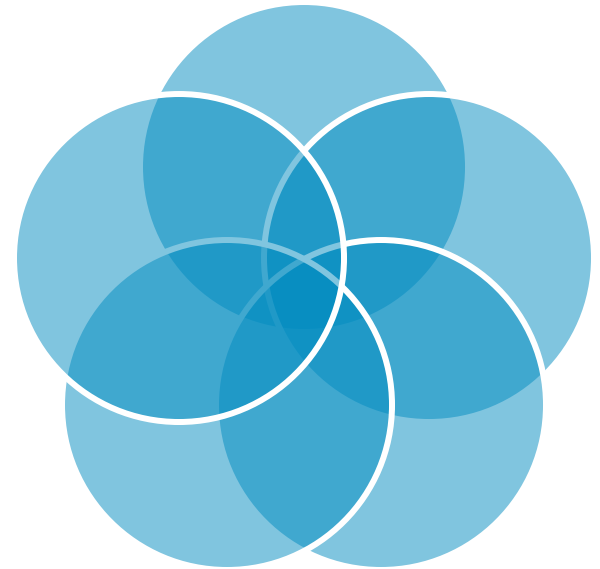


Five Inter-Related Patterns

Model Based *SPECIFICATION* Engineering (MBSE)
Buy the Analysis Model; Receive Only the Diagrams
The Science Project for a Few Select Experts
Single Batch Mindset; or Big Modelling Up Front
The Shiny New Thing; Models, Models, Everywhere

In all of these stories, no malice is inferred

- *MBSE is reshaping people's roles*



Model Based SPECIFICATION Engineering (MBSE)

Precisely stated requirements are very desirable

- Failures often trace to poor requirements work

MBSE offers more utility from up-front precision

- We can exploit the trade space as we implement

Models are powerful tools with which to reason

- They also aid in communicating our aim

Evolution from descriptive to analytical models

- **Drive iteration in specification and implementation**



Buy the Analysis Model, Receive Only the Diagrams

Modelling activity yields important design artifacts

- Often included in Contract Data Requirement List

Roles of people who receive CDRLs often constrained

- Engineering roles sometimes limited to oversight

MBSE is accepted as an advancement in engineering

- Utility of the model goes deeper than the diagram

Grow a broader population of model users

- **We will build more useful models**



The Science Project

Early adopters need less support to use a new technology

- Early trial use yields unique insight for limited audience

Communities of practice can become isolated

- Perceived separation can inhibit broader adoption

Broader adoption requires different forms of insight

- Address State of the Practice and State of the Art

Develop knowledge to move theory into practice

- **Enables much broader technology adoption**



Single Batch Mindset

Architectural layers form a foundation to build upon

- Baselines promote a shared trade-space

How do we incrementally build the model?

- Can we iterate and learn before it's "all done?"

Agile tries to solve several problems, including:

- "Nothing is visible until everything is done"

Promote logical decomposition in modelling

- **Iterative evaluation of results drive quality**



The Shiny New Thing

Enthusiasm can drive adoption and progress

- Motivated people make things happen

When the only tool you have is a hammer...

- ~~Everything starts to look like a nail~~
- You can capture everything using SysML

Practice of MBSE is still largely in the early stages

- Some industry participants have robust solutions

Resist over-application of MBSE tools/methods

- **Prevent dilution of the value proposition**



Five Inter-Related Patterns

Model Based *SPECIFICATION* Engineering (MBSE)

- Misunderstanding of intended utility

Buy the Analysis Model; Receive Only the Diagrams

- Mismatch in realization of MBSE intent

The Science Project for a Few Select Experts

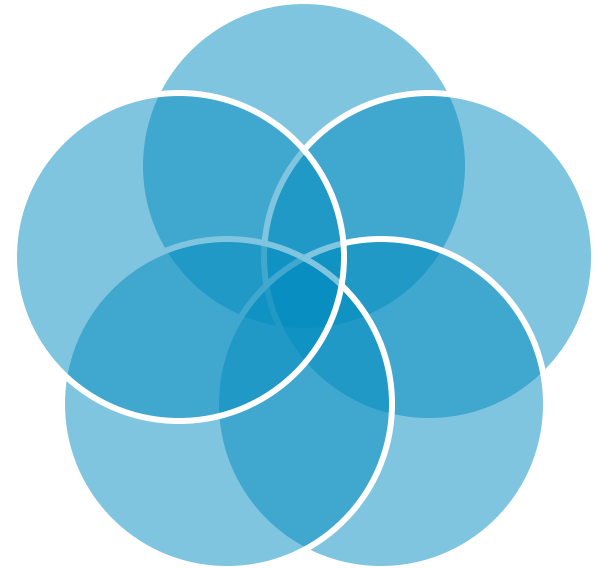
- Missed opportunity for greater value

Single Batch Mindset; or Big Modelling Up Front

- Traditionalism limiting impact

The Shiny New Thing; Models, Models, Everywhere

- Mis-aligned ambition



Contact



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