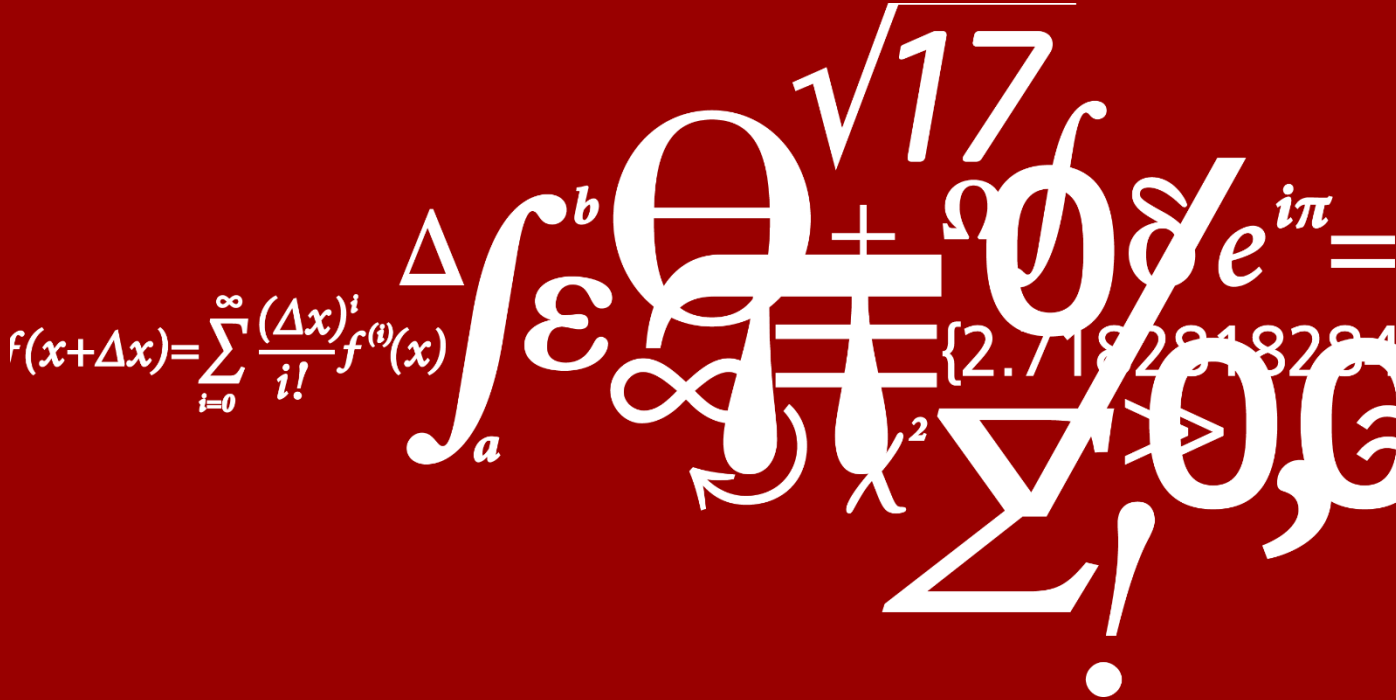# Building Resilient Projects

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Let's Start You Off Easy:
What's Your Risk Management Religion?

I believe in Predicting, Planning, Executing:

After all, we got the big brains.

I believe in Monitoring, Reacting, Learning:

