

Introduction to DevOps

Understanding of DevOps principle and practices and how DevOps approaches can help organizations improve agility, increase revenues, lower costs, and become more competitive.

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Mohd Lee | BAG Networks/Anak IT



#bagnetworksbn | www.bagnetworks.com.bn

- A Bruneian market leader in ICT consulting & outsourcing services provider. Follow our story and find out how we can help



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About Mohd Lee



- Father of 3
- 20 years in IT
- Enjoy solving problems
- Featured in TBBT by Sheldon
- <https://www.linkedin.com/in/mohd-lee>

What is Dev and Ops?



Dev Ops

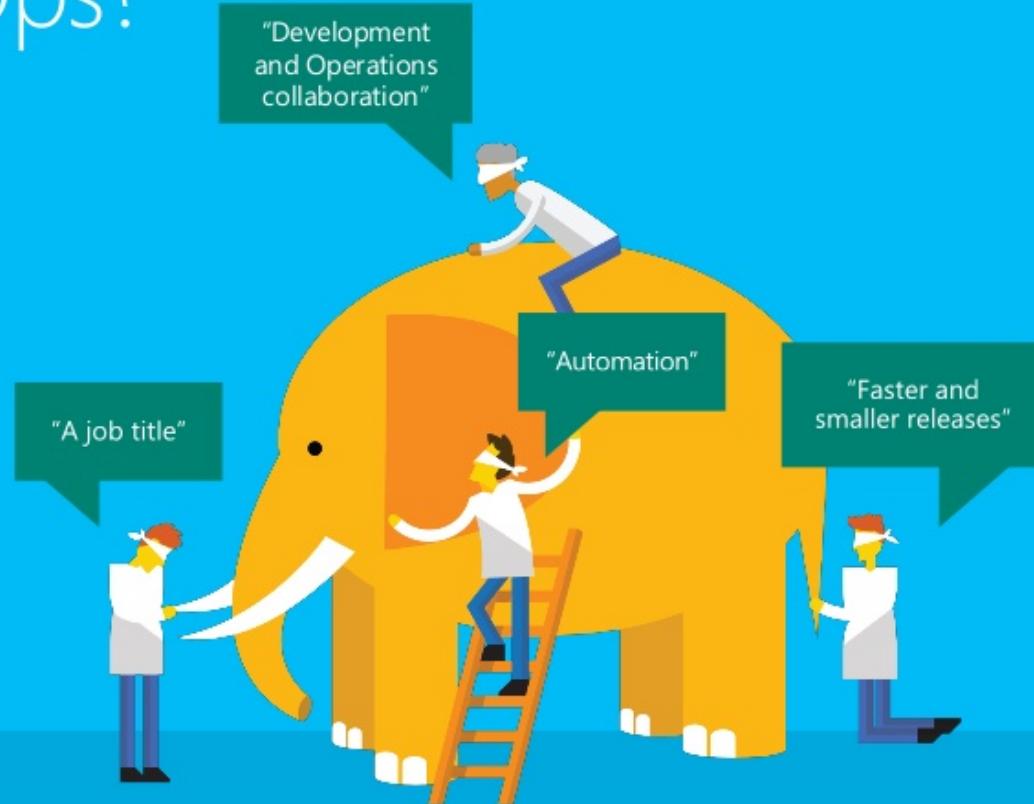
- developer • operation
- business • support
- sales • maintenance



What is DevOps?



What is DevOps?



”DevOps is a *cultural* and
professional movement”

Adam Jacob - CTO & Co-founder of Chef



Why do we need DevOps?



#1: IT is
everywhere



"Companies in every industry need to assume that a software revolution is coming"

Marc Andreessen (2011) - *Co-founder of Netscape and Andreessen-Horowitz VC firm*

95% of all capital projects have an IT component...

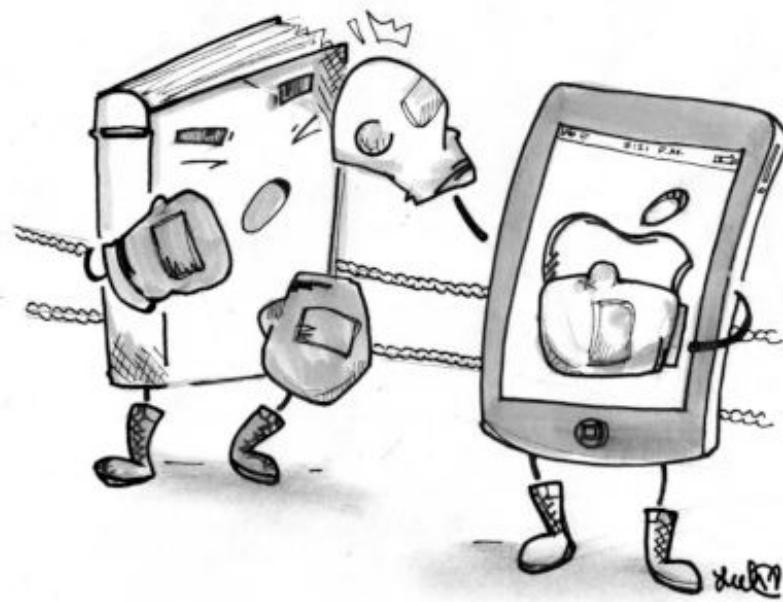
50% of all capital spending is technology-related





*Ocean of traditional
Business*

©2016 synteggs





What about locally here?

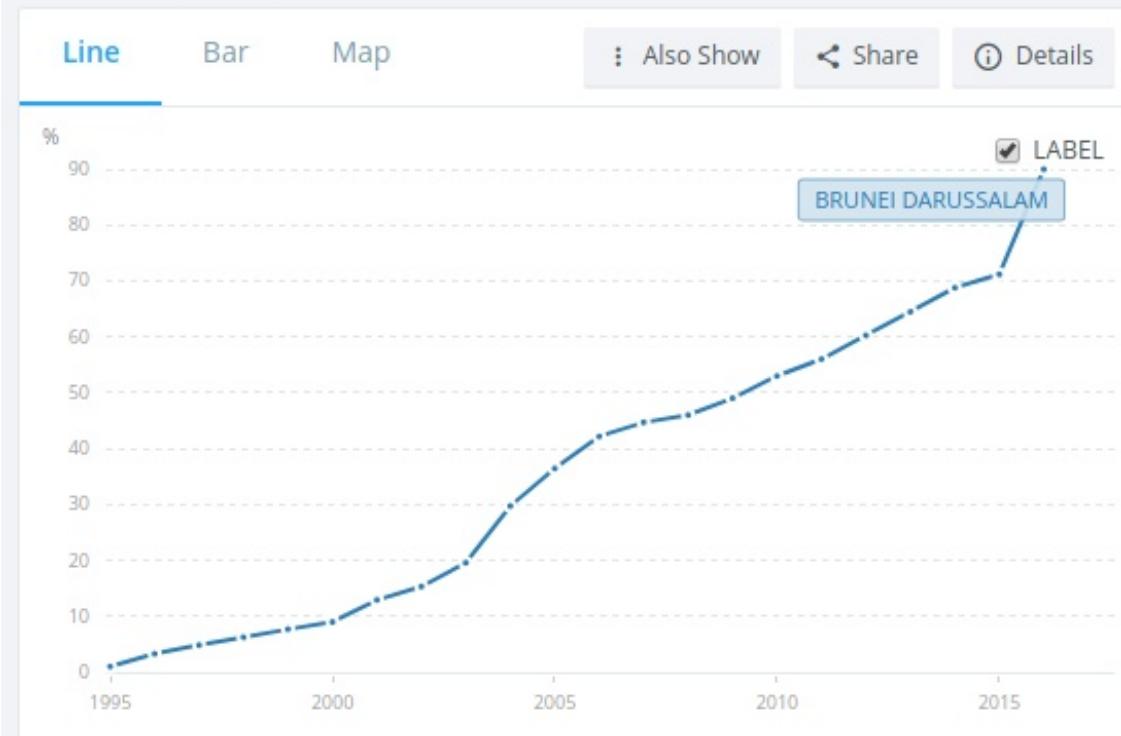


In Brunei

Individuals using the Internet (% of population)

International Telecommunication Union, World Telecommunication/ICT Development Report and database.

