Wrong, but not failed?
- Towards resilient engineering projects
Morten Wied, PhD project

Complex engineering projects in trouble
Most complex engineering projects are blindsided by unexpected events sometime in their life cycle. Effective opposition, economic turbulence, technical problems, partner pull-out, legislative change, new requirements, and early obsolescence are typical ‘plan breakers’. In fact, most complex engineering projects are underperforming:

- On time? ~25%
- On budget? ~25%
- Meets objectives? ~50%

Exploring an alternative to foresight and luck, this thesis investigates the properties of projects able to resist or recover from unexpected events, without the need to foresee them.

The research question
Why do some complex engineering projects fail, while others succeed, despite, or even because of, unexpected events?

Towards more resilient projects
Through the lens of resilient systems theory, the thesis investigates the properties of projects able to resist or recover from unexpected events, without the need to foresee them. These are some of the properties involved:

- Reliability
- Buffering margins
- Robustness
- Generality
- Multi-functionality
- Versatility
- Modularity
- Mobility
- Reparability
- Liquidity
- Redundancy
- Antifragility
- Upgradability
- Adaptability
- Stability
- Resistance
- Recoverability

Expected results
Expected results are a theory of resilient projects, and practical prescriptions for increasing the resilience of complex engineering projects.

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