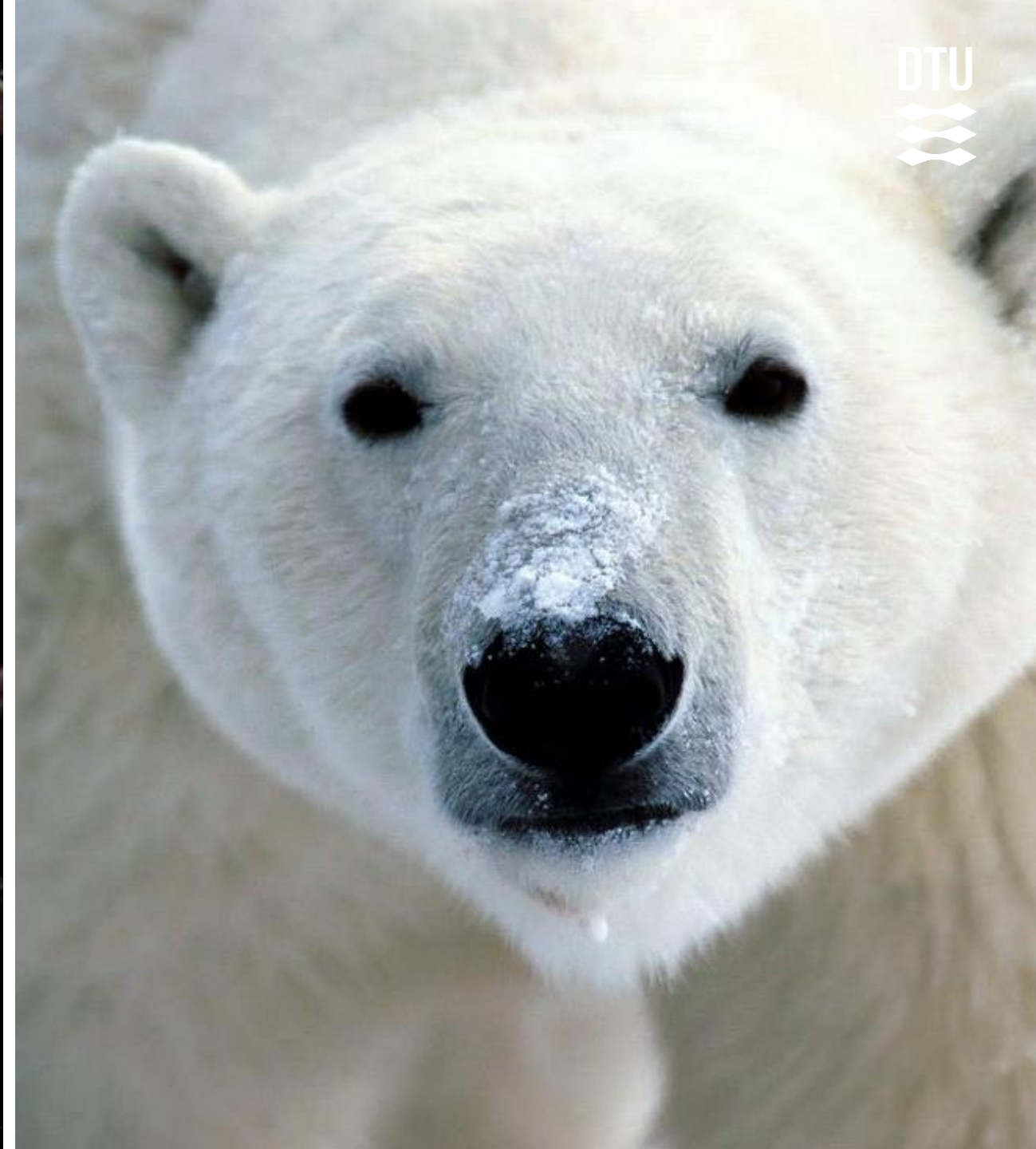**After all, this place is a total mess.**

