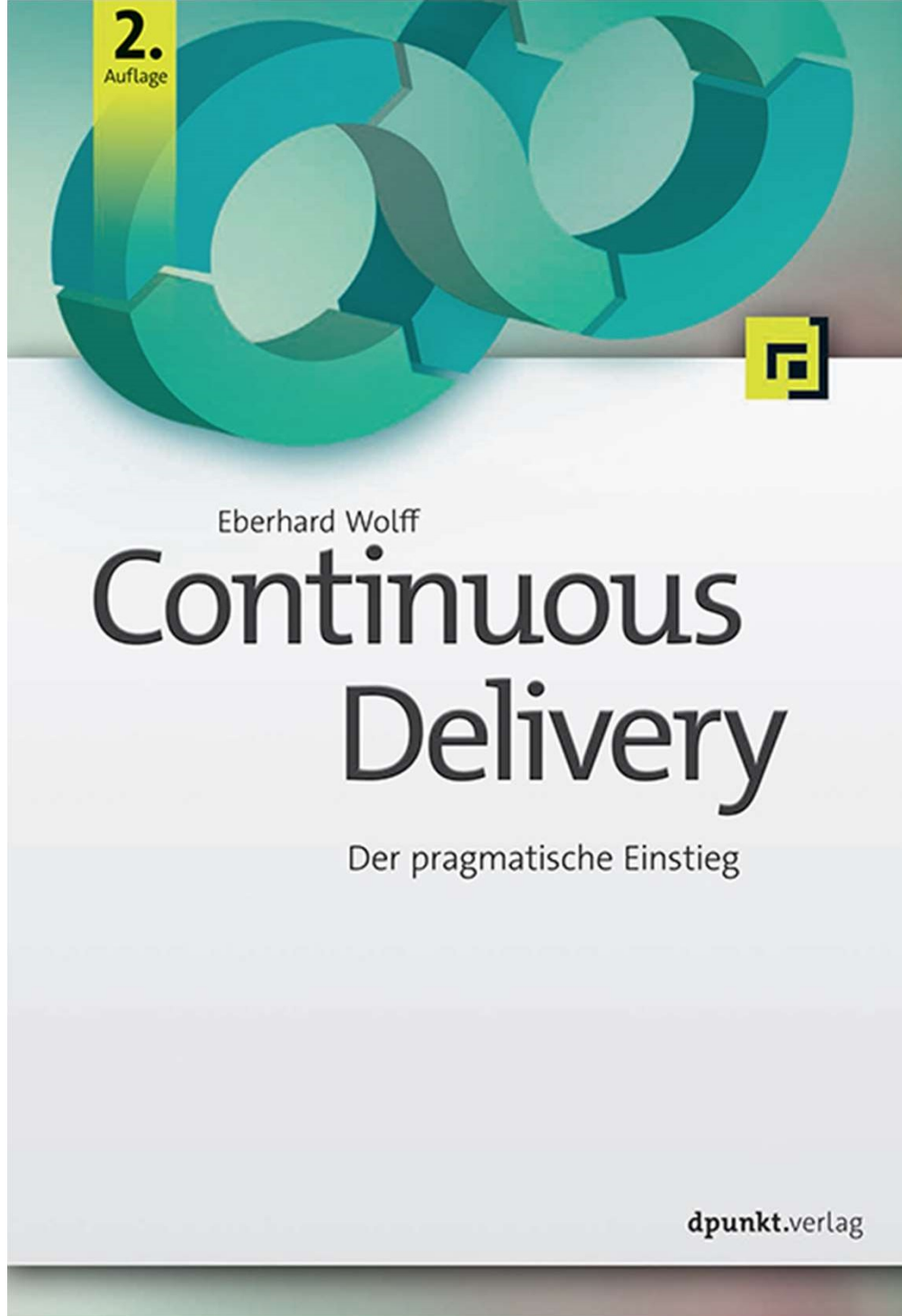


Why Continuous Delivery Doesn't Work

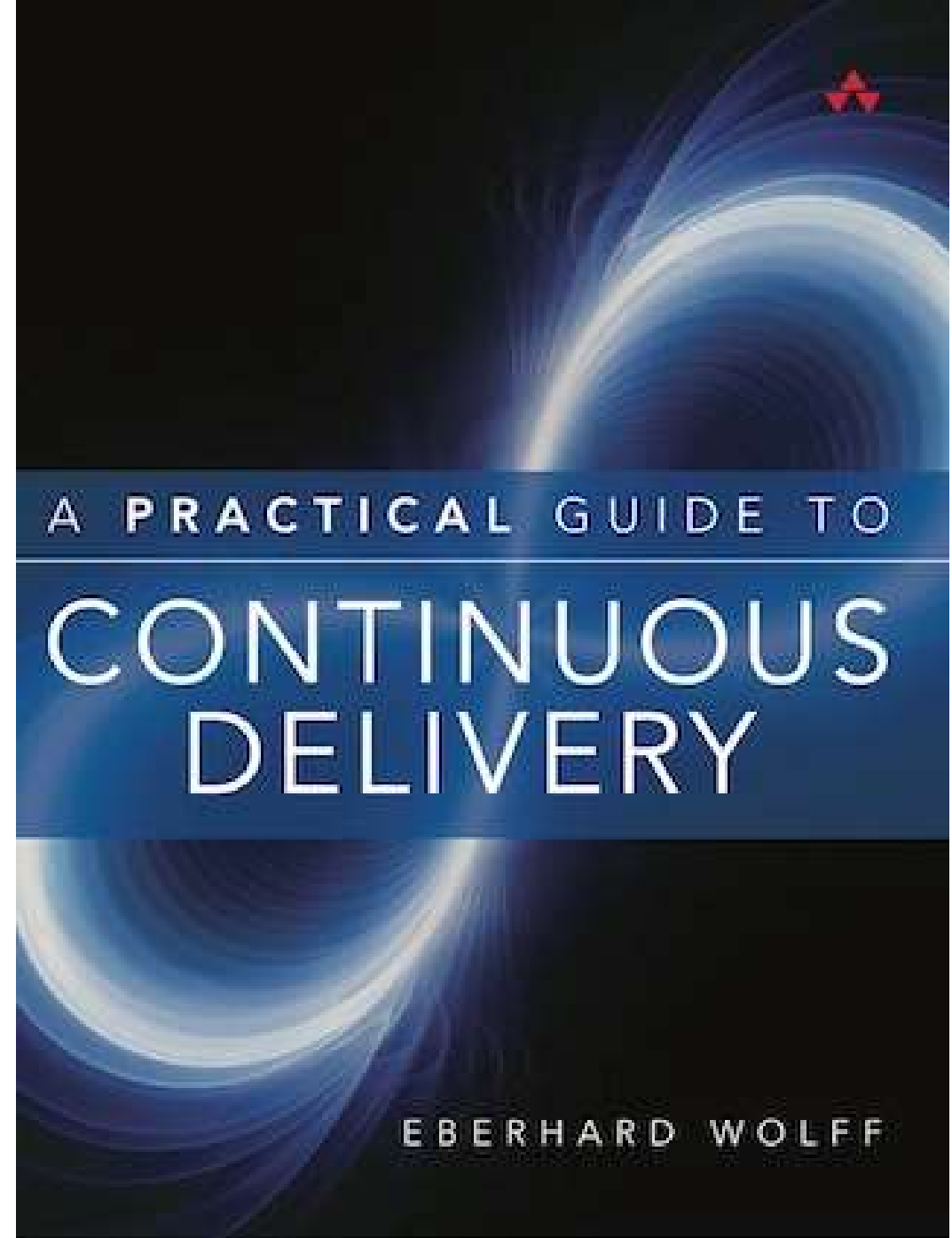


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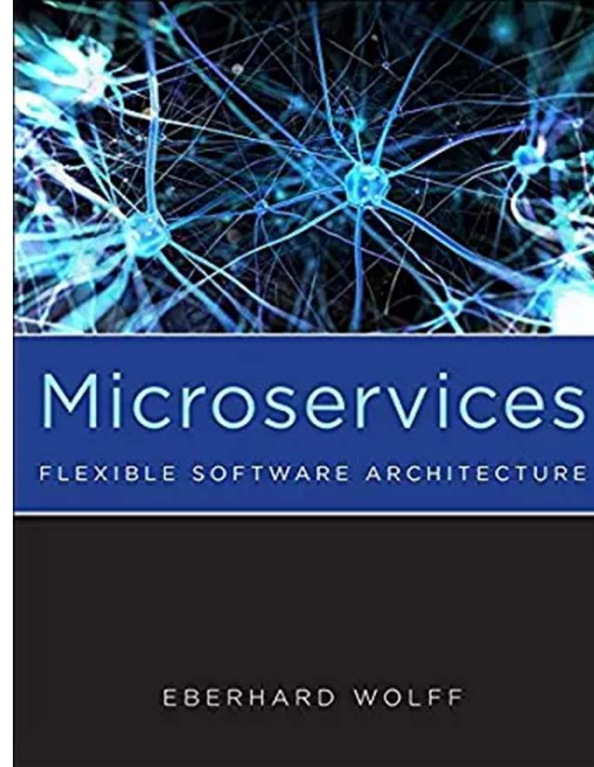
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<http://continuous-delivery-buch.de/>



<http://continuous-delivery-book.com/>



<http://microservices-buch.de/>

<http://microservices-book.com/>



Eberhard Wolff

Microservices

Ein Überblick

INOQ



Eberhard Wolff

Microservices Primer

A Short Overview

INOQ

[http://microservices-buch.de/
ueberblick.html](http://microservices-buch.de/ueberblick.html)

[http://microservices-book.com/
primer.html](http://microservices-book.com/primer.html)

FREE!!!!



Das Eberhard Wolff Microservices- Praxisbuch

Grundlagen, Konzepte und Rezepte

dpunkt.verlag

Microservices



A Practical Guide
2nd Edition

Principles, Concepts, and
Recipes

Eberhard Wolff

<http://microservices-praxisbuch.de/>

<http://practical-microservices.com/>



Eberhard Wolff

Microservices Rezepte

Technologien im Überblick

INNOQ



Eberhard Wolff

Microservices Recipes

Technology Overview

INNOQ

[http://microservices-praxisbuch.de/
rezepte.html](http://microservices-praxisbuch.de/rezepte.html)

[http://practical-microservices.com/
recipes.html](http://practical-microservices.com/recipes.html)

FREE!!!!



FREE!!!!

<http://ddd-referenz.de/>
<https://domainlanguage.com/ddd/reference/>



FREE!!!!

<http://leanpub.com/service-mesh-primer/>

Why Continuous Delivery?

**Lead time =
faster time to
market**



<https://puppet.com/resources/whitepaper/state-of-devops-report>

30.000

survey

responses



Dr. Nicole Forsgren is Co-founder, CEO, and Chief Scientist at [DevOps Research and Assessment \(DORA\)](#) and co-author of the book [Accelerate: The Science of Lean Software and DevOps](#). She is best known for her work measuring the technology process and as the lead investigator on the largest DevOps studies to date. She has been a professor, sysadmin, and performance engineer. [Nicole's work](#) has been published in several peer-reviewed journals. Nicole earned her PhD in Management Information Systems from the University of Arizona, and is a Research Affiliate at Clemson University and Florida International University.

