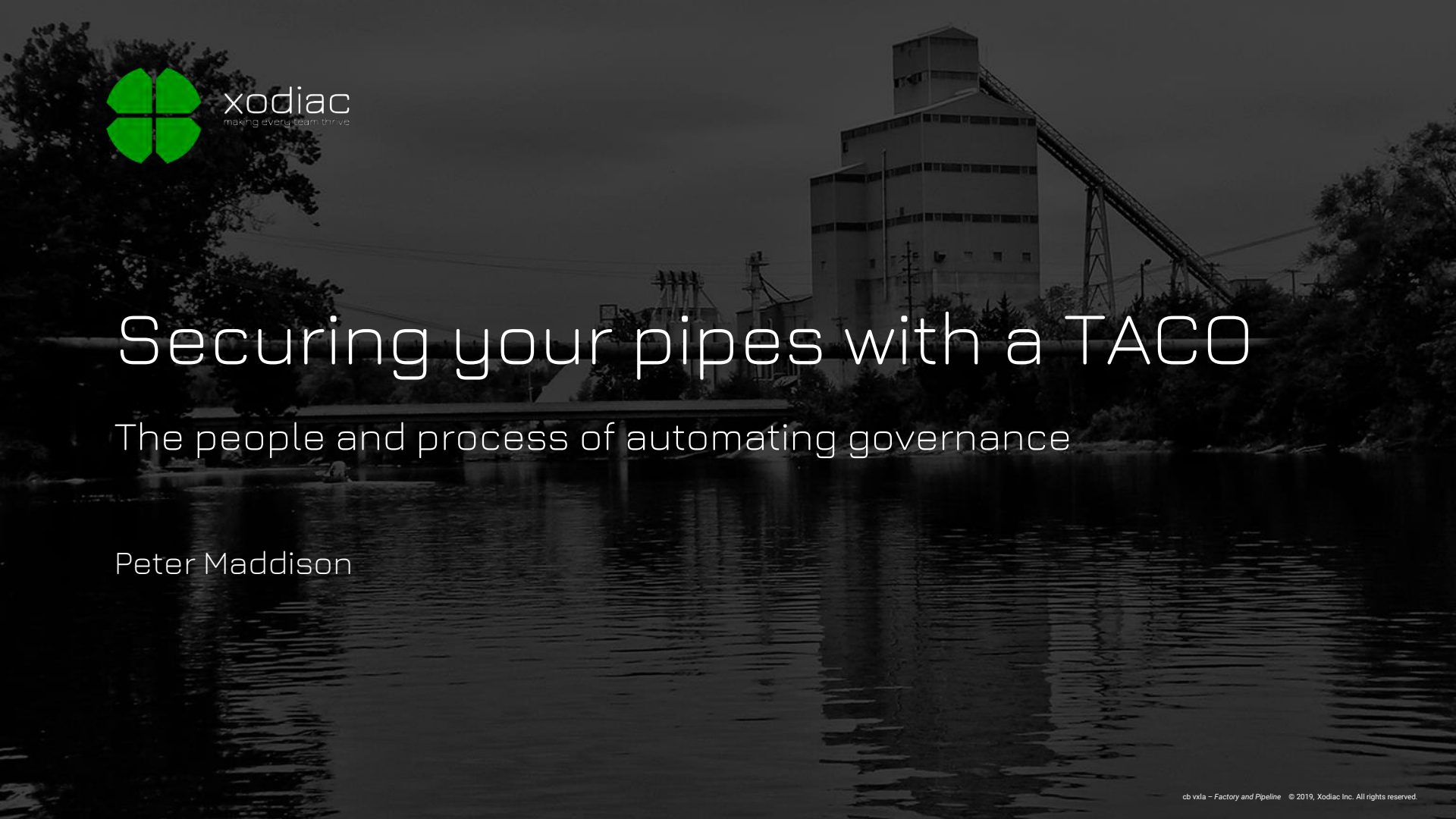
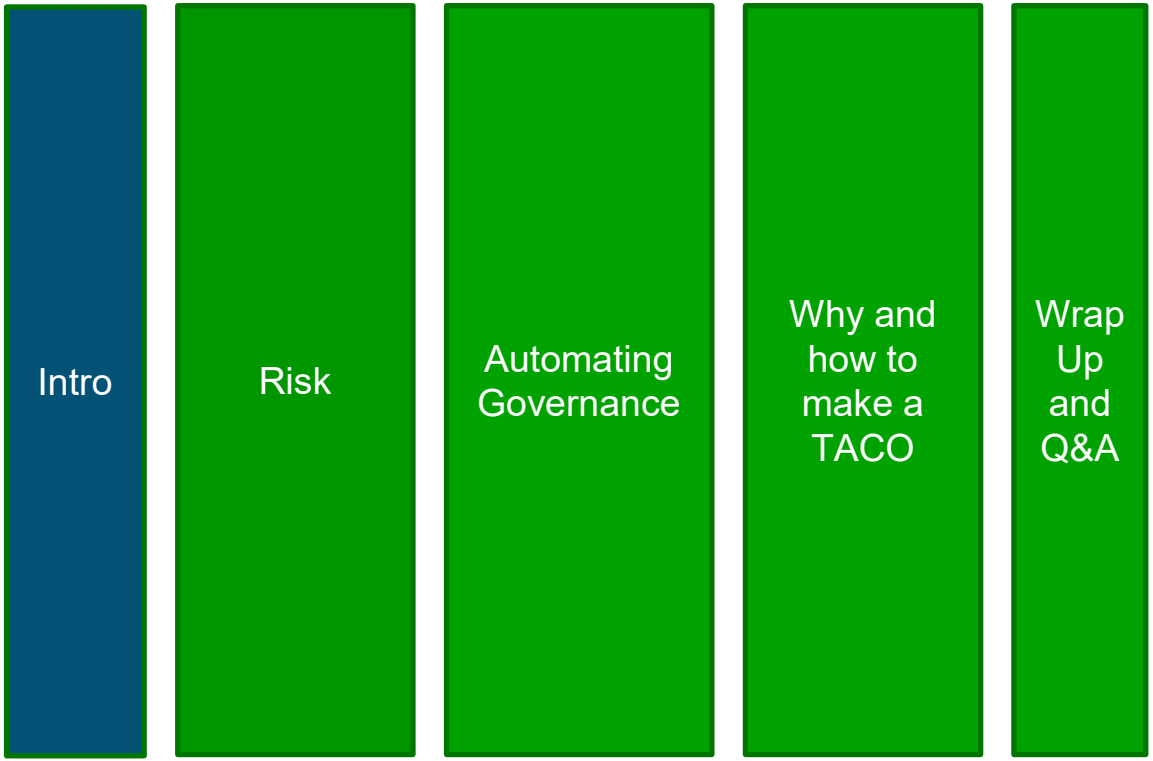


Securing your pipes with a TACO

The people and process of automating governance

Peter Maddison

Talk map



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Who am I?

Peter Maddison

Coach, consultant, founder…

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In our fast-paced world customers demand instant gratification

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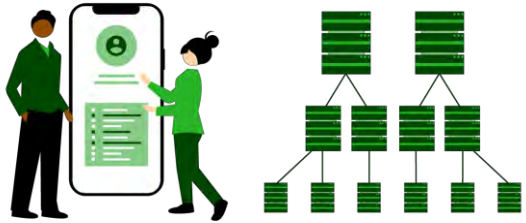
Moving towards value delivery

1990's and before

1990 to 2020



2020 and beyond

Driving efficiency

Invest in technology capabilities

Drive immediate customer value

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Tools accelerate your Value Delivery

Efforts Fail From Lack of Clarity, Not Tools

- Micromanagement
- Lack of Capability
- DevOps Team Silos
- Not Taking a Holistic Approach
- Doing Without Learning
- Lack of Shared Ownership
- Broken-Window Syndrome
- Fear of Failure
- Lack of Psychological Safety
- Lack of Valuable Measurement
- Lack of Vision
- Lack of Visibility
- Unspoken Disagreements
- Failure to Scale Pilots
- Unrealistic Expectations
- Overlooking Organizational Change
- Overemphasis on Tools
- Automation Without Value
- Ineffective Metrics
- Ignoring Existing Process
- Ignoring Lean and Agile Principles
- Imbalanced Top-Down/Bottom-Up Approach
- Neglecting Stakeholders Beyond Dev / Ops
- Lack of Incentive and Governance Adaptation