slido

Join at
slido.com
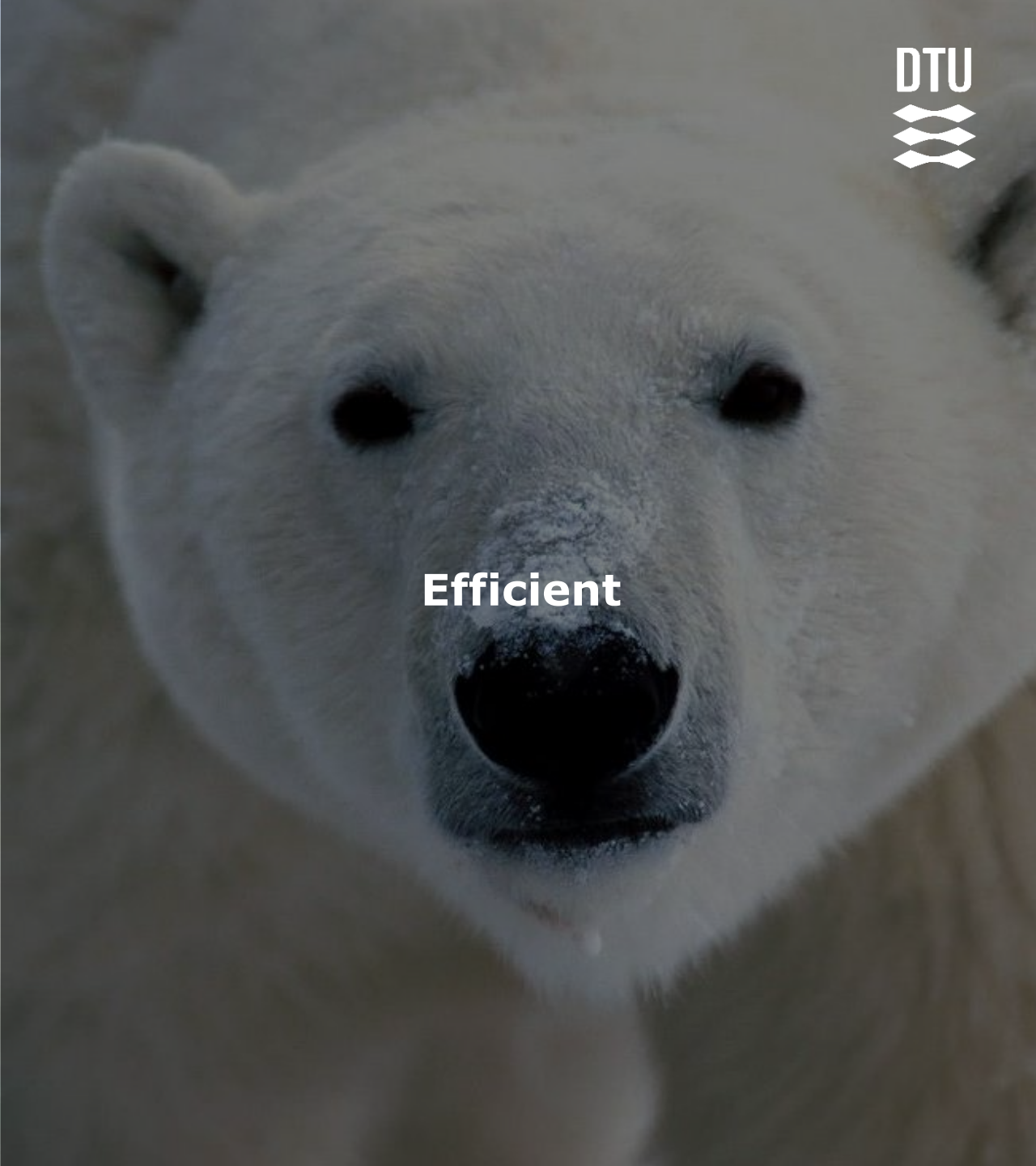**#Global-RM-Day**

Resilience. We should really, really care.

**RESILIENCE
is an adaptive response to a
DYNAMIC ENVIRONMENT**

**SPECIALIZATION
is an adaptive response to a
STABLE ENVIRONMENT**

Holling (1973)

Resilient

Efficient

DTU

Take-Away 1:

Efficiency saves money, but comes at a price.

Slack is good for resilience (and innovativeness, by the way).

We followed an autonomous transportation project for 3 years. How many critical risks did we miss?

We missed 8 out of 12 critical incidents.
Risk Management FTW!