Jez Humble is co-author of [Accelerate](#), [The DevOps Handbook](#), [Lean Enterprise](#), and the Jolt Award-winning [Continuous Delivery](#). He has spent his career tinkering with code, infrastructure, and product development in companies of varying sizes across three continents, most recently working for the U.S. government at [18F](#). He is currently researching how to build high-performing teams at his startup, [DevOps Research and Assessment](#), and teaching at [UC Berkeley](#).



Gene Kim is a multiple award-winning CTO, researcher, and author. He was founder and CTO of Tripwire for 13 years and is the co-author of *The Phoenix Project: A Novel About IT, DevOps, and Helping Your Business Win*, *The DevOps Handbook*, and the newly-released *Accelerate*. Since 2014, he has been the organizer of the [DevOps Enterprise Summit](#), studying the technology transformations of large, complex organizations.

High Deployment Frequency

- Multiple times per day
- On Demand

High Deployment Frequency: Result

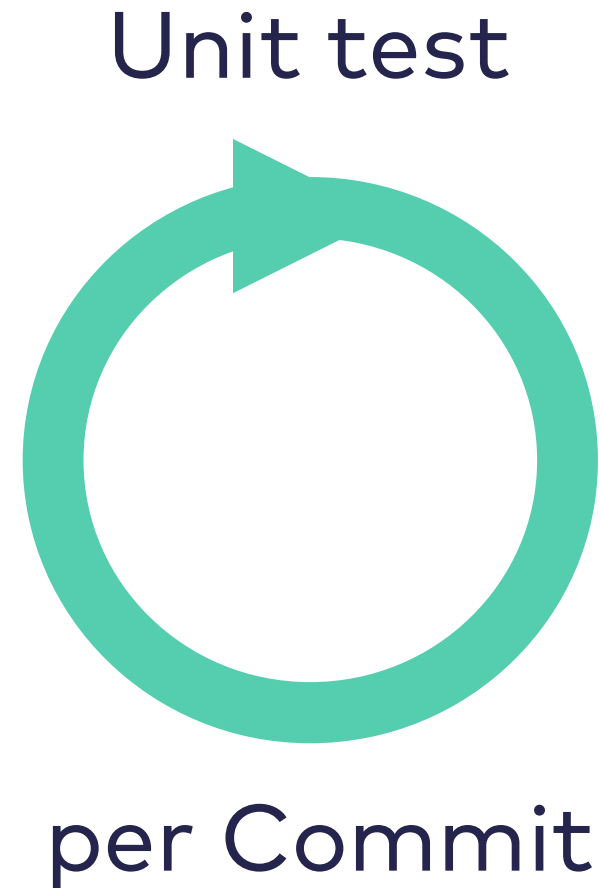
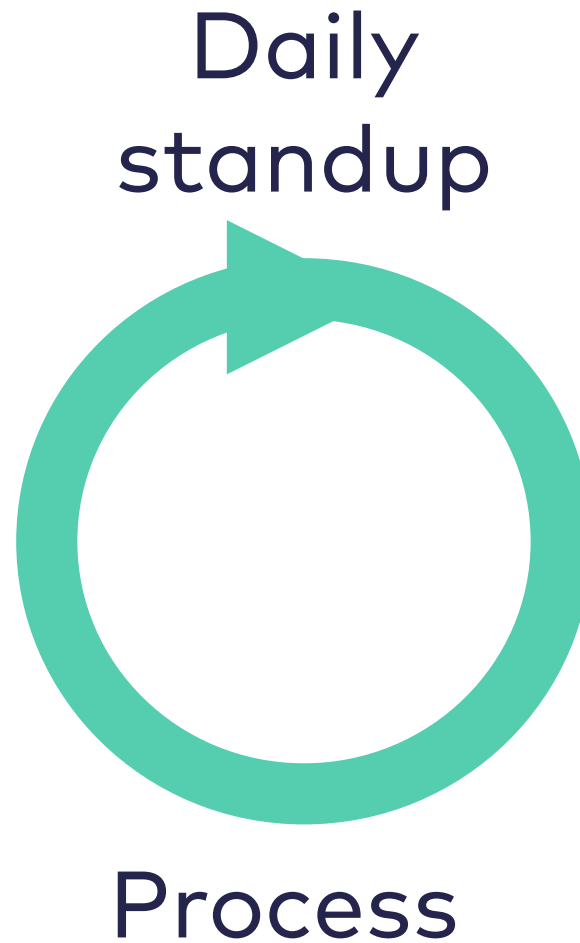
- Better lead time
- Better time to restore service
- Lower change failure rate
- Less unplanned work and rework
- Less work on remediating security issues
- Less work on defects identified by end user
- Less customer support work
- 2/3 more new work (e.g. new features)

