X-driven development: finding the right combination of approaches for systems engineering

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One size doesn’t fit all

Why variety is the spice of life in development approaches

- Based vs. driven development?
- What are the project characteristics that matter?
- What about the industry?
- A framework for analyzing and selecting approaches
- Strengths and weaknesses
- Putting it all together
SE life-cycle “V” decomposition diagram
Different industries have different needs...

- Safety
- Regulatory compliance
- Development timescales
- Project scale
- Project life
- …
A framework for analyzing and selecting approaches

- The Hitchins’ 5-layer model

- Socio-economic
- Industrial systems engineering
- Business systems engineering
- Project or system level
- Product level
Development artifact relationship diagram
Matching the development approach to the project

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Summary

- There is no single ‘right’ answer
- The development approach is a means to an end

But…

- Predictable delivery results from minimizing risks
- The right approach is the one that best manages and mitigates risk
Glossary

- MDD  Model-driven development
- RDD  Requirements-driven development
- TDD  Test-driven development