License : CC BY-4.0 [i](#)

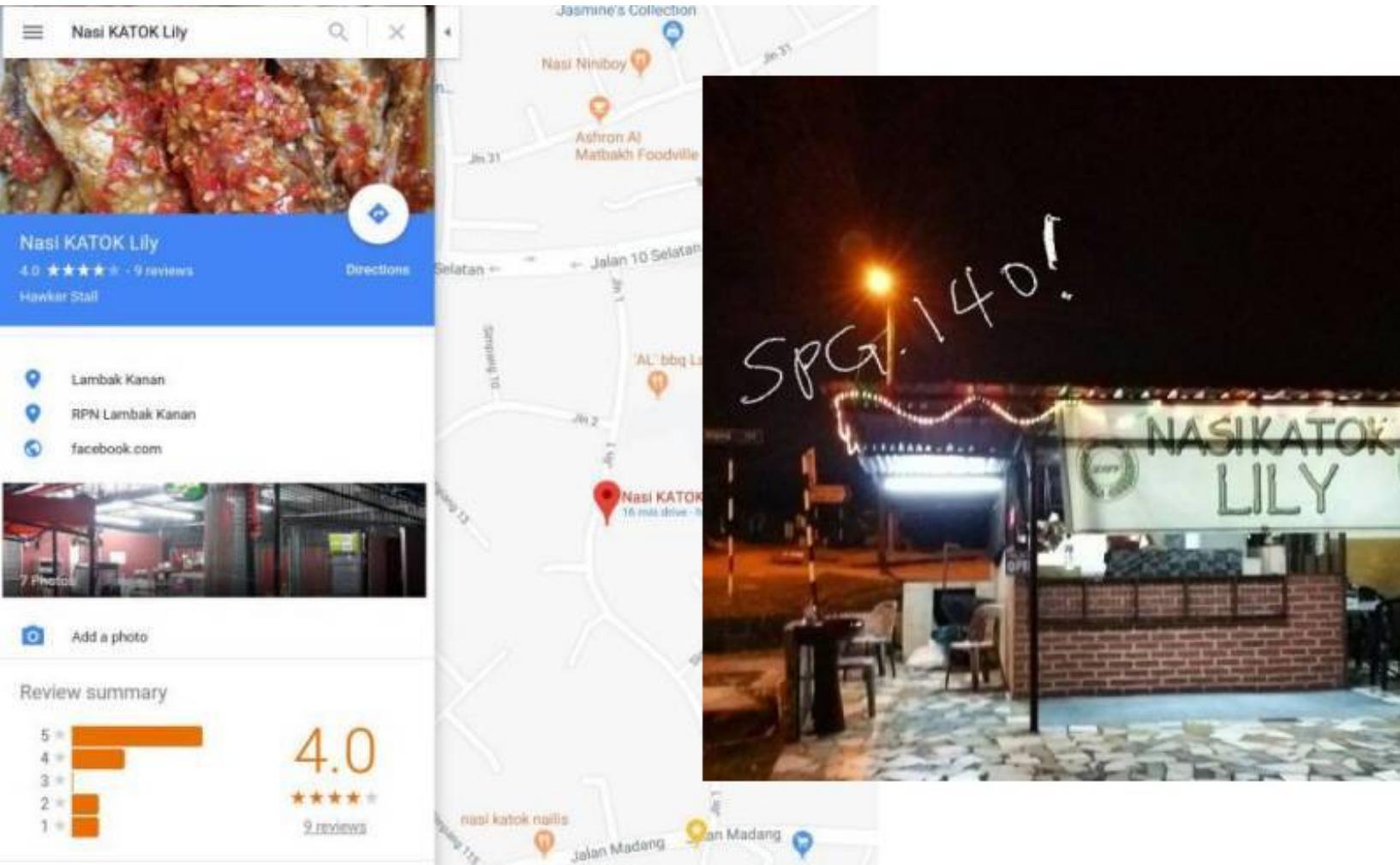


World Bank (<https://data.worldbank.org>)

Hotel - Online Booking



Can we ignore this?