**Better live
through
Continuous
Delivery!**

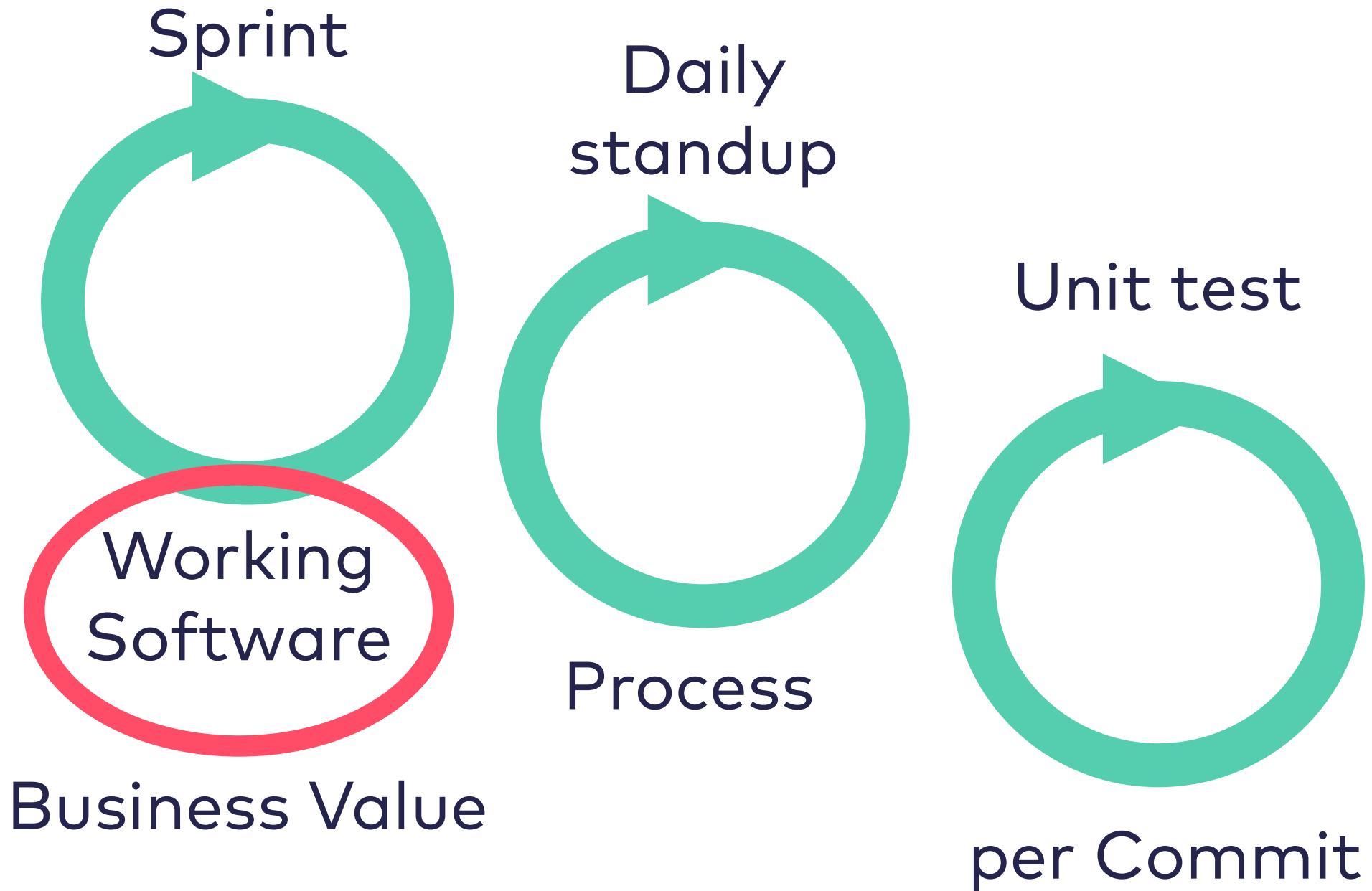
**Deployment:
not
necessarily
new features**

**Actually it's
about
feedback!**

Feedback Loops



Feedback Loops



Feedback Loops

Multiple Times

per day



Working
Software

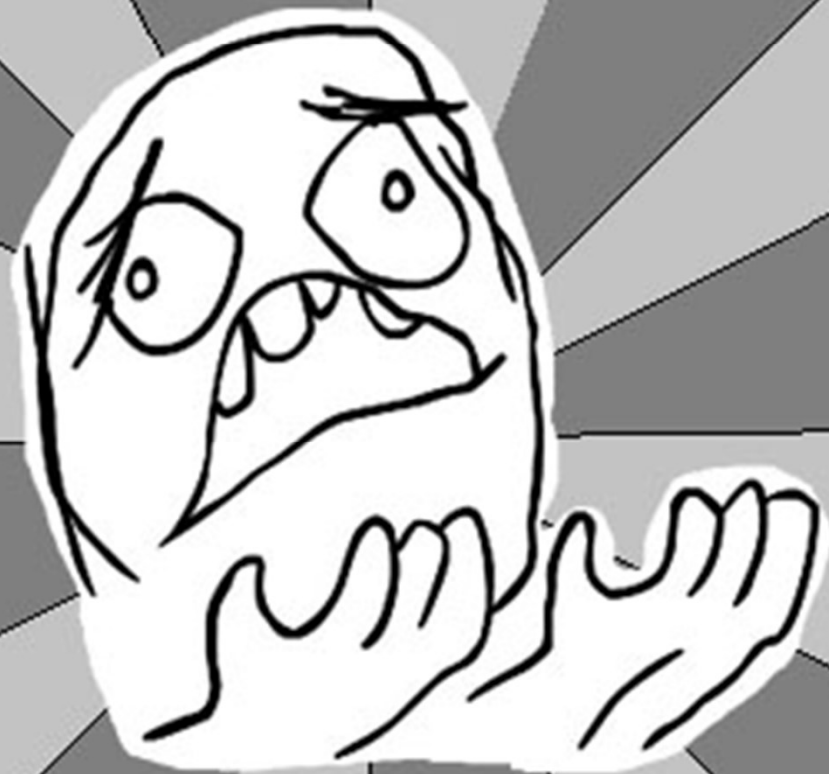
Business Value

Experiments

- Working software should be experiments
 - What works / what doesn't?
 - Metric-based feedback about software
 - Conversion funnel
 - A/B testing
-
- <https://www.innoq.com/de/podcast/053-metric-driven-development/>

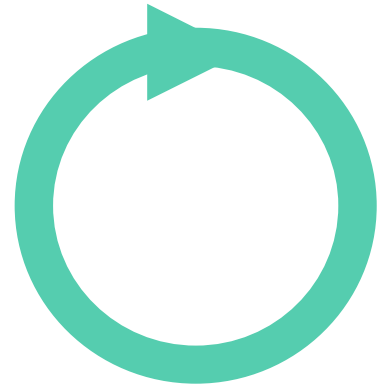
**Continuous Delivery
provides a way to do more
experiments.**

FEEDBACK



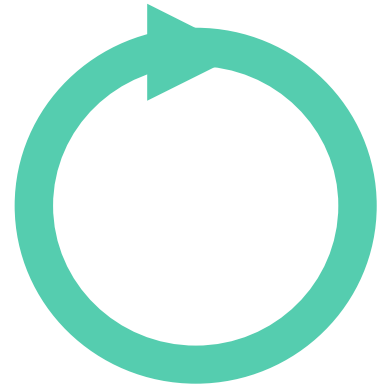
Y U NOT WANT IT???