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Sources: McKinsey, Boston Consulting Group, 2020

Complexity

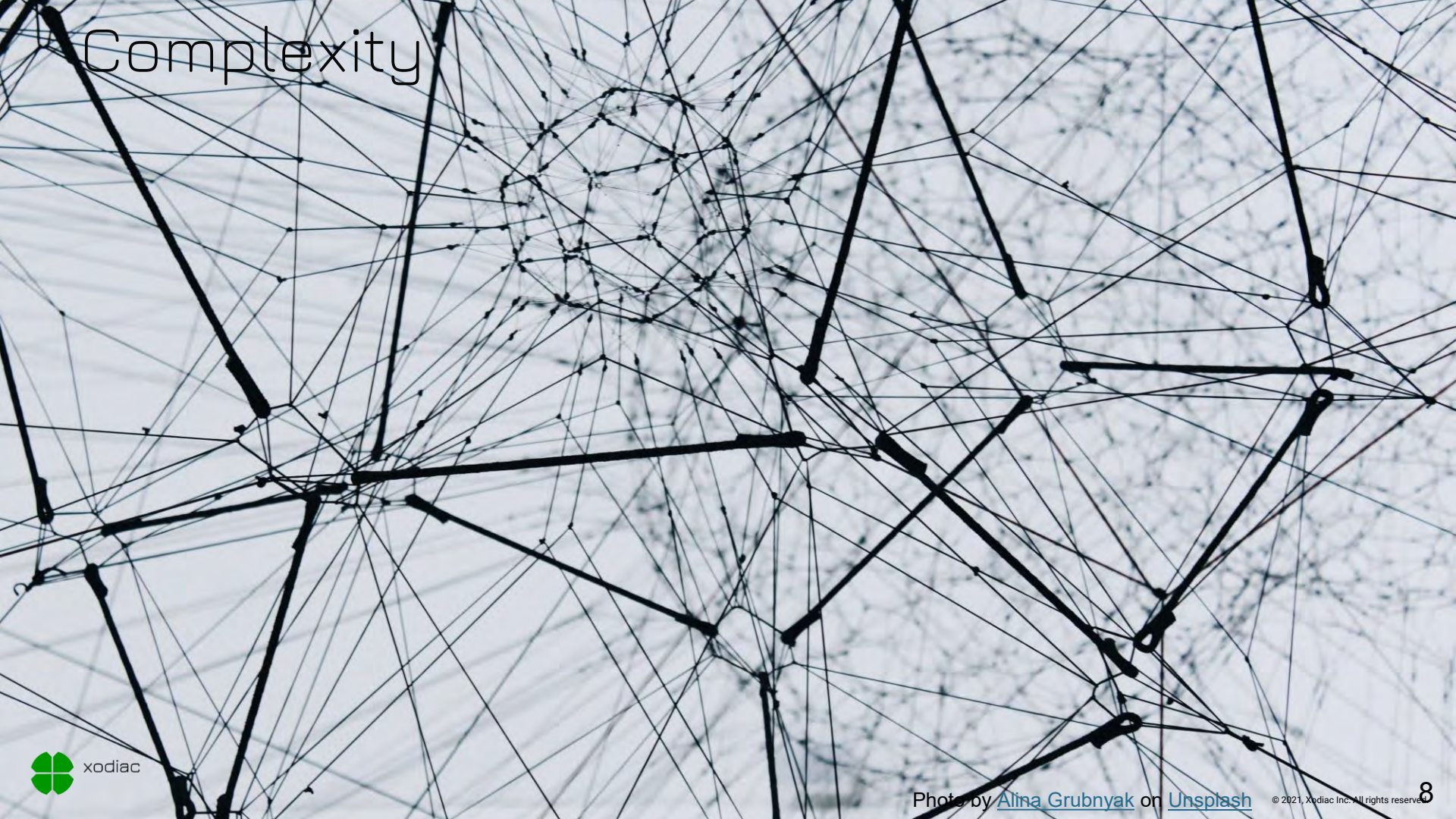

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Photo by Alina Grubnyak on Unsplash

Talk map

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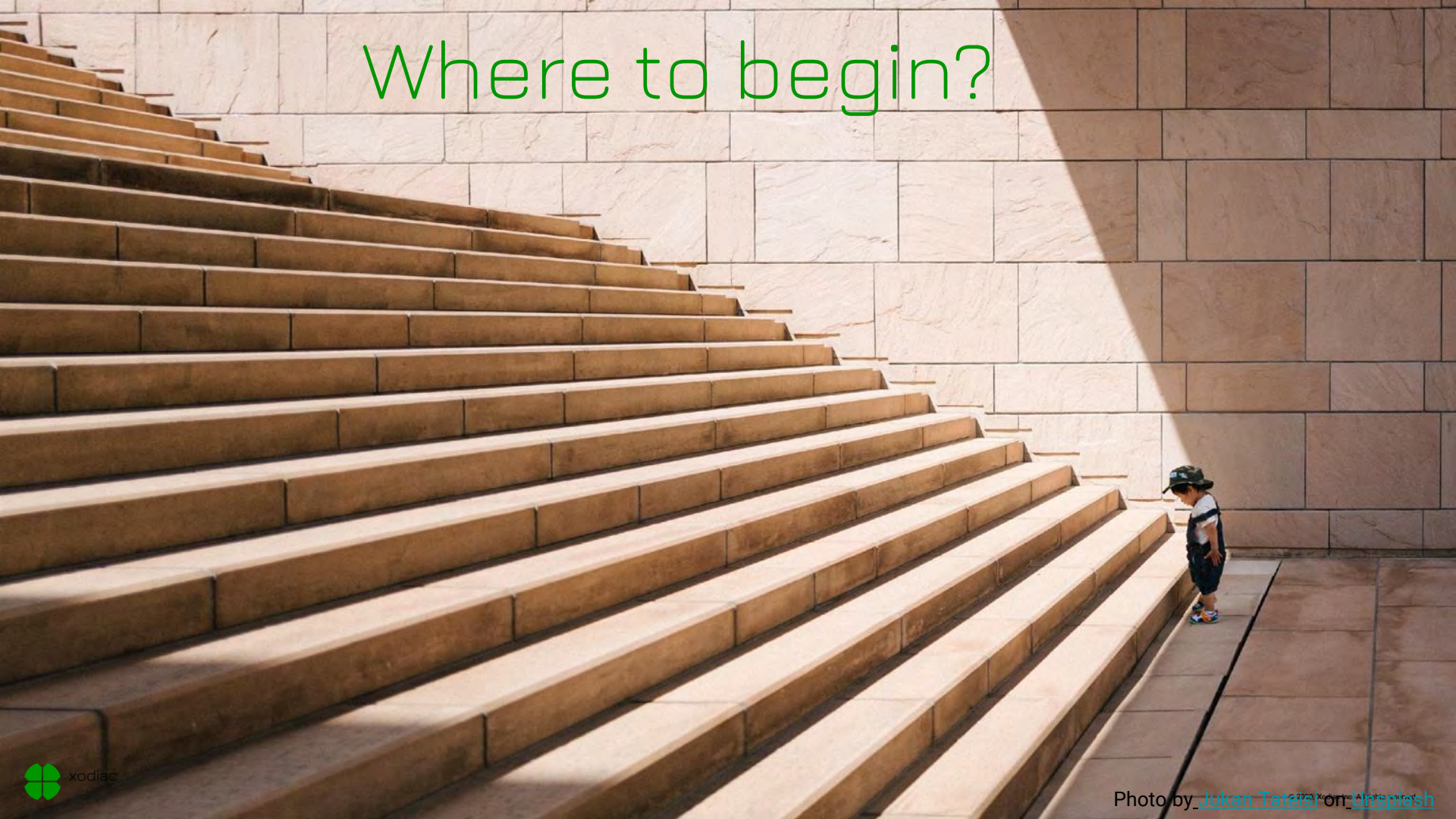
Where to begin?



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Introducing change

“This year, I resolve to stay away from unnecessary risks.”

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“People, processes and tools working together to enable rapid and continuous delivery of value to customers.”