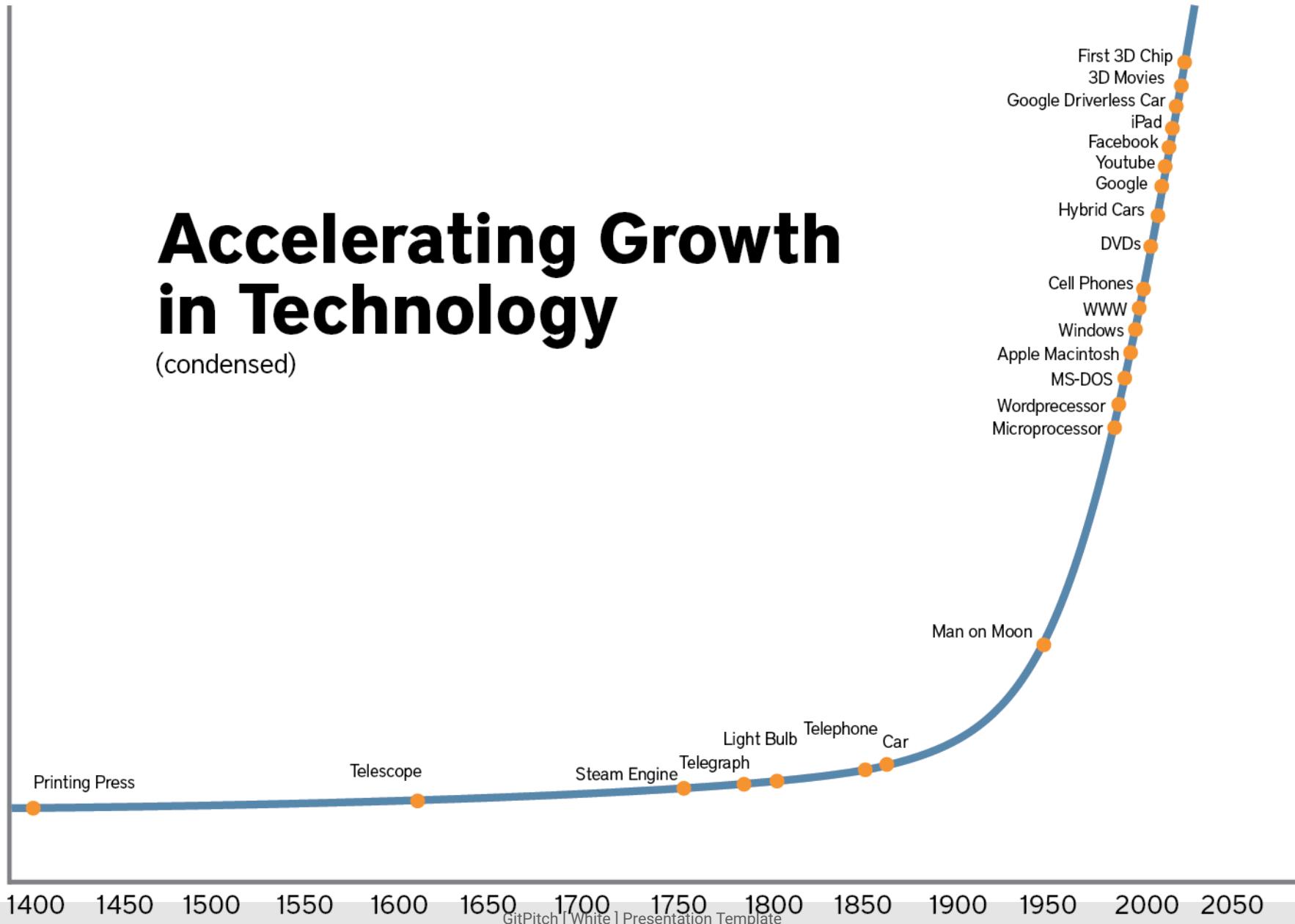


Digital Transformation is here stay
whether we choose to accept it or not



#2: Speed of innovation





Consumers are more demanding

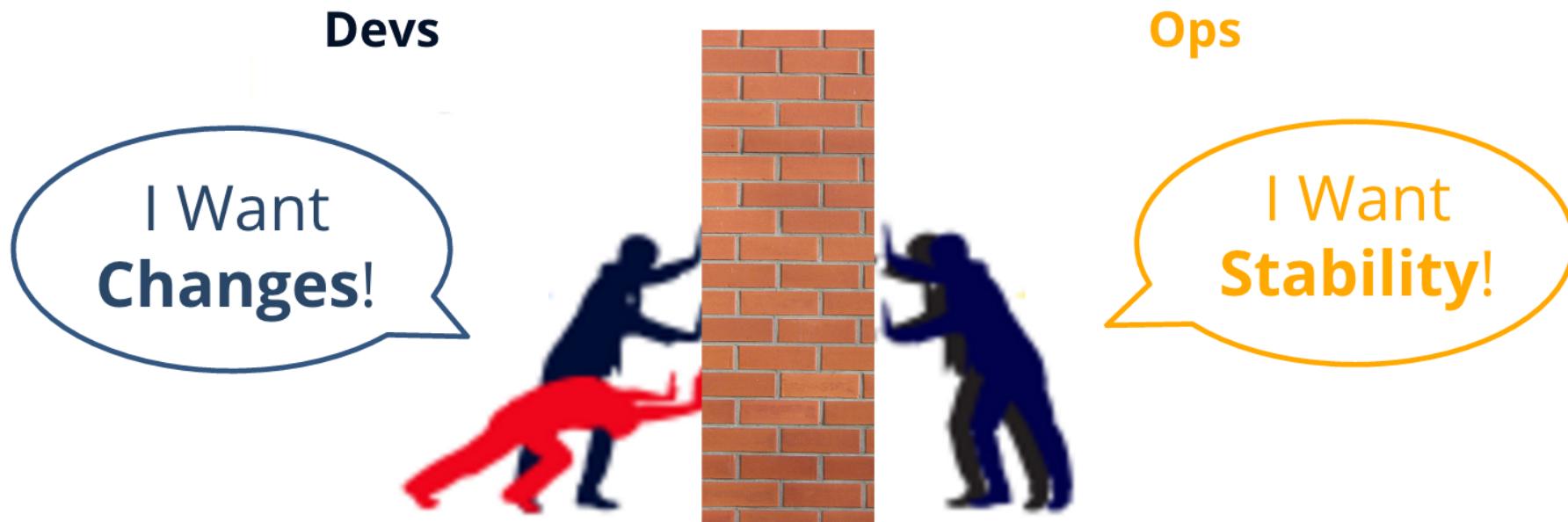
Businesses need to cope with the demands



#3: IT projects
are complex and
fragile



Customer wants **this** vs **minimum disruption**



Conflicting demand from

Dev

Ops

- ship more features
- deliver faster
- as little change as possible
- maintain reliability



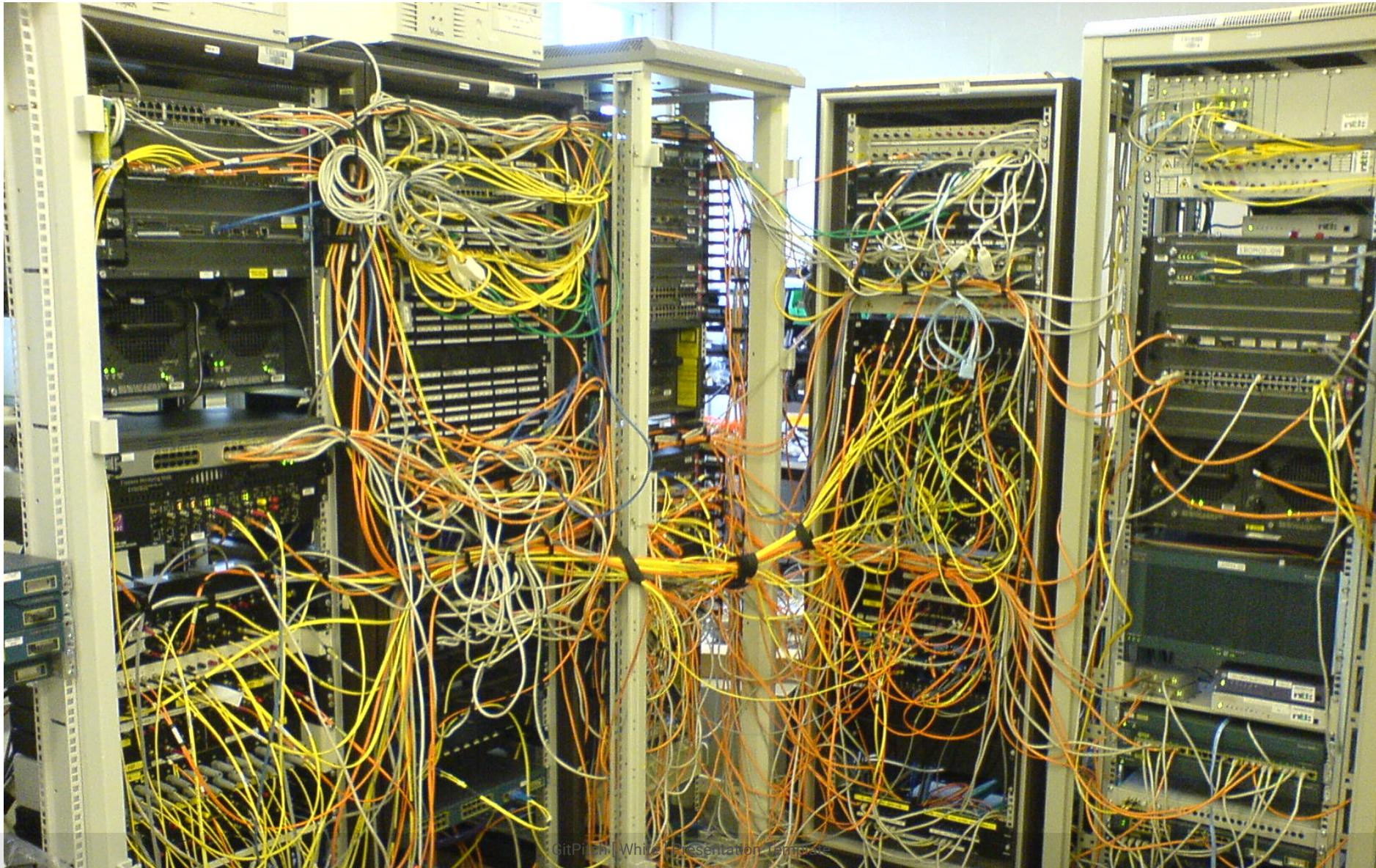


"SO I'LL BE MEETING YOU ALL
LATER ON."

MEETING YOUR **DEADLINES**



shortcut = technical debt

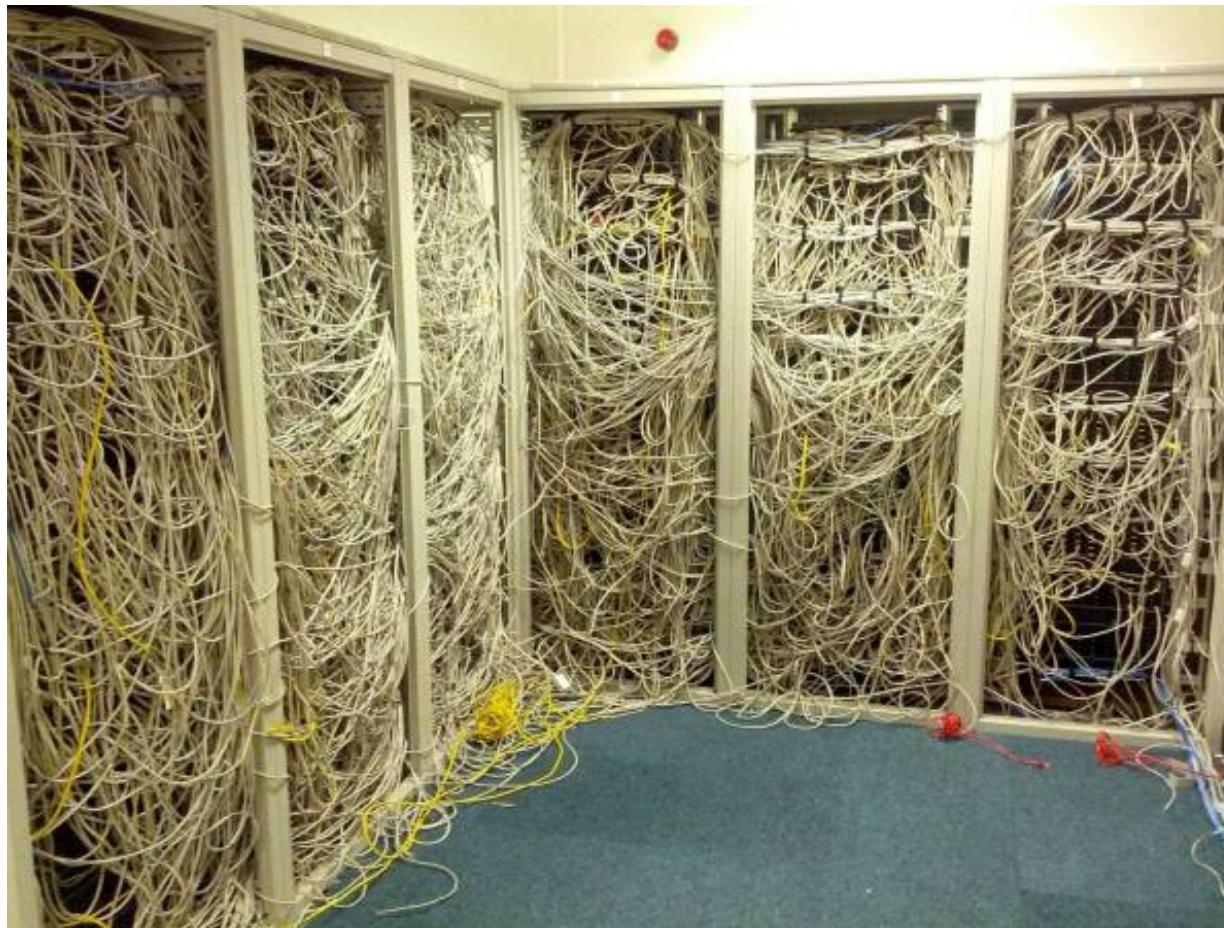


more technical debt



if we're occupied with removing the water, is there time
to row forward?