Feedback



- Feedback is only valuable
...if you had a bad concept about reality.
- It is hard to admit your concept is wrong
...in particular if it is **your** plan for **your** product.

Feedback



- Feedback is only really valuable
...if you had a bad concept about reality.
...basically a mistake
- Life is easier without reminder about mistakes.

60%– 90% of ideas do not
improve the metrics they
were intended to improve

Ronny Kohavi

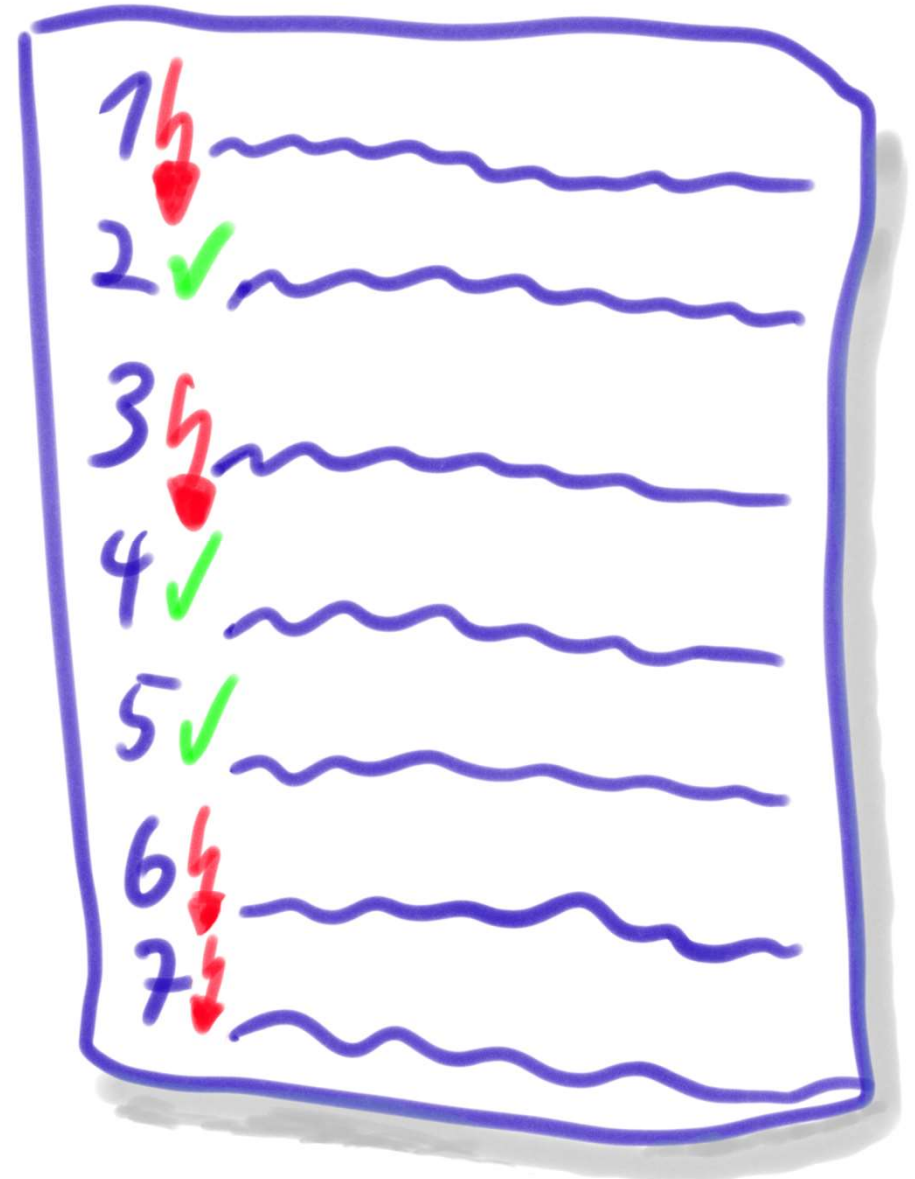
Former Head Data Mining and Personalization group

Amazon

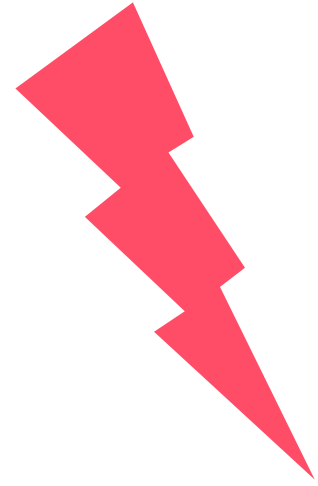
Source: Lean Enterprise, Humble et al

Product Managers: Lots of Mistakes

- More than half of the features are worthless...
...or hurt business goals.
- Many businesses doesn't even know the KPIs.