- A bunch of people

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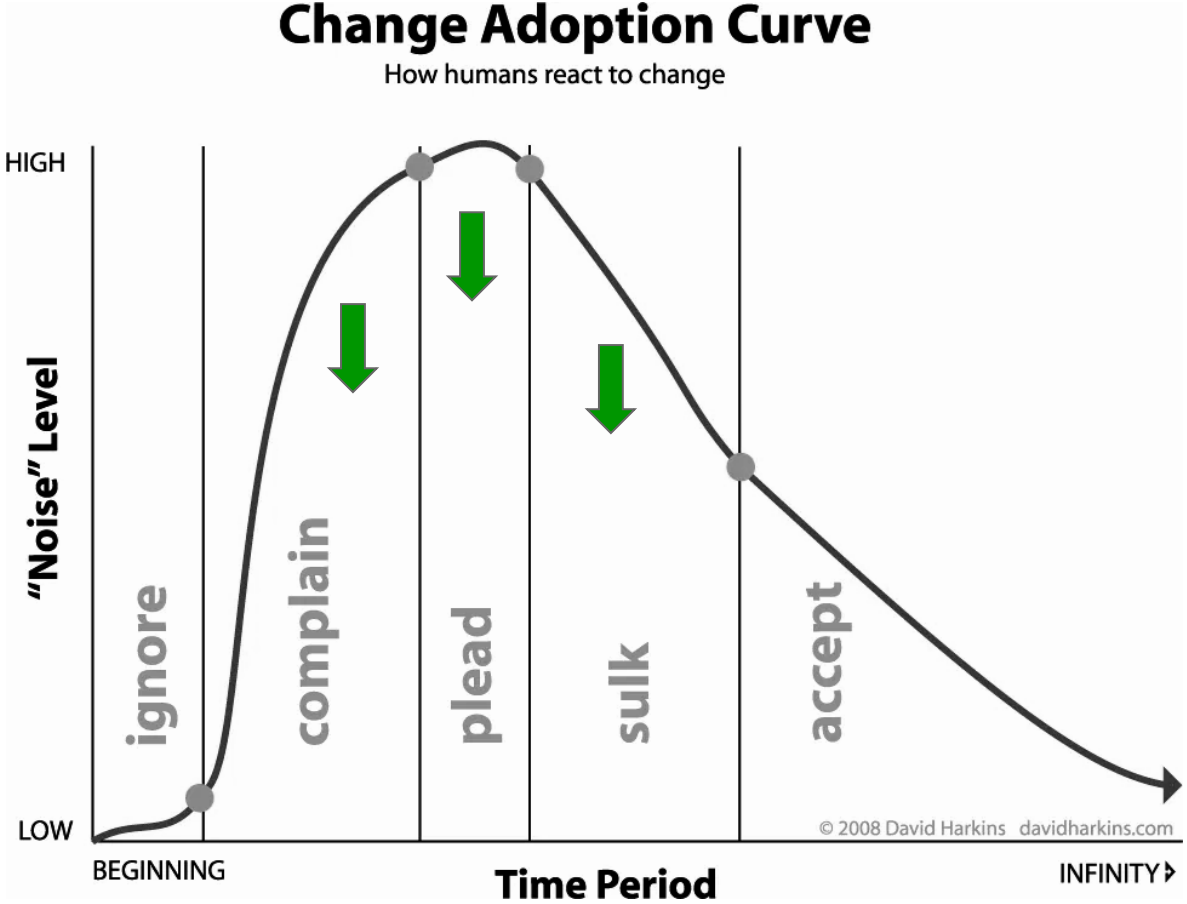
Introducing:

- New paradigms
- New ways of working
- Necessary training

All while meeting any obligations to existing commitments



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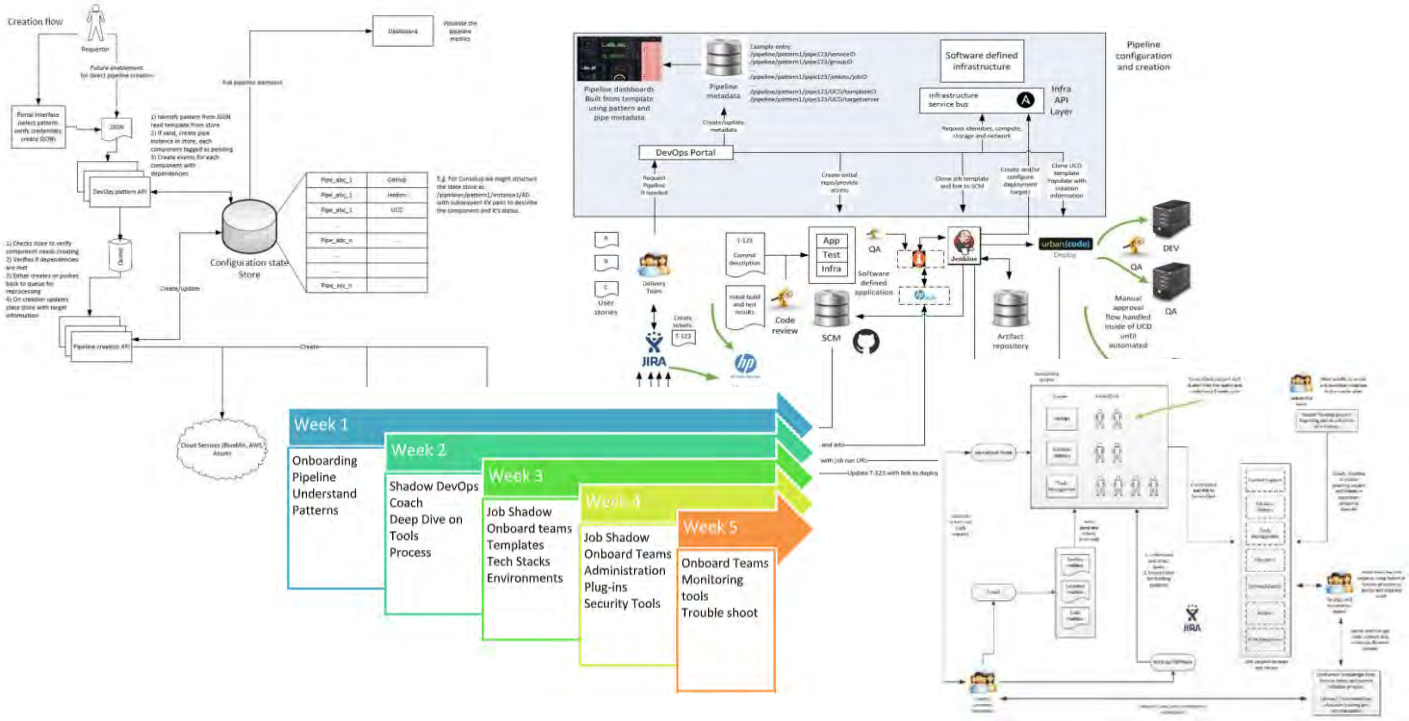
Bunch of pictures



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Hitting a wall

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Photo by Michael Longmire on Unsplash

Lost in translation

Developers

Security

Operations

Compliance

Testing

Architecture

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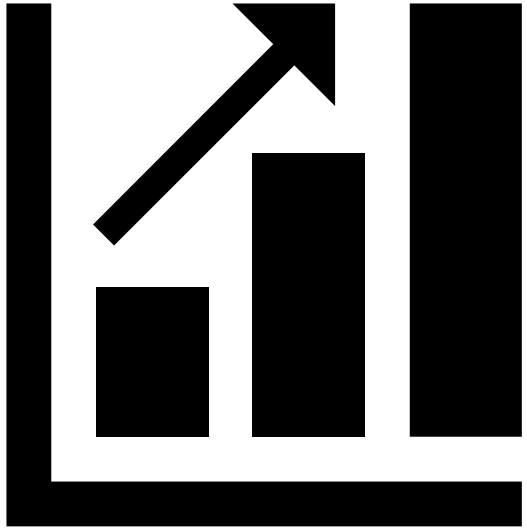
How will we measure?

- Incremental improvements
- Quantify risk
- Anomolies



Talk map

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Is there a risk?