too much technical debt



DealBook

WITH FOUNDER
ANDREW ROSS SORKIN

MERGERS & ACQUISITIONS

INVESTMENT BANKING

PRIVATE EQUITY

HEDGE FUNDS

I.P.O./OFF

Knight Capital Says Trading Glitch Cost It \$440 Million

BY NATHANIEL POPPER AUGUST 2, 2012 9:07 AM □ 356

Runaway Trades Spread Turmoil Across Wall St.



#4: Wasted IT spending



Wasted IT Spending (USA)

USD\$3 trillion annually (2012)

4.7% of GDP



Adjusted locally (estimate)

GDP: USD\$11.4 billion (2016)

USD\$535 million (BND\$727 million)



#1: IT is everywhere

#2: Speed of innovation

#3: IT projects are complex and fragile

#4: Wasted IT spending



Low Performing Organization

- Slow delivery cycle
- Low reliability
- Negative growth
- Shrinking market share



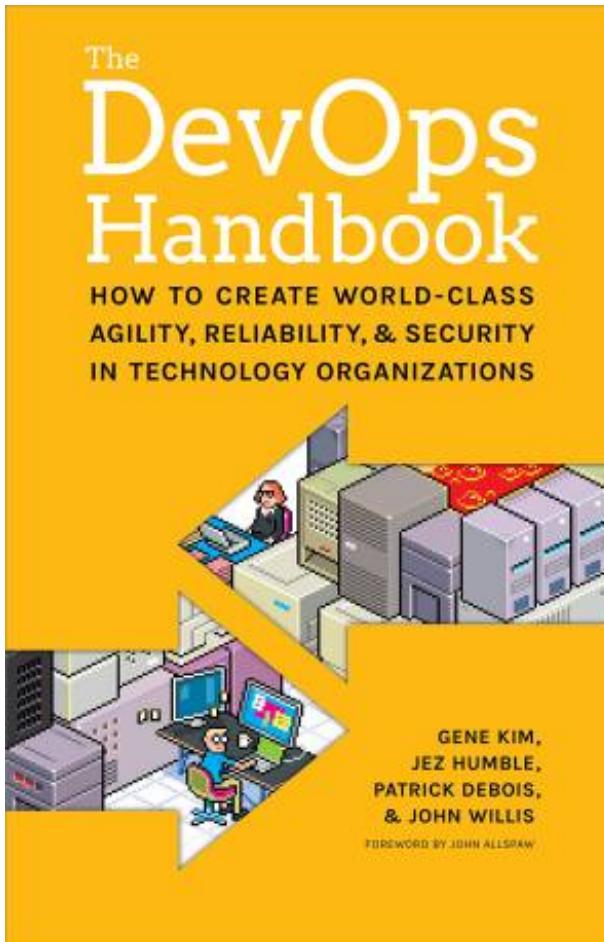
How can
DevOps help
us?



How can we become a high performing Organization?

- Fast delivery cycle
- High reliability
- High growth
- Bigger market share

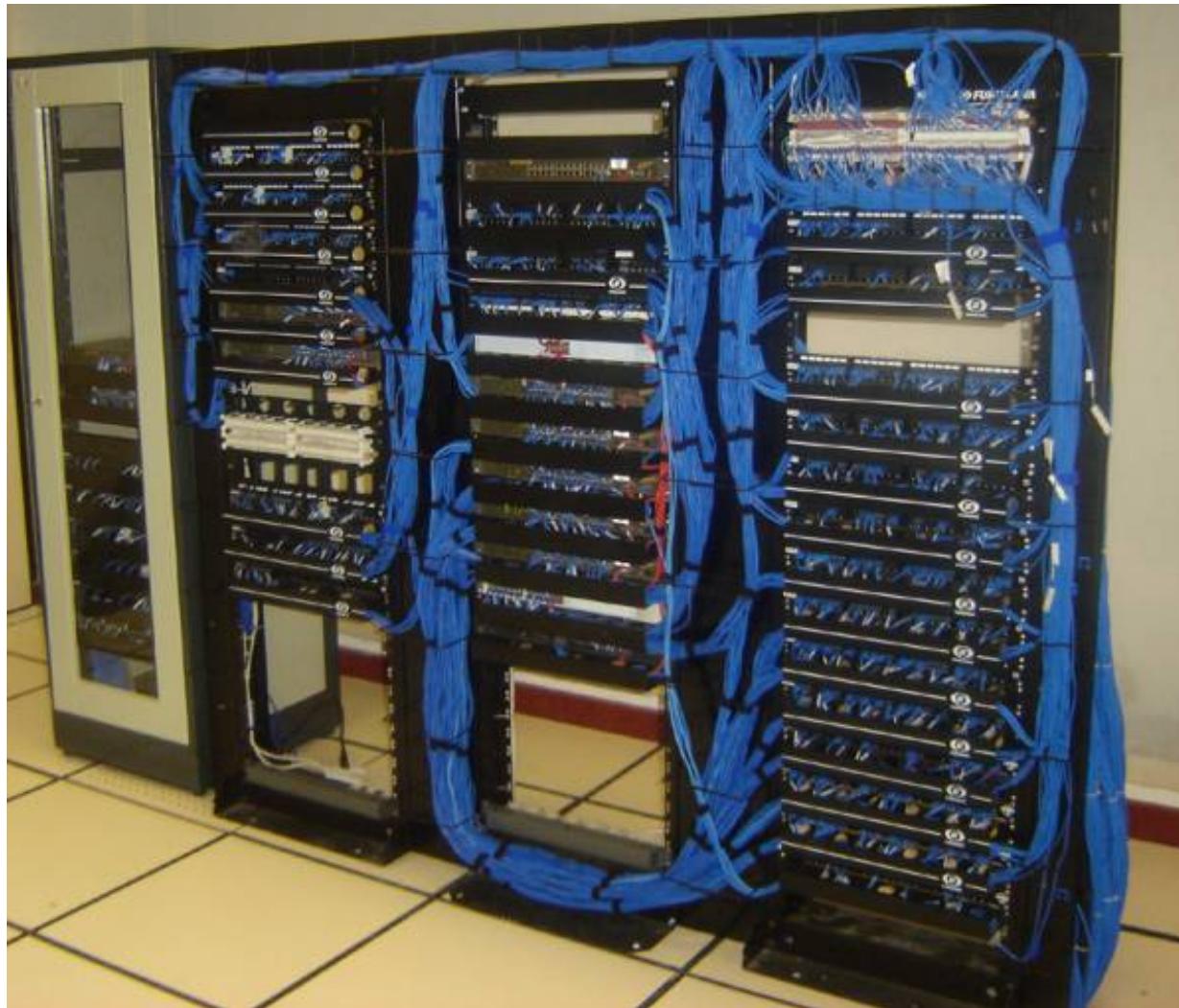
≡



[Seriously] How
can DevOps
help us?