Project phase	Incident
Legal approval and testbed setup	1. Autonomous vehicle accident occur abroad **2. Surface coverage prohibited by law** **3. A LiDAR 'blind spot' is discovered** **4. The approval process is delayed** 5. A key employee leaves the project
System testing	6. Sub-contractor cannot deliver passenger app 7. Using Wi-Fi-traces proves inaccurate and draining to users' phone batteries **8. Technical limitations of the autonomous system are discovered**
Transfer and up-scaling	9. A partner is defunded and exits the project 10. The light rail will be slower and have fewer passengers than expected 11. The problem of vehicle access to light rail stations is raised by urban planners 12. The COVID-19 virus outbreak causes wide-spread shut-down of society

Resilience as the capability of a system to prevent, resist and recover from disruptions.
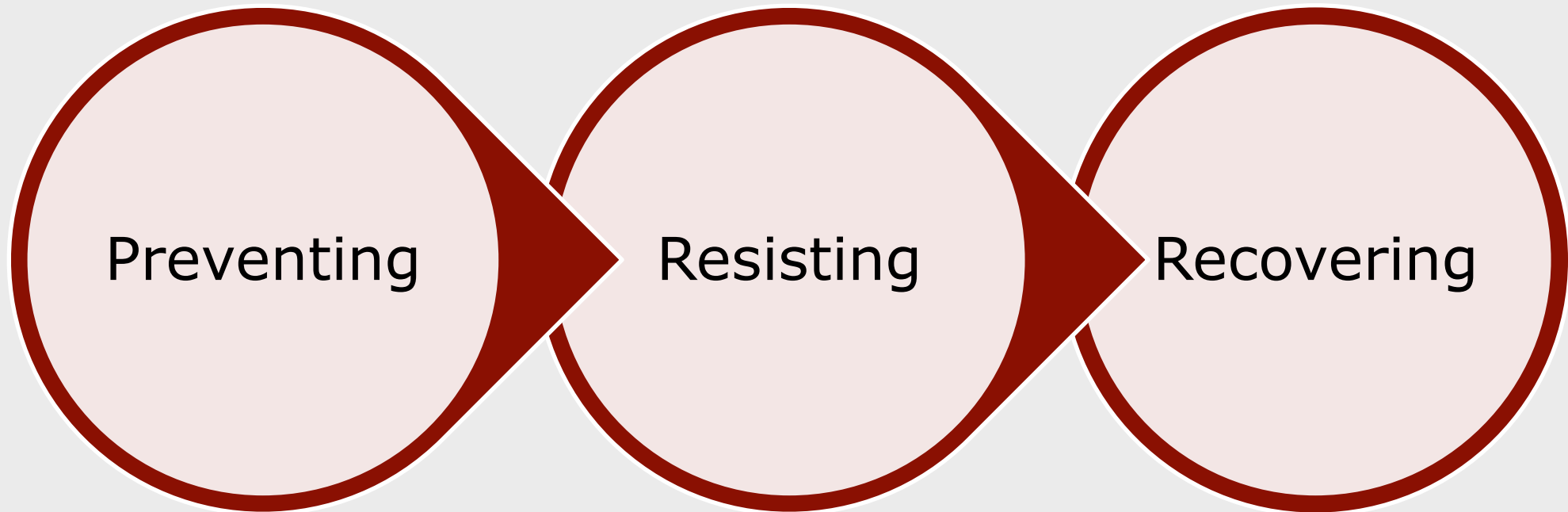
Preventing
- Minimization of hazards and vulnerabilities
- Preparedness

Resisting
- Noticing & understanding
- Preemption
- Graceful degradation (absorption & adaptation)

Recovering
- Reacting
- Learning

Learn to handle surprises better.

Surprise, Surprise!

A workbook for finding the keys to resilience in your strategic initiatives

Your journey

The workshop will guide the participants through three discoveries. First, you guide them to reflect why they are surprised in their strategic initiatives, uncovering the importance of explicit or hidden assumptions. Second, you will help them identify where they struggle to manage their surprises – is it the difficulty of spotting or understanding the surprise? Or is it difficult to find an appropriate response? Third, you will steer their discovery of elements that challenge them in surprise management, leading to the formulation of action points in the fourth step.

01 Why are we surprised?
Discover and discuss surprise events, and identify what surprised you. This step helps to understand surprises, and realize that it boils down to (differing) assumptions and views on the world.

02 Understanding surprises
Discover how individual understanding of a surprise differs across the phases of planning, noticing, interpreting and responding. Uncover when you struggle in managing your surprises effectively.