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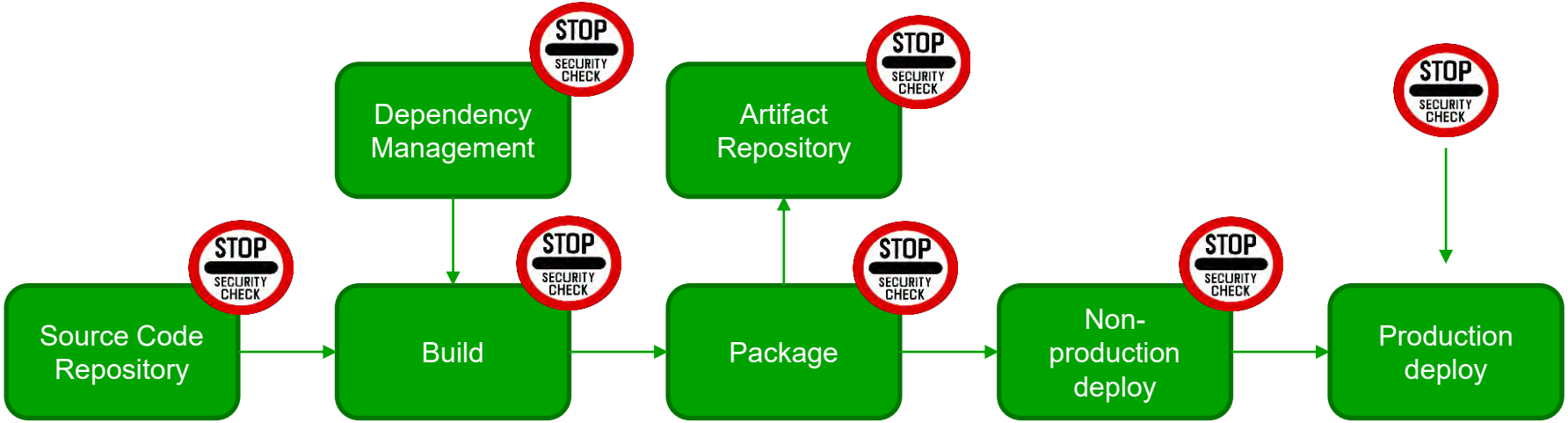
Let’s start with the pipeline



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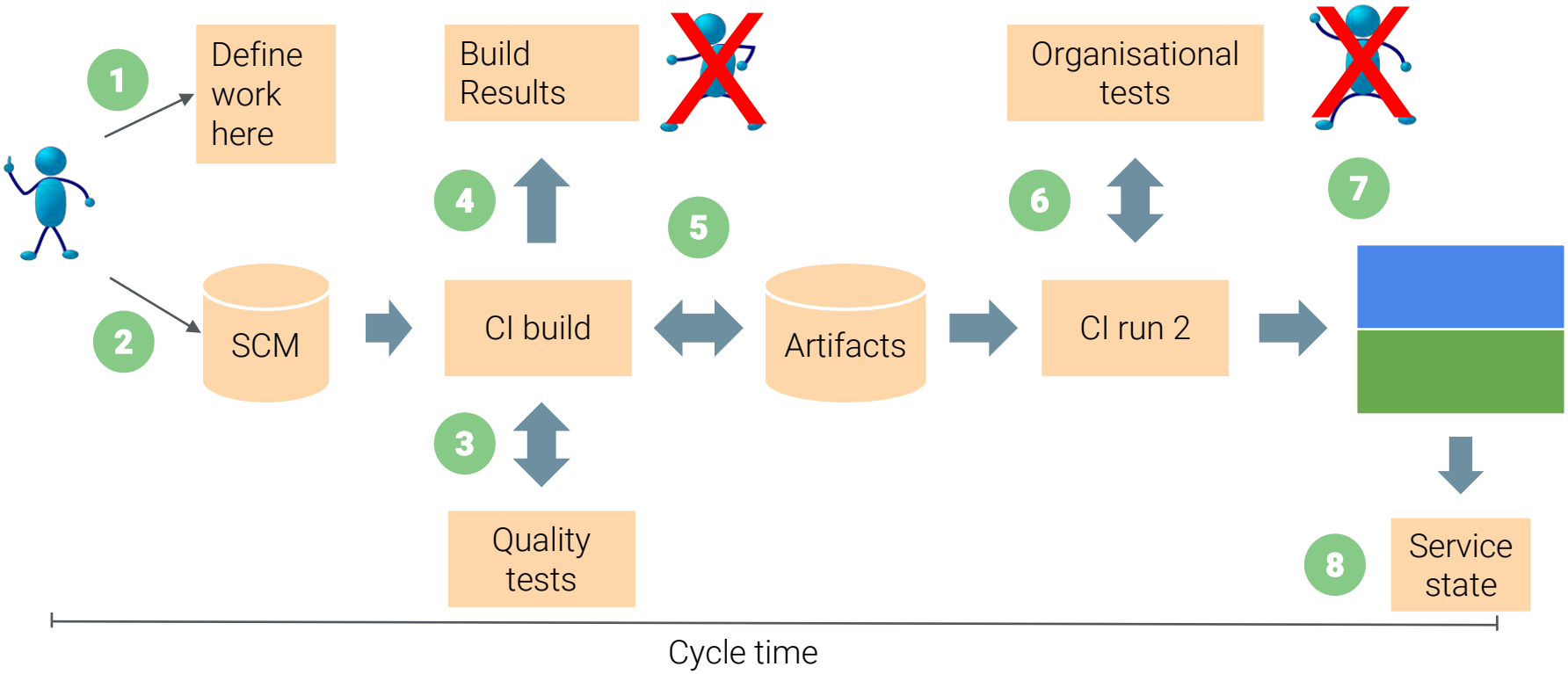
Running the pipe



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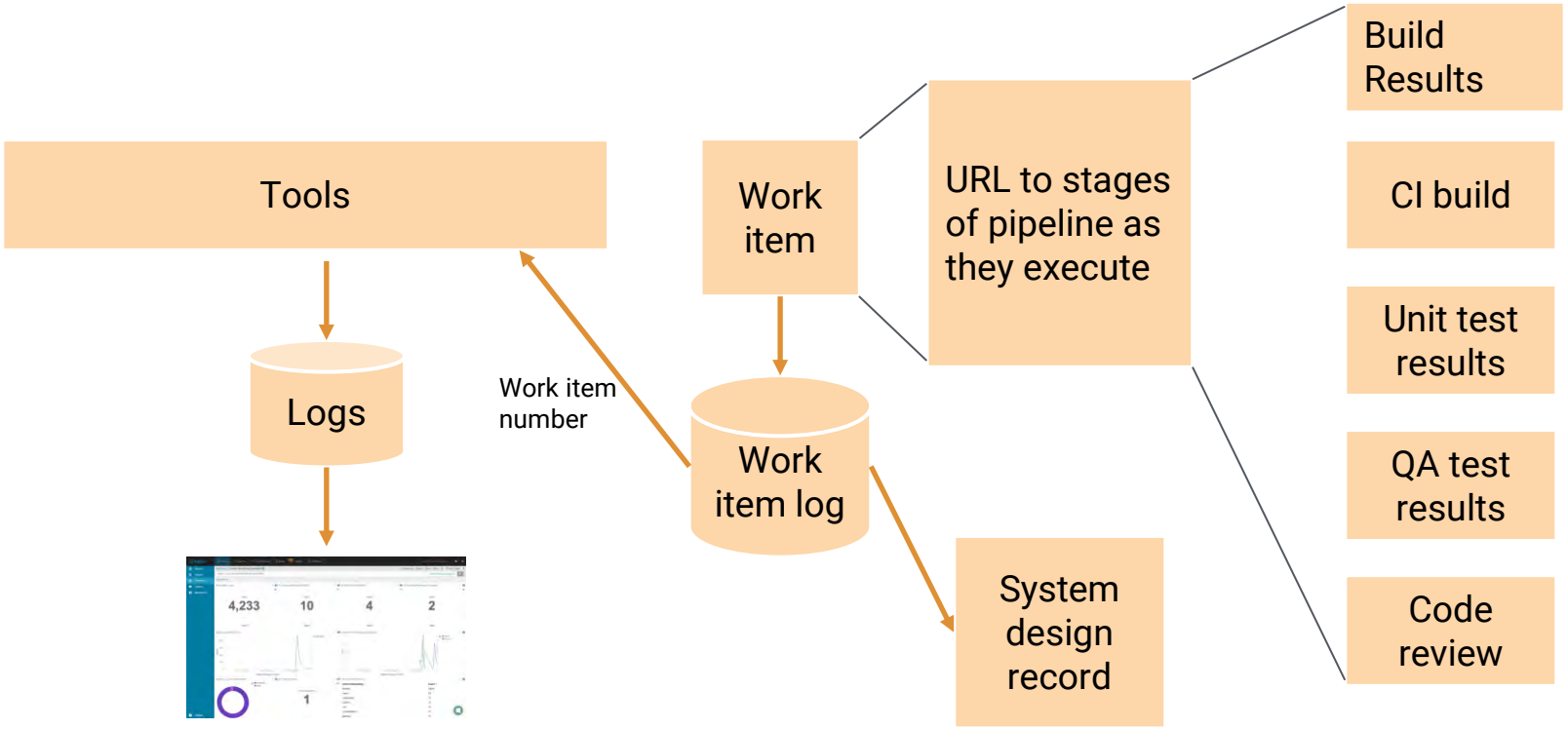
Auditing the pipe