High performing organization



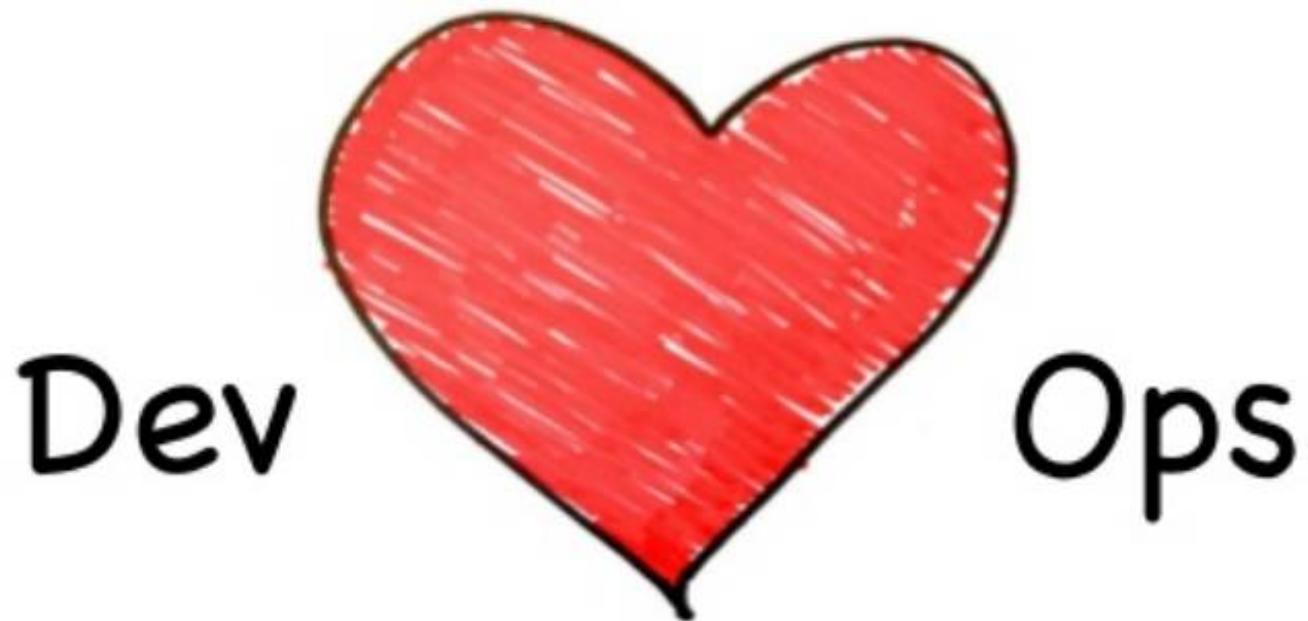
How can DevOps help us?

- Shorten delivery cycle
- Improve reliability
- Accelerate growth
- Increase market share



How to do "DevOps"?



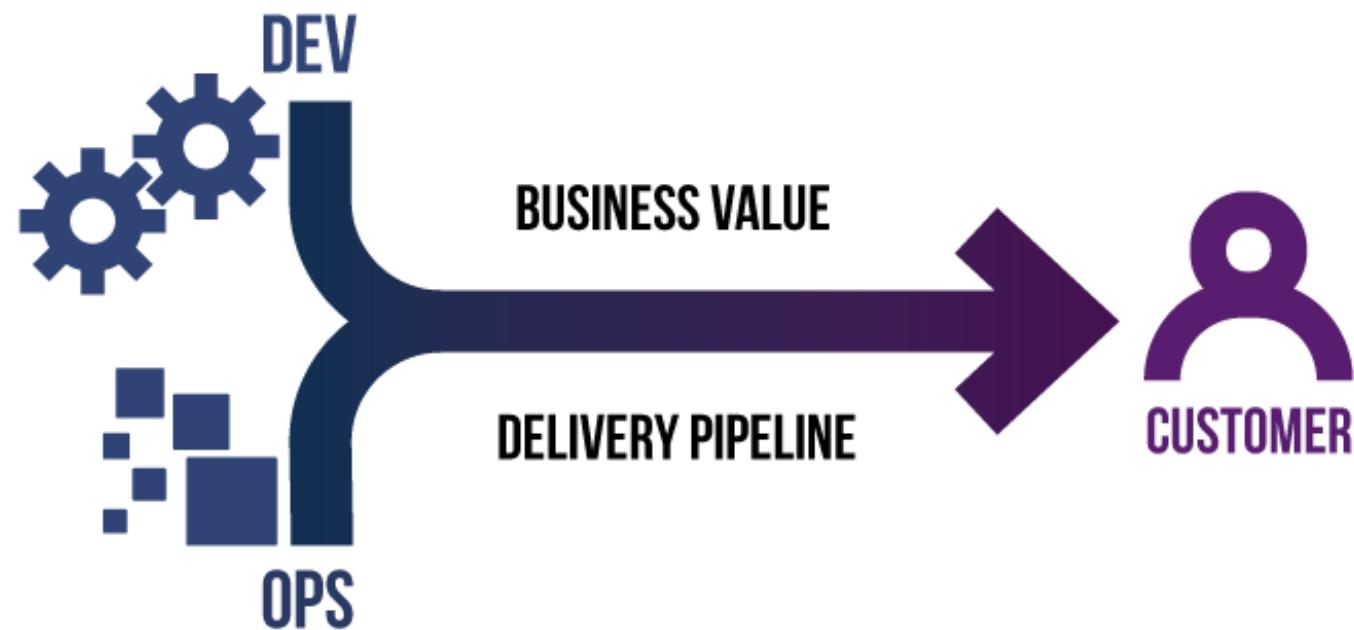


The 3 ways of DevOps

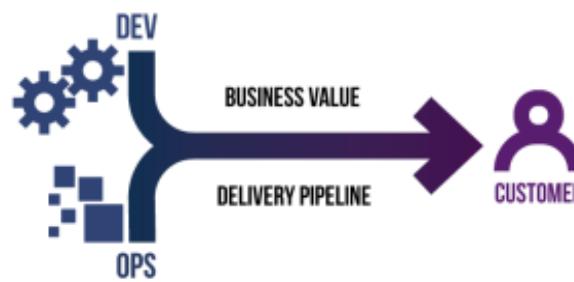
to be a high performing
organization



First Way: Flow



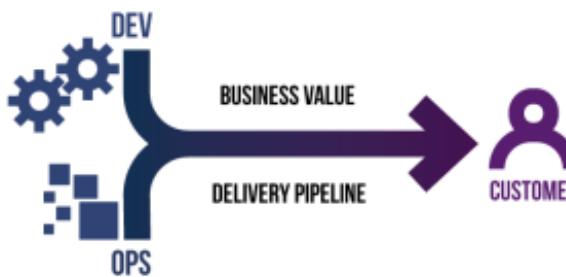
First Way: Flow



Business value stream

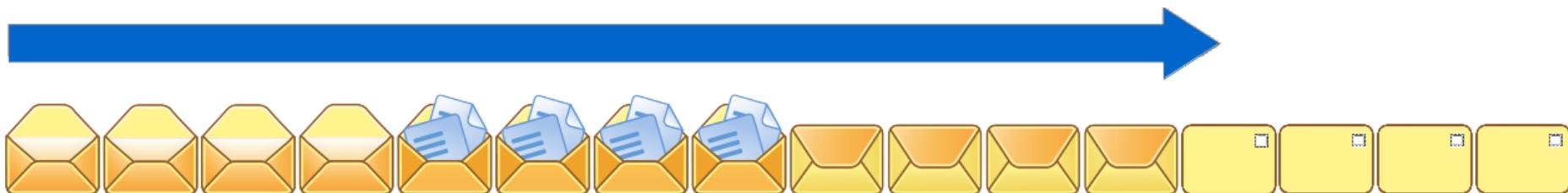
Value is only created when we deliver to customer