03 Identify barriers
Discover what elements, behaviours, or beliefs in your organization or initiative made it difficult – or easy – to manage your surprises.

04 Removing barriers
Reflecting on the insights from step 01-03, define three to five action points that strengthen your capability to manage surprises.
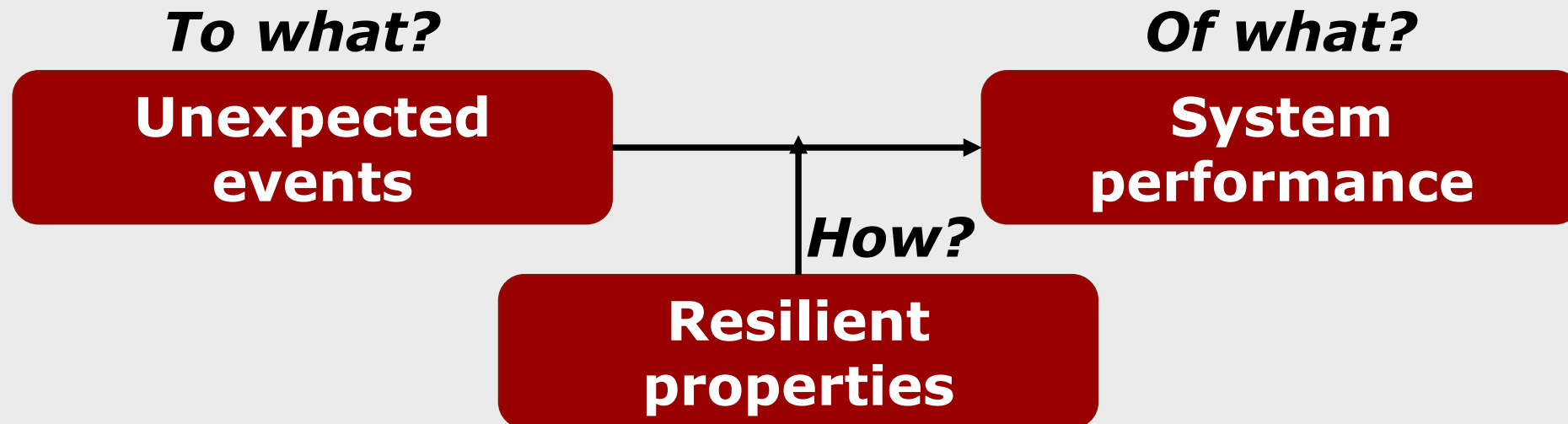
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Take-Away 2:

Rare events are common.

(Screw-ups are even more common.)

Resilience = Learning to deal with surprises.

Resilient Projects (or Operations): Top-Down View Resilience….

To what?

Unexpected events

Of what?

System performance

How?

Resilient properties

Source: Wied et al 2019 / https://backend.orbit.dtu.dk/ws/files/240830851/PhD_Thesis_Morten_Wied.pdf

Resilient Properties: Bad advice that will save your bacon.
Part 1: Be ambigous regarding your goals.

Understating: Reduce the threshold of acceptable performance

Multifunctionality: Set multiple modes of acceptable performance

Ballparking: Leave the performance threshold unspecified

Source: Wied et al 2020 / https://backend.orbit.dtu.dk/ws/files/240830851/PhD_Thesis_Morten_Wied.pdf

Resilient Properties: Bad advice that will save your bacon.
Part 2: Get the timing right

Work the system: Improve conditions under which a try is attempted

Opportunism: Try only if, when, or where conditions are favourable

Source: Wied et al 2020 / https://backend.orbit.dtu.dk/ws/files/240830851/PhD_Thesis_Morten_Wied.pdf

DTU

Buffering: Include resources in excess of expected need

Sequentialism: Fail, and launch a new try

Redundancy: Switch to a non-failed parallel try

Modifiability: Modify the failed try

Incrementalism: Limit failure to the marginal additive increment

Reversibility: Walk away and pretend it never happened.

Take-Away 3:

Resilience is not free.

In fact, there are great arguments against every practice of resilience. Do it anyway. (You will thank me later.)

Thank you!

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