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Paved road

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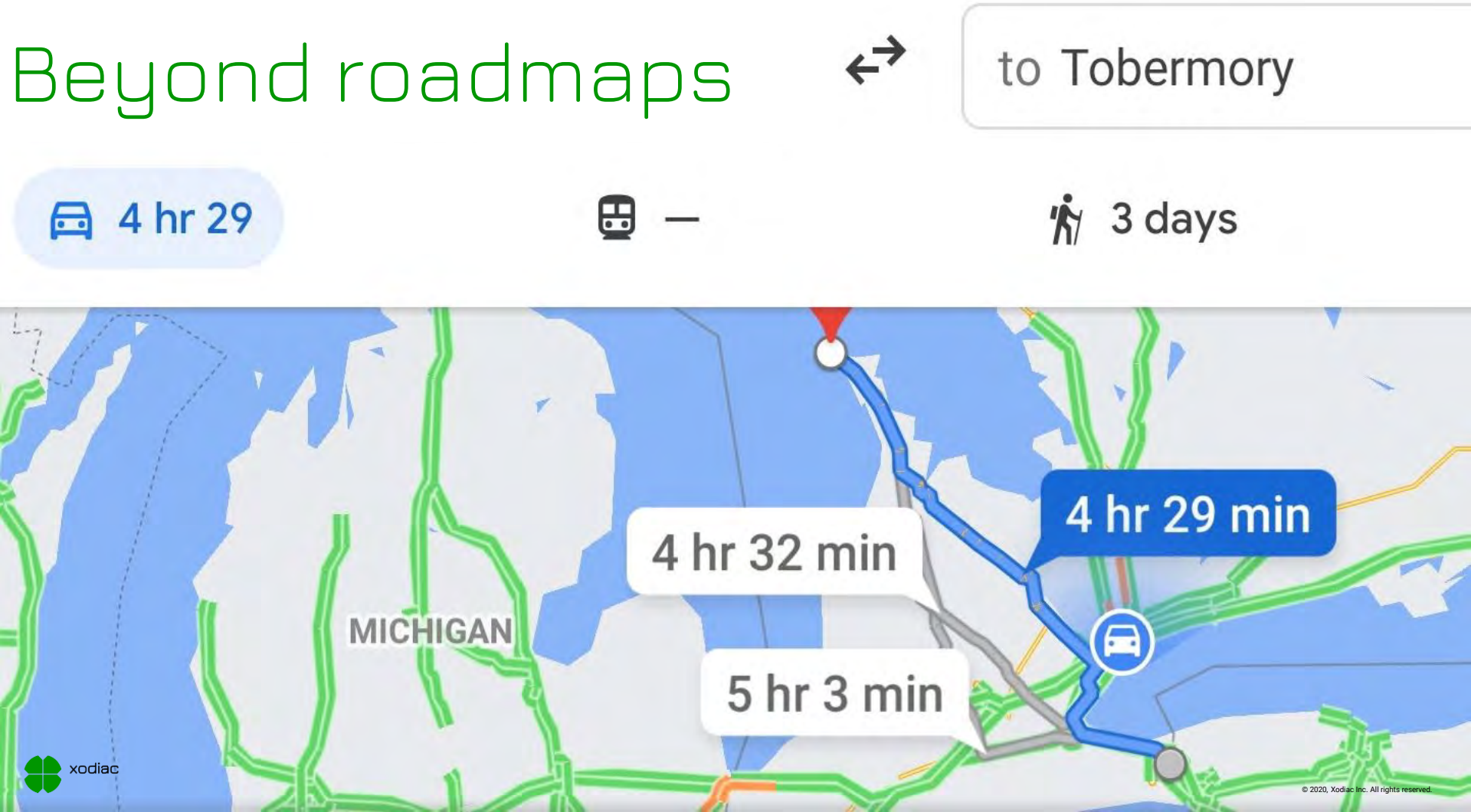
Photo by Jon Flobrant on Unsplash

Beyond roadmaps



Automating Governance

- Not about keeping audit off your back
- Start small, get one team working and grow from there
- Engage leaders, focus on conversation, not tooling

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Talk map

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Modeling

Identify what happens in the pipe	**Traceability**	1	• Chain of custody • Test results for all • Deployed version is tracked • Change is recorded	*Ensure traceability exists*
Secure the delivery process	**Access**	2	• Source code managed • Creator tracked • Build once, deploy many • Pipelines only	*Validate access*
Validate the payload in the pipe	**Compliance**	3	• Peer review • Scan the code • Scan the artifact • Manage the data	*Ensure issues are addressed*
Record execution and monitor	**Operations**	4	• Validate the target • Validate quality • Check it works • Watch it live	*Strengthen team behaviour*

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TACO!

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Example

Purpose	Control	Artifact	Location	Control is passed	Control is failed	Owner
To ensure that for a given request for change, we have a valid chain of custody allowing us to trace where issues occur	All production deployments must have a ticket number. Developers must put the ticket number into the submitted pull request in order for the request to be pushed through to production. All ticket numbers since last production deploy must be included in the pull request.	Ticket	Jira	Pull request contains a valid ticket number and	If PR doesn't contain ticket number, build proceeds but only deploys to dev.	Team lead

Then link this to the tasks to create and the impediments to success

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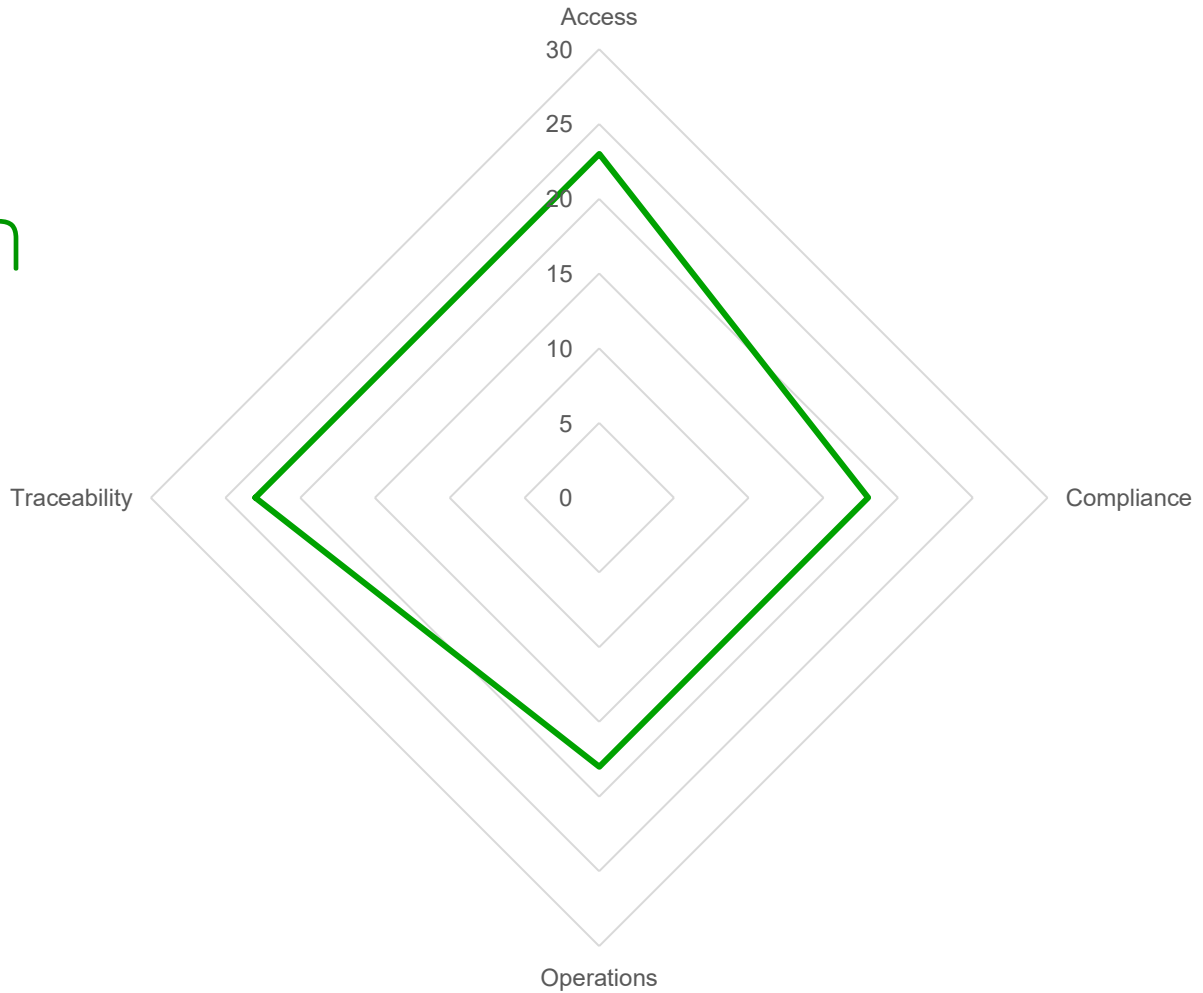
Visualize how much TACO