Mistakes

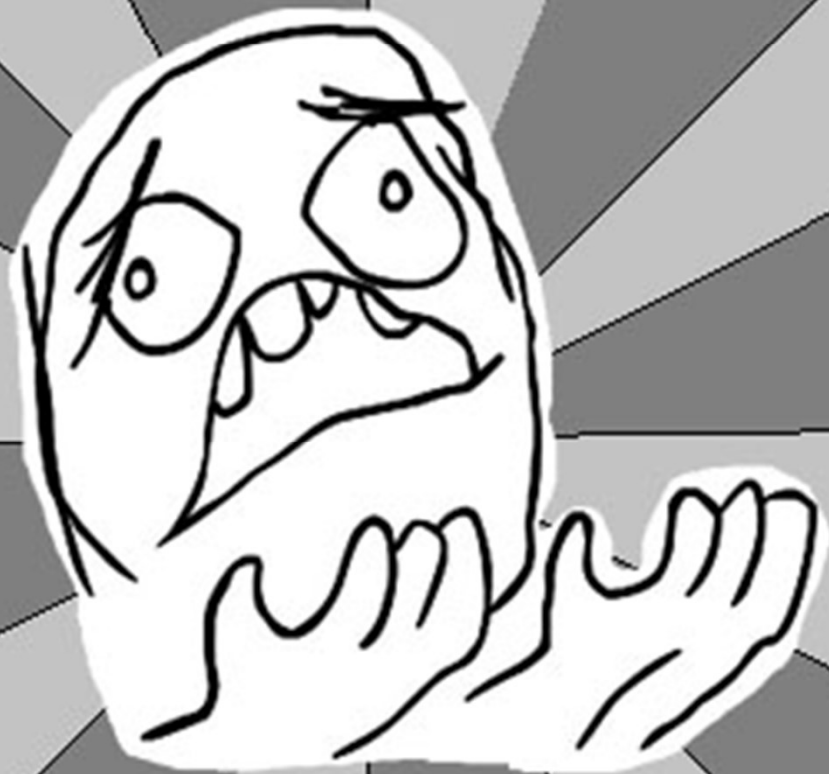


- Managers or employees might be fired because of mistakes.
- So better make none
- So better don't seek feedback

**But we need
to train users!**

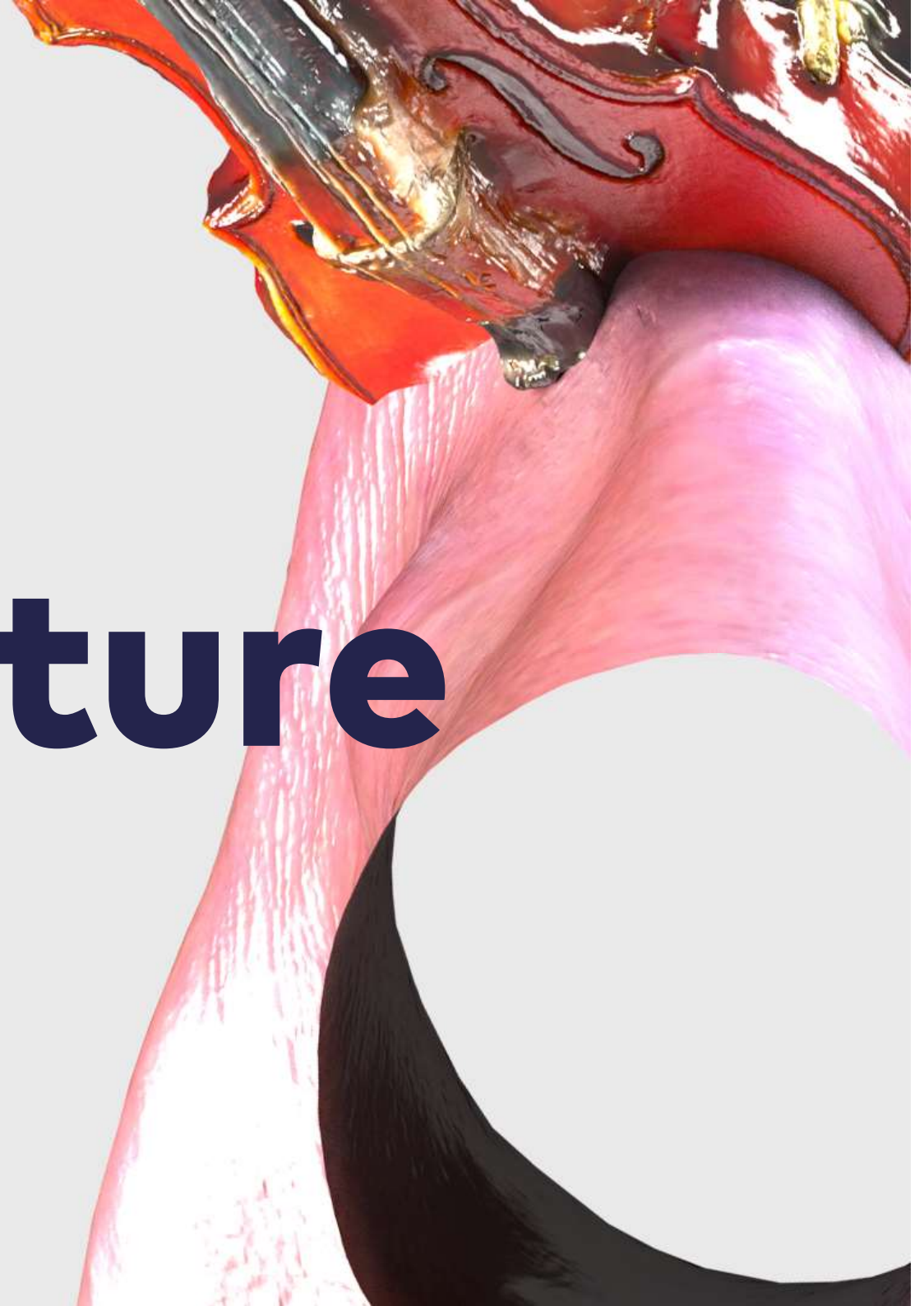
**But users
don't want
new features!**

BETTER TOOLS!



Y U NOT WANT?