First Way: Flow



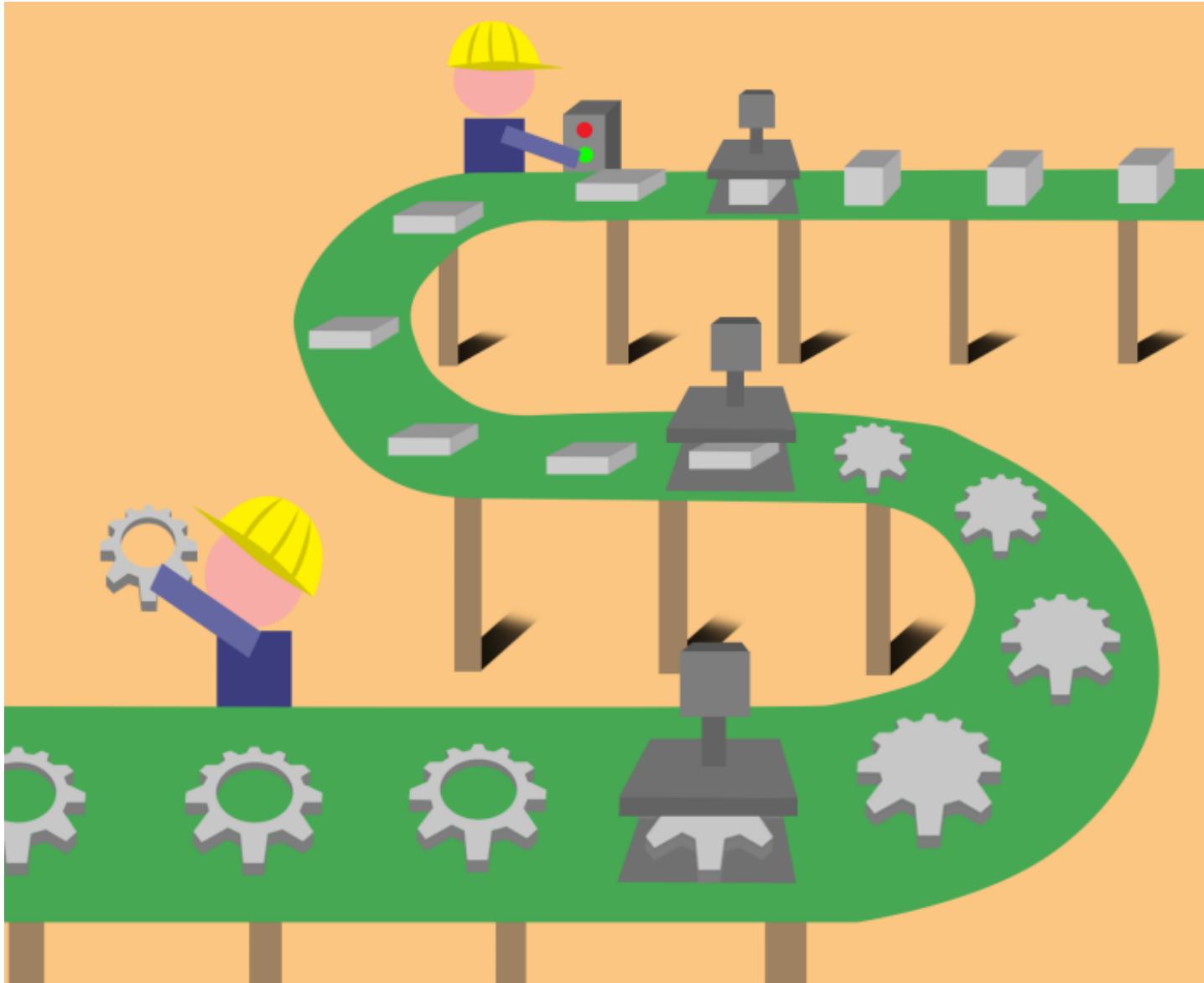
- make work visible
- increase flow, reduce lead time - small batches
- never pass a known defect downstream
- deterministic delivery process