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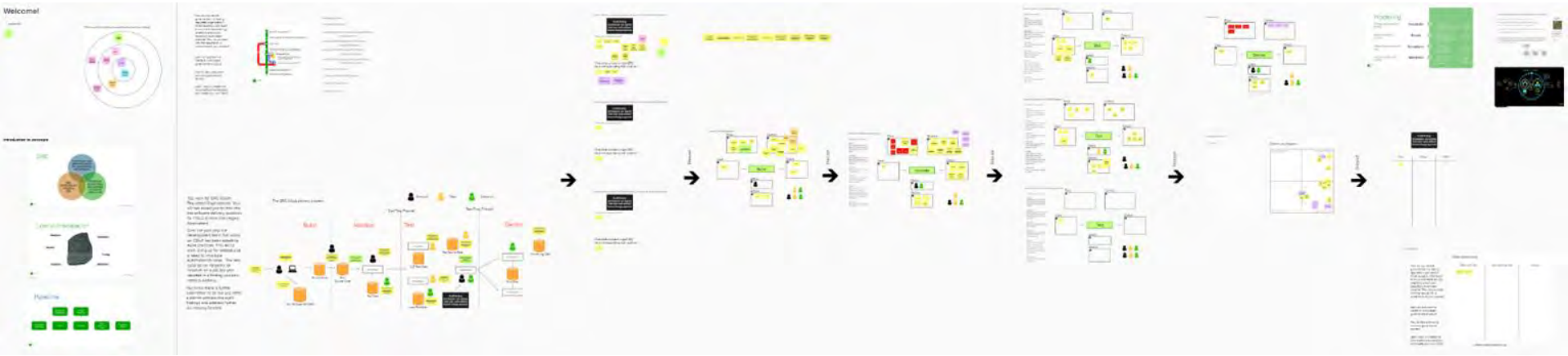
Initial controls design



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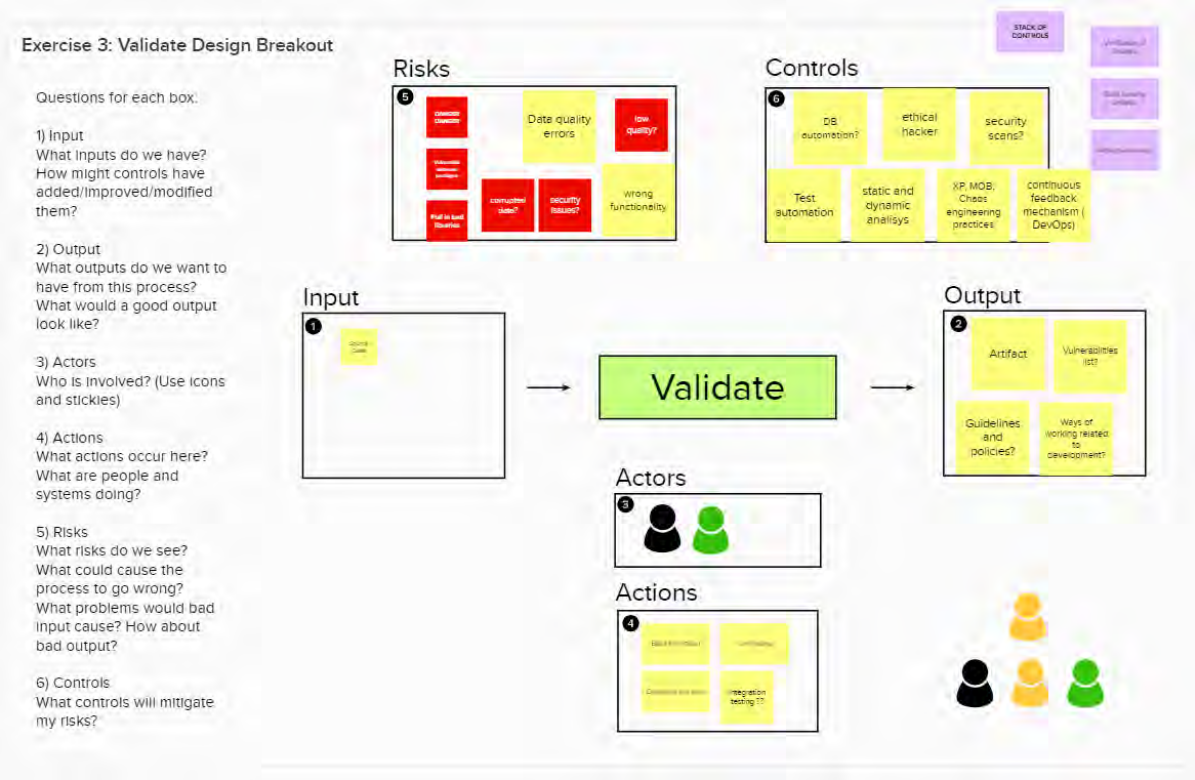
Mapping the controls



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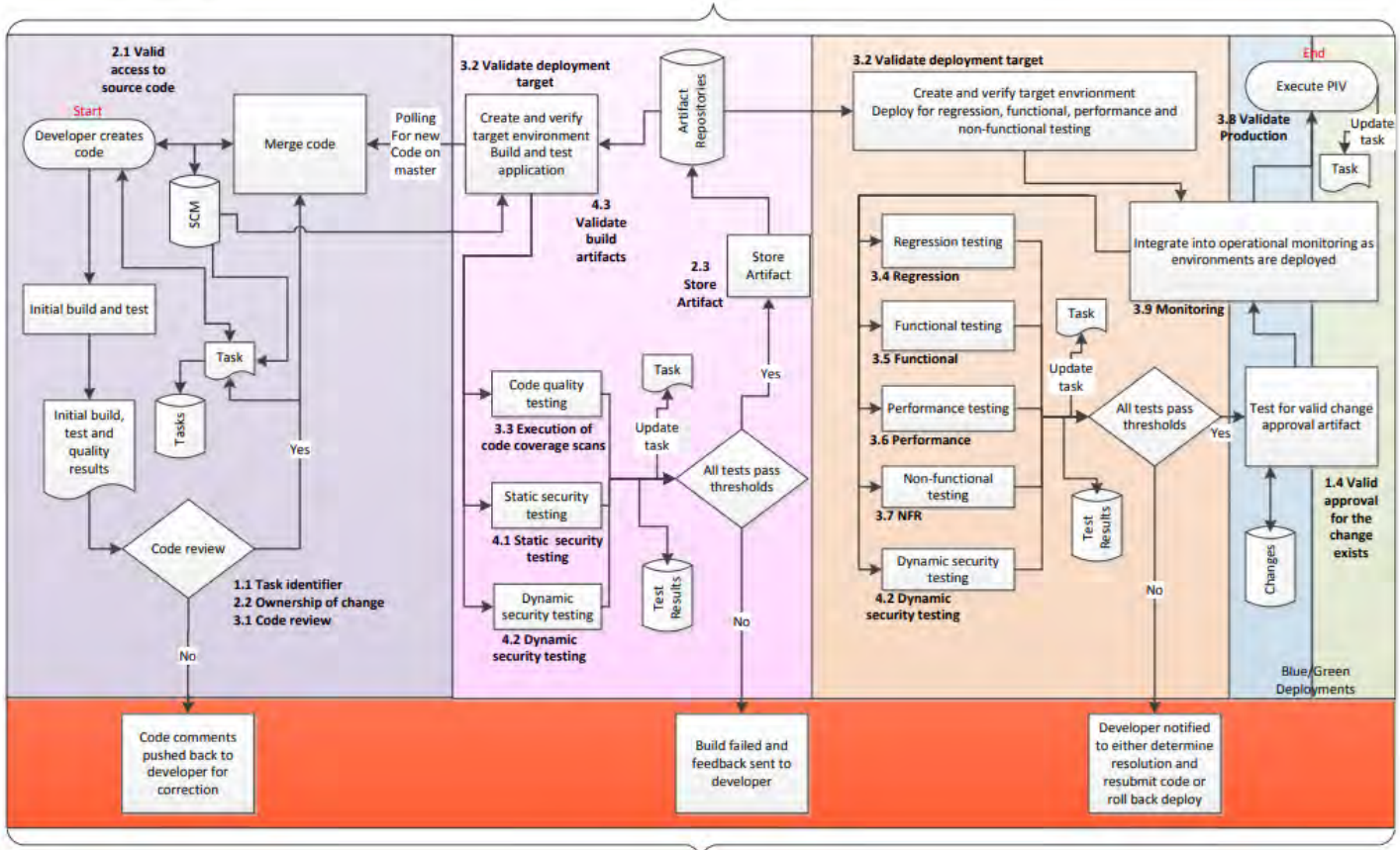
Pipeline general case – Controls example