Culture



Nummi Plant



Ellen Levy Finch [https://commons.wikimedia.org/wiki/
File:NUMMIplantMissionPeakPanorama_3199.jpg](https://commons.wikimedia.org/wiki/File:NUMMIplantMissionPeakPanorama_3199.jpg)

Nummi Plant



Nummi Plant

- Founded 1962 as the GM Fremont Assembly
 - "Worst workforce in the US automobile industry"
 - Alcohol
 - Absence so line would shut down
 - Sabotage
-
- Management didn't consider workers' perspective
 - Quantity over quality

Nummi Plant

- 1984 New United Motor Manufacturing
- Joint venture GM / Toyota
- Rehired 85% of work force
- Some sent to Japan to learn the Toyota Production System
- Achieved same productivity and defect rate as Toyota Japan

Toyota Production System

- Continuous improvement
- Respect for people
- Long-term philosophy
- Right process will produce the right results
- Add value to the organization by developing your people and partners
- Continuously solving root problems drives organizational learning

Nummi Plant: Drivers for Change

- Emphasis on teamwork

...and quality

- Same uniform,

parking,

cafeteria for all levels of employment

- No-layoff policy

Nummi Plant: Drivers for Change

- Built-in process quality
 - Employee suggestion program
 - Continuous improvement
 - Consensus decision making
-
- <https://en.wikipedia.org/wiki/NUMMI>

Nummi Plant: The End

- By 1998 GM couldn't still do Lean in the rest of the US.
- 2009 GM ended joint-venture
- 2010 Toyota closed the plant

Nummi Plant Today: Tesla



Lessons to Learn

- Lean production is not reducing inventory
- Key is a different culture
...that an existing workforce can learn.
- Continuous Delivery is not a pipeline.
- Culture is key!

Lessons to Learn

Culture is key

...to accept feedback

...to deal with mistakes

...to make users appreciate better tools

...and demand better tools



How?

**Management can not just
order a cultural change to
happen!**


**Commercial failure makes
the problem obvious but
hard to solve.**

Pressure won't help.

External Consultants

- External consultants can point out optimizations
...and help to understand the situation
- But they cannot really change it.

Management can just do it!



We have delays
...more delays
...again.

OK.

How can I help?

Wow!

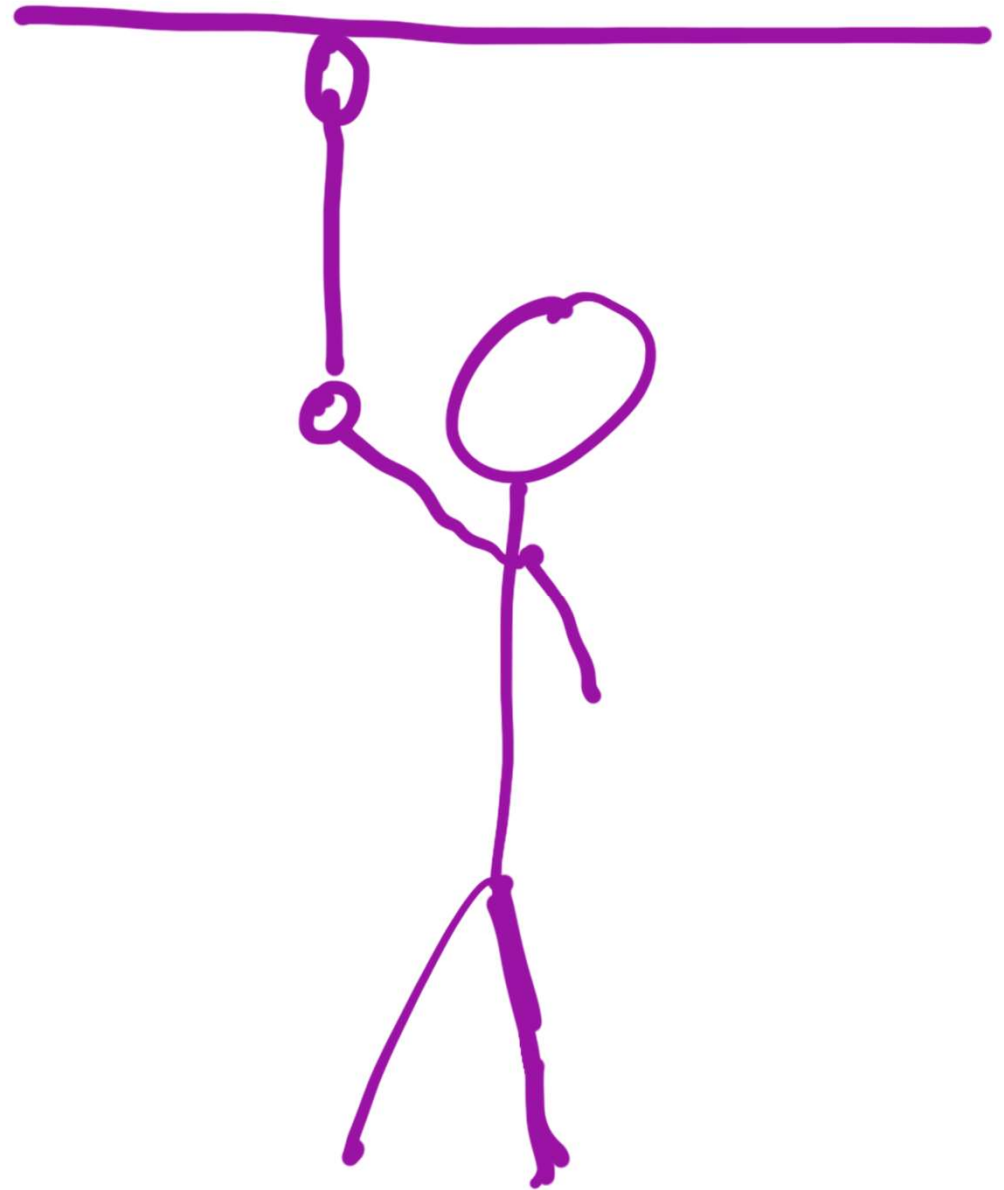
Jidōka

- If there is an issue
...stop the line!
...and people will help
- Can cause considerable financial loss
...but efficient in the long run.
- Empowerment of employee
- Serious about quality