large batches

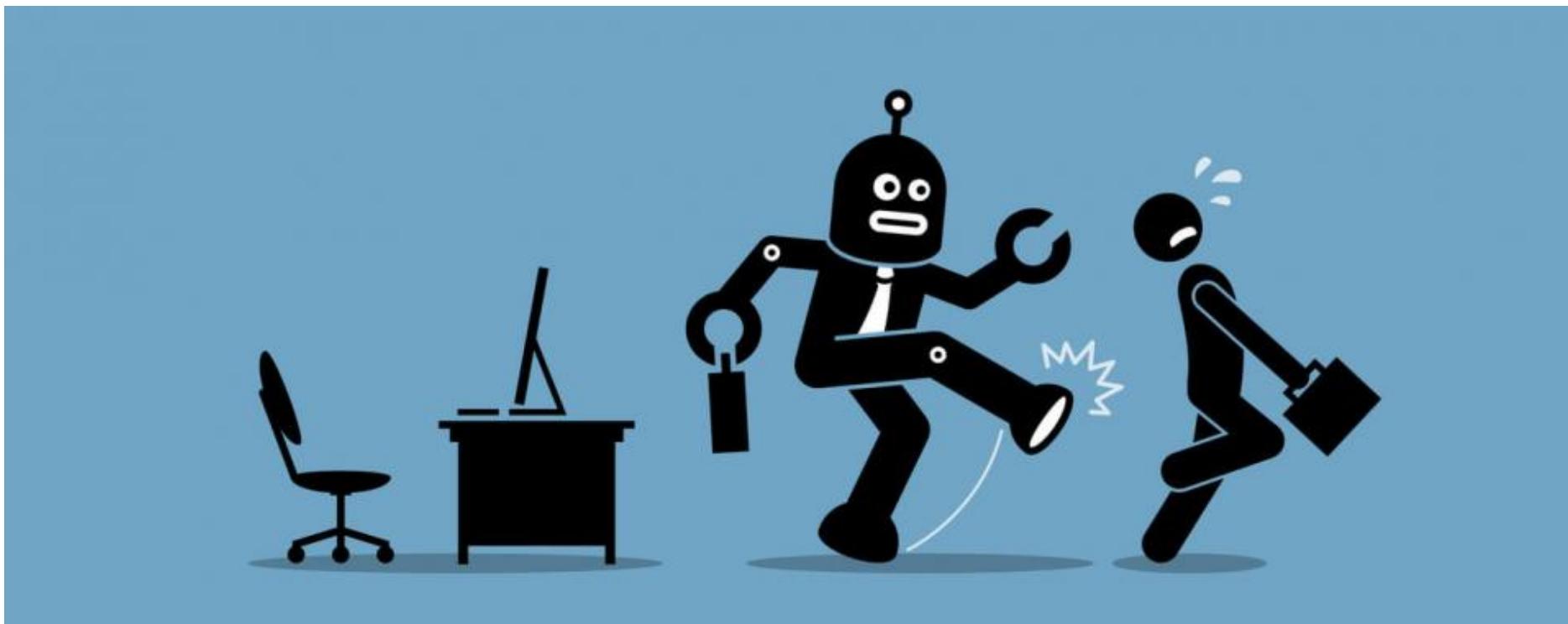


small batches

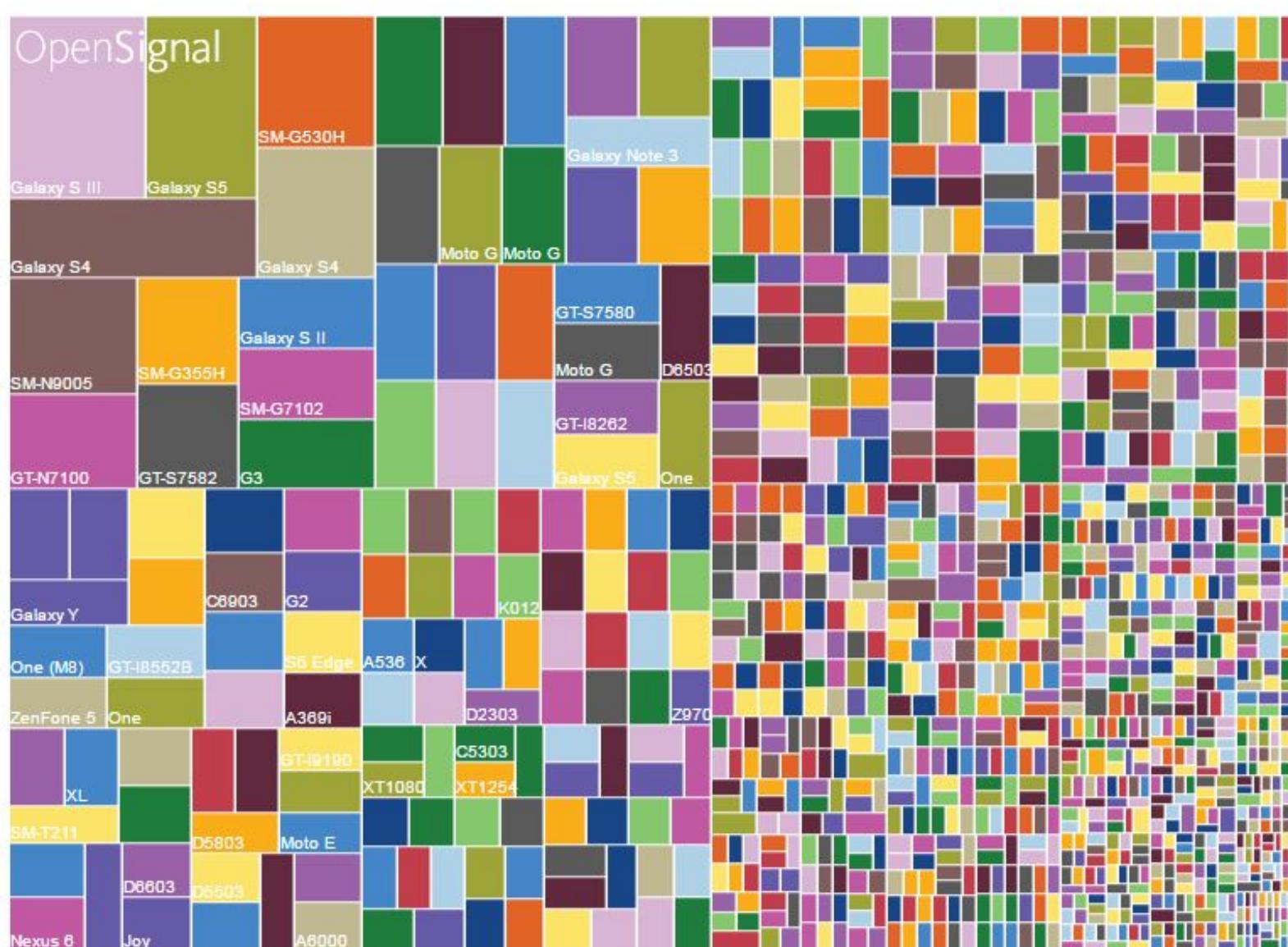
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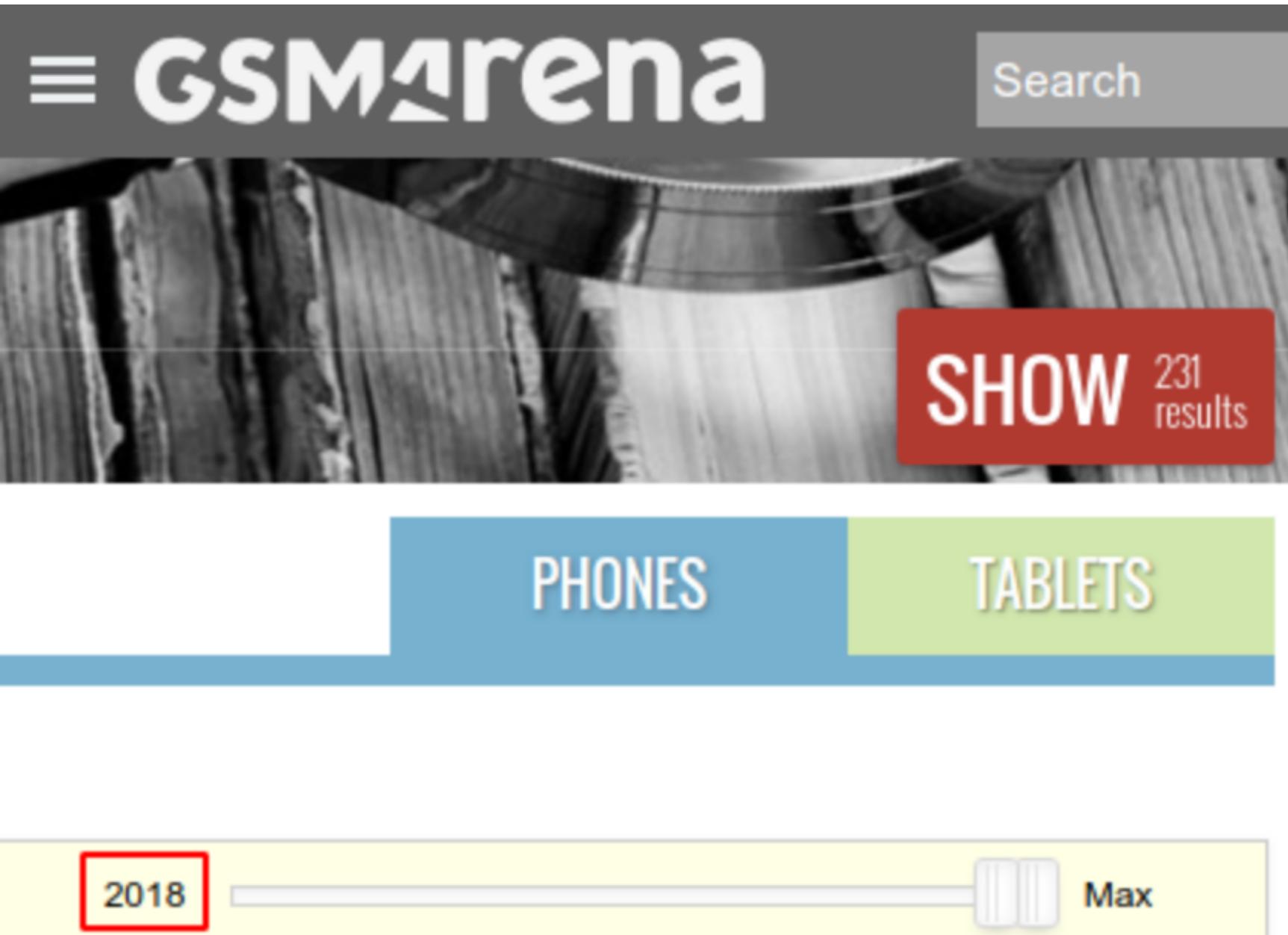


Automation

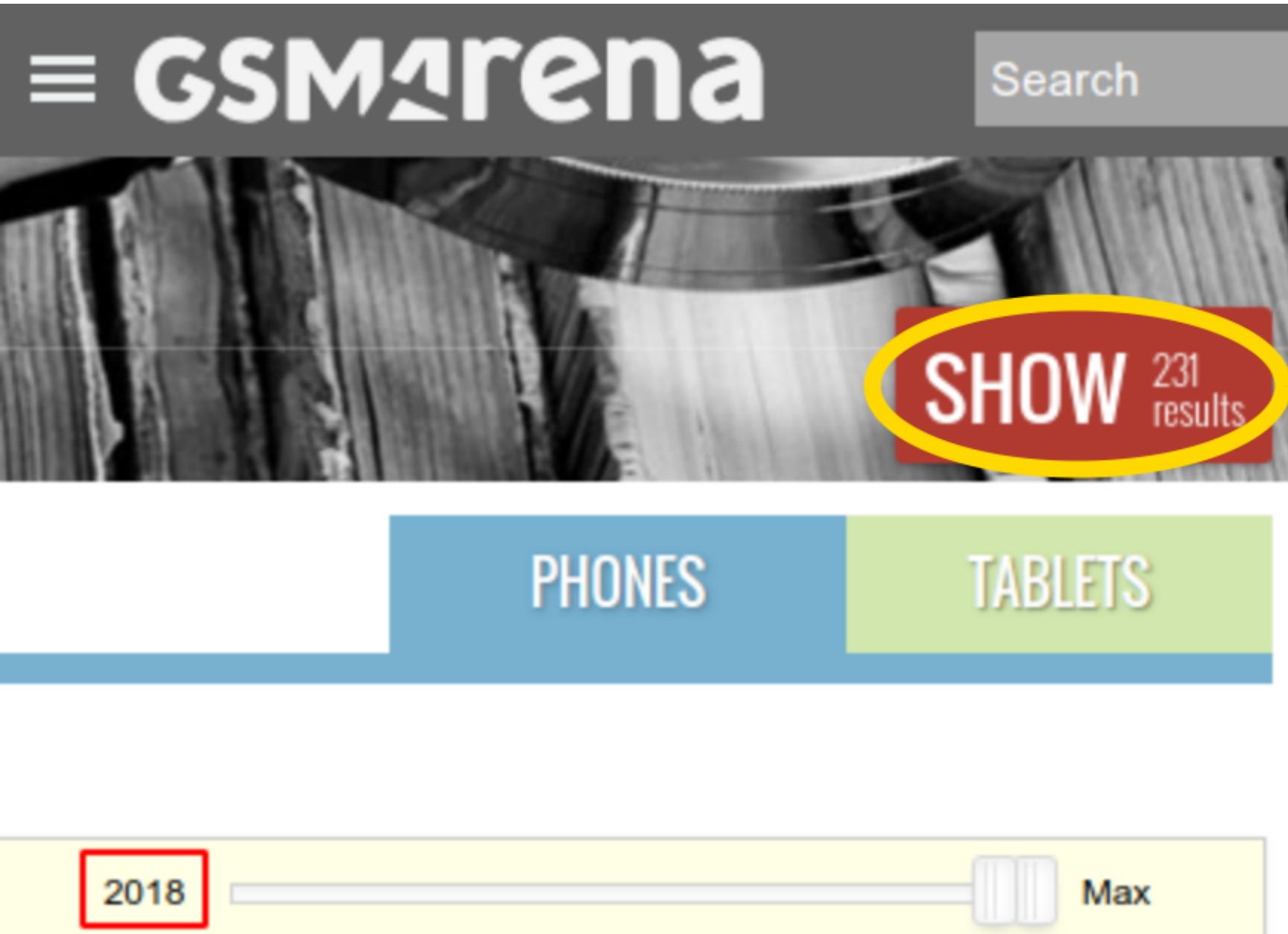


Android Device Fragmentation (2015)





The image shows a screenshot of the GSMarena website. At the top, there is a dark header with the "GSMarena" logo and a search bar containing the word "Search". Below the header is a large, blurred black and white photograph of several smartphones. In the center of this image is a red button with the text "SHOW 231 results". Below the photograph, there are two main category buttons: a blue one labeled "PHONES" and a green one labeled "TABLETS". At the bottom of the page, there is a horizontal slider with the year "2018" highlighted in a red box, indicating the time period of the devices shown. The word "Max" is also visible at the end of the slider.