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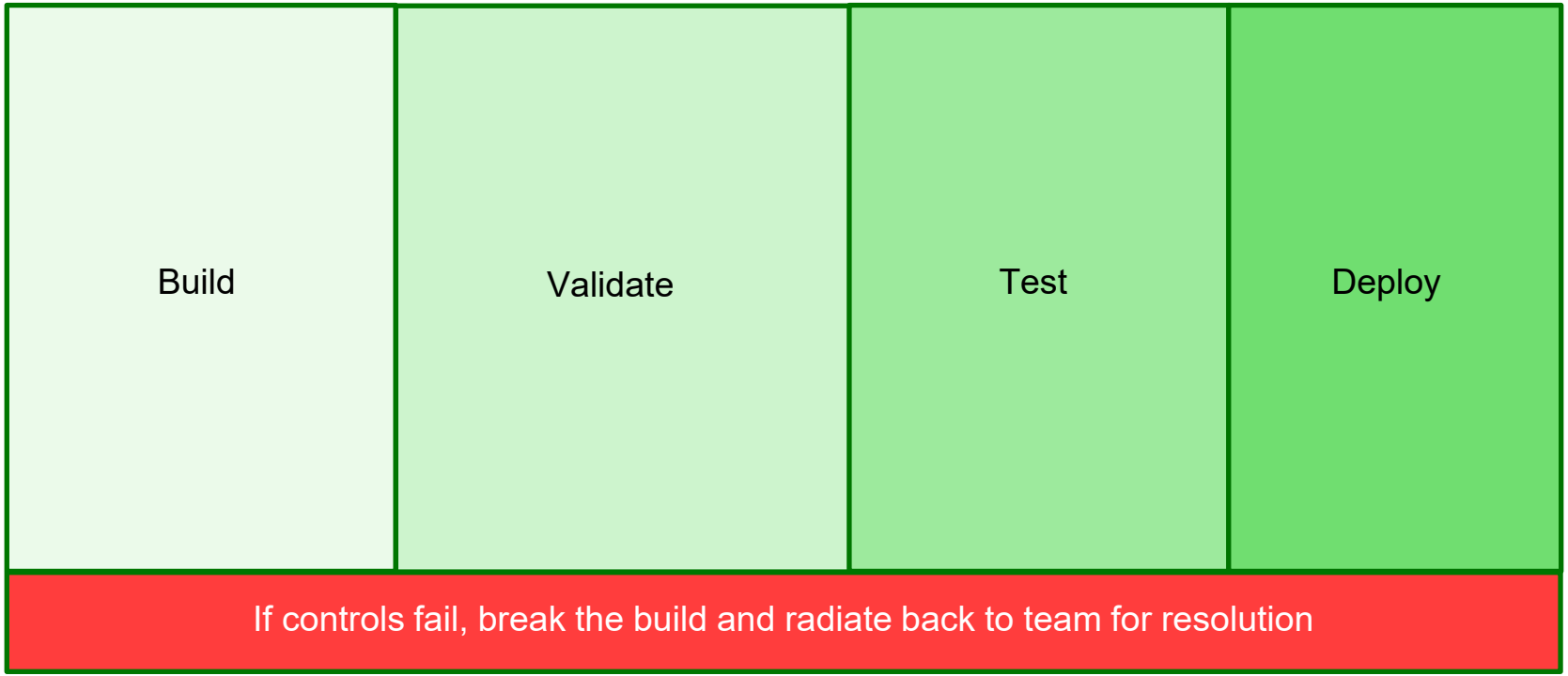
Mapping the controls



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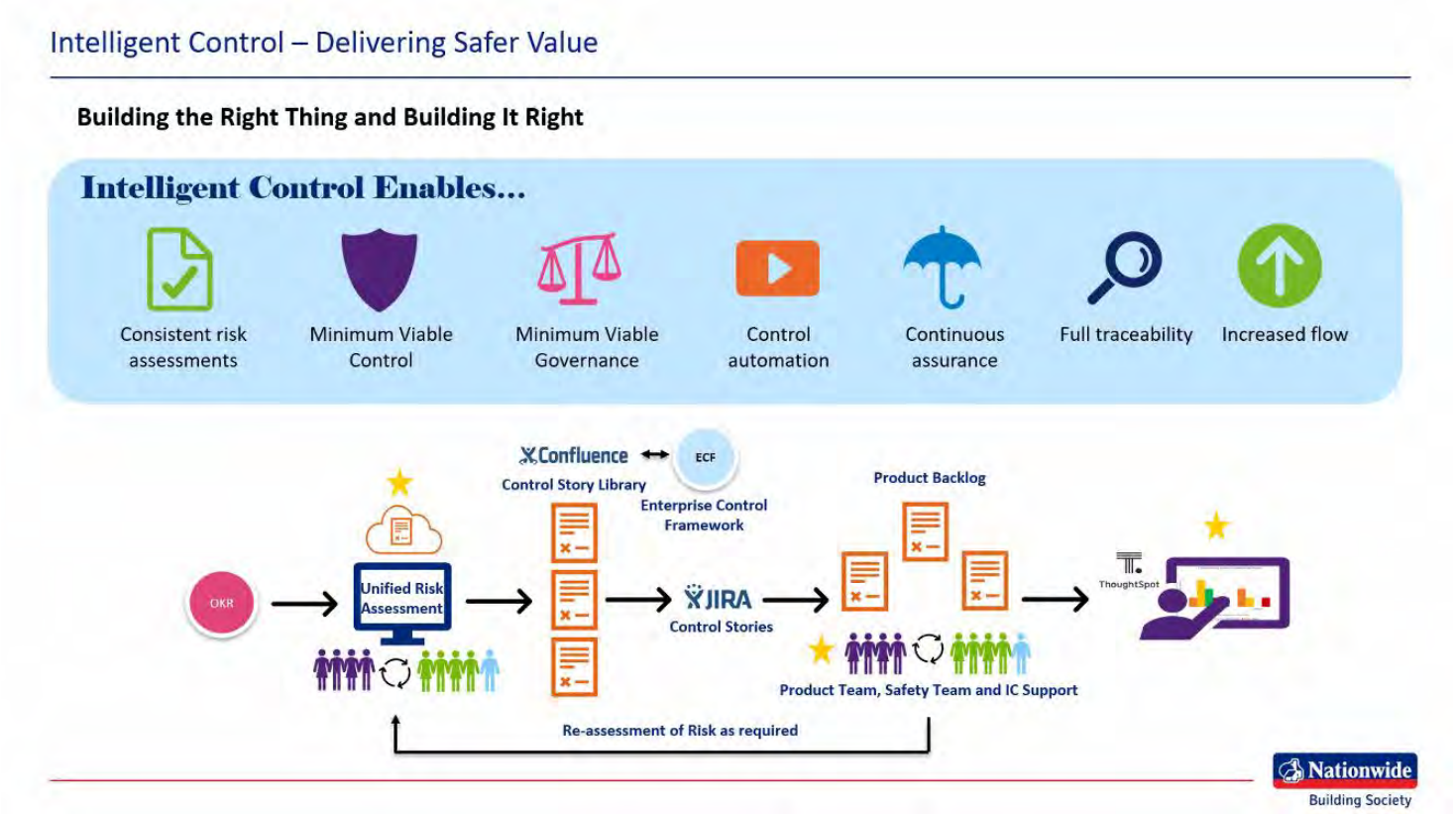
CapitalOne example