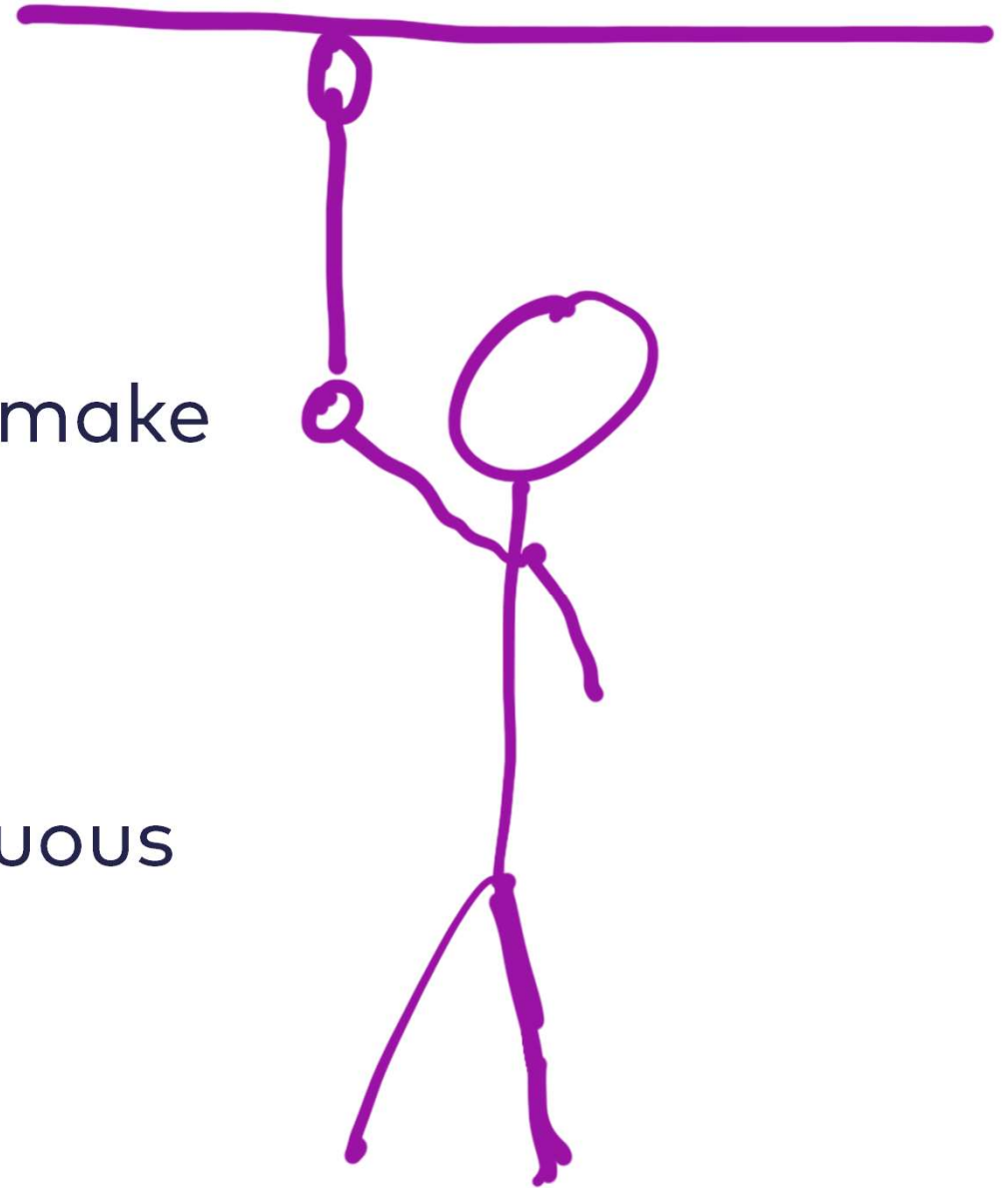
Jidōka

- Autonomation
= automation with a human touch
- A way to optimize automation
...by attacking root causes.



Jidōka

- For continuous delivery:
Give everyone the right to make
the team gather
...and solve a problem
...in particular if the continuous
delivery pipeline is red



Find Your Own Way!

- A cultural shift heavily depends on the environment.
- Human interactions are hard to predict.
- You cannot expect a simple concept to make everything work.

Find Your Own Way!

- Stepwise
- Seek feedback
- The Lean way to do Lean...

Separate team

Cultural shift

Continuous
Delivery

Microservices

...

Current
organization

Separate team



Current
organization

Separate team

Rest of organization
will move at the end!





Continuous Delivery & Agile

Continuous Delivery & Agile

- Continuous Delivery is a core concept of Agile
- Feedback is a core concept of Agile
- Agile has a cargo cult problem
- Adapt Scrum – done!

Agile Issue

- Transparent progress only works if feedback is welcomed.
 - Must welcome feedback from production
 - Project success should be a common goal
- ...but often it is just the career.

<https://www.innoq.com/en/blog/the-problem-with-agility/>

**Agile, too, only works if
culture changes.**

**Continuous Delivery is just
the technical side of Agile.**



Conclusion

Conclusion

- Continuous delivery can improve time-to-market
- ...and your life!

Conclusion

- We are still learning the Toyota Production System.
- Don't cargo cult!
- It's about culture!
- It's about open feedback!

Conclusion

- Improve stepwise!
 - There is no final goal
- ...and there is no universal truth about what works.
- Software engineering is really social science.