The image shows the homepage of GSMarena. At the top, there is a dark header with the "GSMarena" logo on the left and a search bar on the right. Below the header is a large, blurred background image of several smartphones. In the center of the page, there is a red button with the text "SHOW 231 results". This button is highlighted with a yellow oval. Below this, there are two main categories: "PHONES" on a blue background and "TABLETS" on a green background. At the bottom of the page, there is a horizontal slider with the year "2018" on the left and a "Max" button on the right. The entire page has a clean, modern design with a focus on mobile devices.

≡ **GSMarena**

Search

SHOW 231 results

PHONES

TABLETS

2018 Max

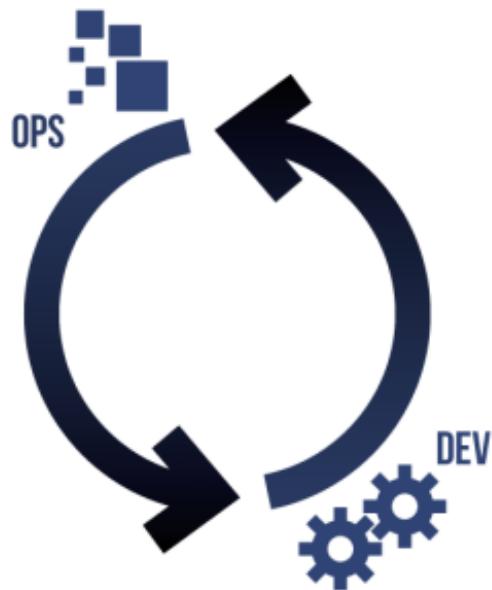
Automation = Consistency



Second Way: Feedback



Second Way: Feedback



Why do we need feedback?

- would you drive blindfolded?

Second Way: Feedback



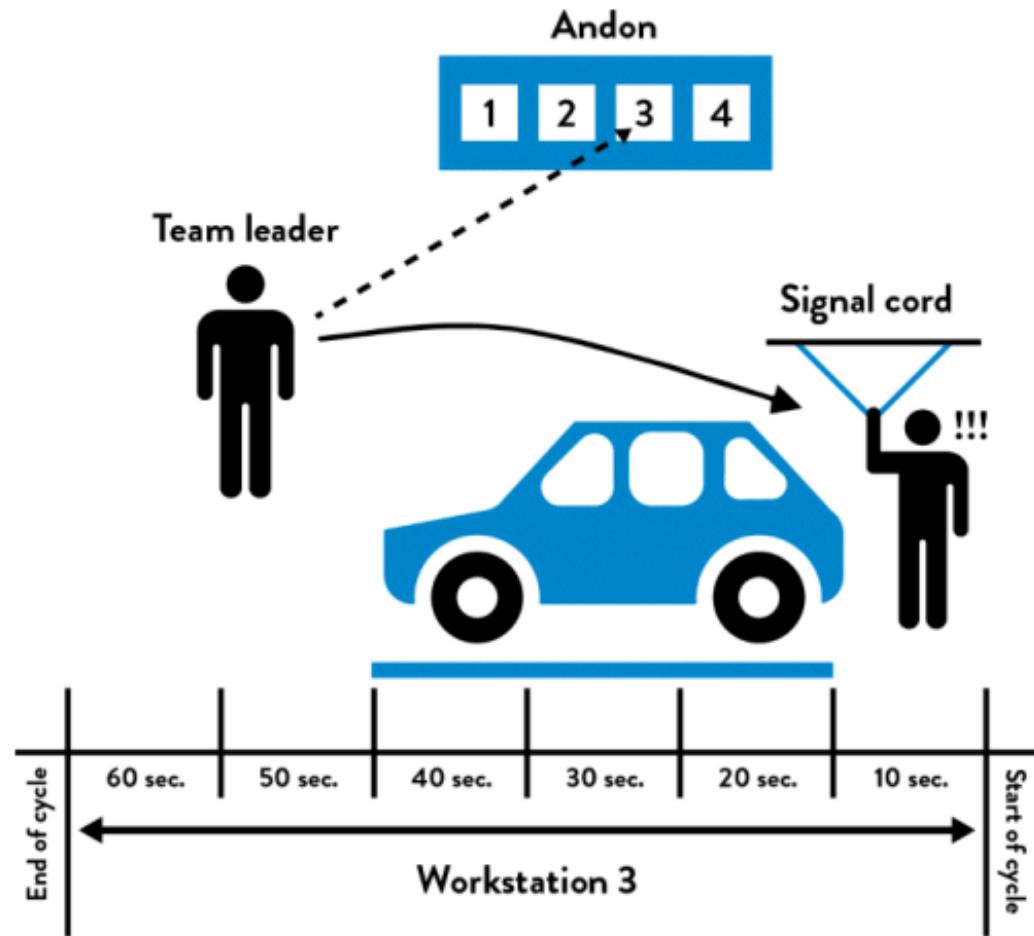
- fast & constant feedback
- amplify feedback loops
- quality at the source

large batches



small batches

- fast & constant feedback
- amplify feedback loops
- quality at the source



Third Way: Continual Learning & Experimentation



Third Way: Continual Learning & Experimentation

- short delivery cycle + feedback loop
 - safer system - allow experimentation
- culture of continual experimentation
- replicating daily disruption
- reinforce learning culture
- allocate time for improvement



**You Don't Choose Chaos Monkey...
Chaos Monkey Chooses You**



@RealGeneKim

The only way to survive failure is to fail
all the time

- Repetition and practice leads to mastery



First Way: Flow

Second Way: Feedback

Third Way: Continual Learning &
Experimentation



High performing Organization

- Fast delivery cycle
- High reliability
- High growth
- Bigger market share



Outcome: Reduce wasted IT spending

- improve success rate
- uplift local economy
- increase competitiveness - go global



Lastly

Hope you learn something
today

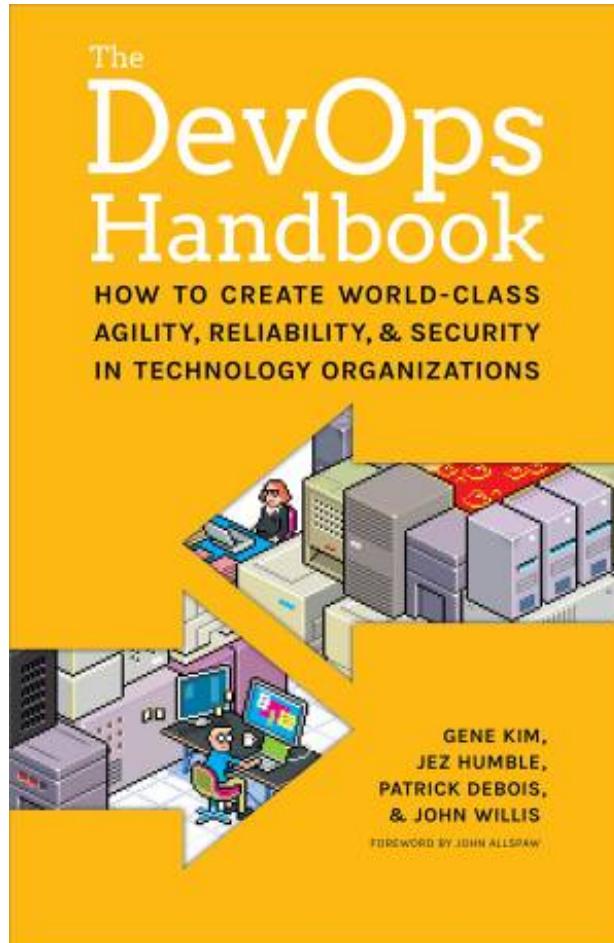
Go and share this with your
friends and colleague



Thank you

Q & A





<https://github.com/faultylee/cyberbattle2018talks-introduction-to-devops>