- Source code version control
- Optimum branching strategy
- Static analysis
- >80% code coverage
- Vulnerability scan
- Open source scan
- Artifact version control
- Auto provisioning
- Immutable servers
- Integration testing
- Performance testing
- Build deploy testing automated for every commit
- Automated rollback
- Automated change order
- Zero downtime release
- Feature toggle

Another real world example



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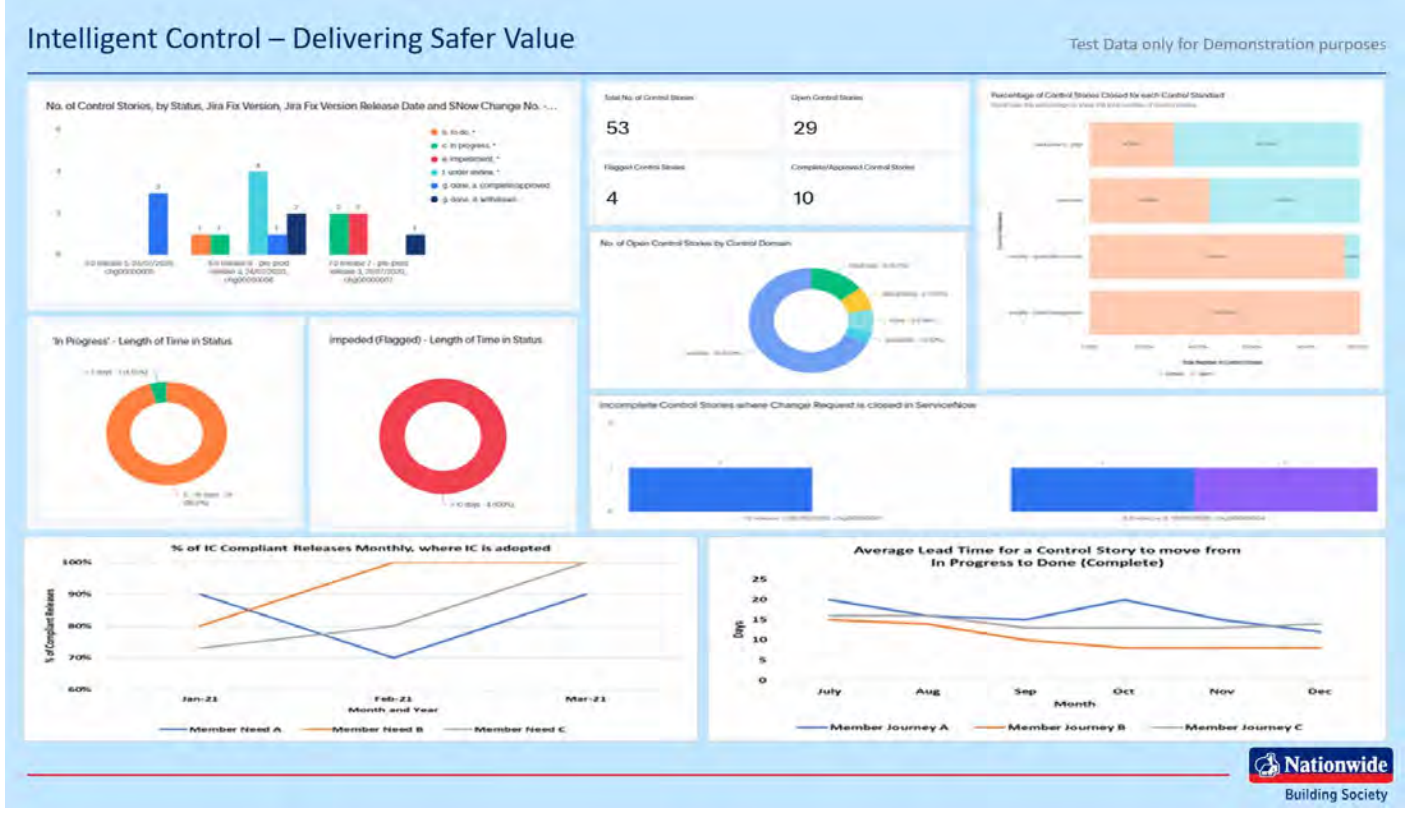
Altogether now, measure



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DevOps

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DevSecOps

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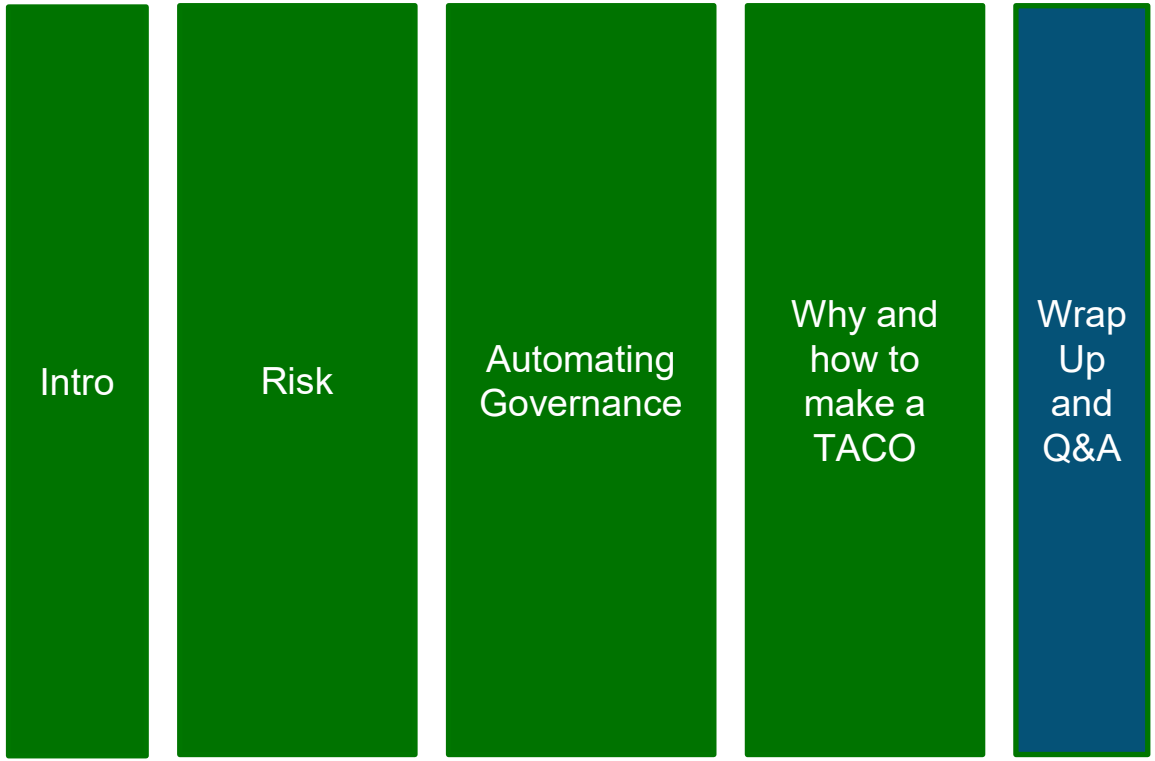
RiskDevRiskOpsRisk

Talk map



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> “We cannot solve our problems with the same thinking we used when we created them”

- Albert Einstein

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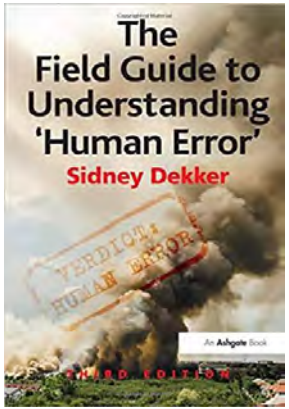
References



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Let's review

- A way to create common understanding of a "good pipeline"
- Safety is about behaviour, not just tools.
- Ways to help automate software delivery compliance

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making every team thrive

Feedback survey (only 1 question is required):

https://forms.xodiac.ca/securing-your-pipes-with-a-TACO

Thank you!

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