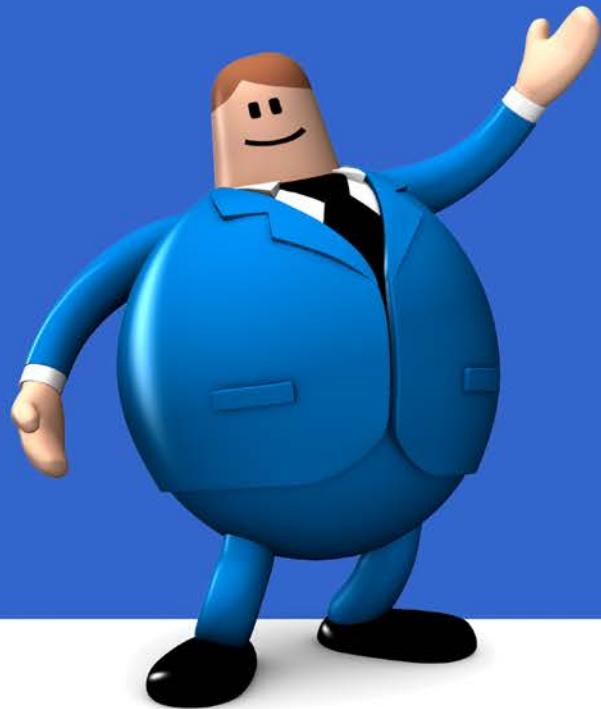


# DevOps Year 3

What's it like when DevOps is just another day at the office?



# This is bol.com

Largest (online) retailer in the Netherlands & Belgium

Three electronic devices (a laptop, a tablet, and a smartphone) are shown displaying the bol.com website. The laptop and tablet screens are large and show a full view of the homepage with various product categories like 'Dagaanbieding' (Daily Offer), 'Je bekeek' (What you viewed), and 'Ook het bekijken waard' (Also worth viewing). The smartphone screen is smaller and shows a mobile-optimized version of the site with a similar layout.

The bol.com website features a search bar at the top, navigation links for 'Categorieën', 'Cadeaus & Inspire' (Gifts & Inspiration), and 'Aanbiedingen' (Offers). It also includes links for 'Verkopen', 'Zakelijk', 'Cadeaubon', 'Bestelstatus', and 'Klantenservice'. A user profile 'Maurice' is visible. Promotional banners include one for 'Kobo' and another for 'ASUS router'. Product cards for items like 'Whey PERFECTION', 'Eischen Design inklapbare balkontafel', and 'Merklive Ballon hangtafel' are displayed.

47 product categories  
18M products  
2M visits/day

Our mission:

To be the best place to buy & best place to sell

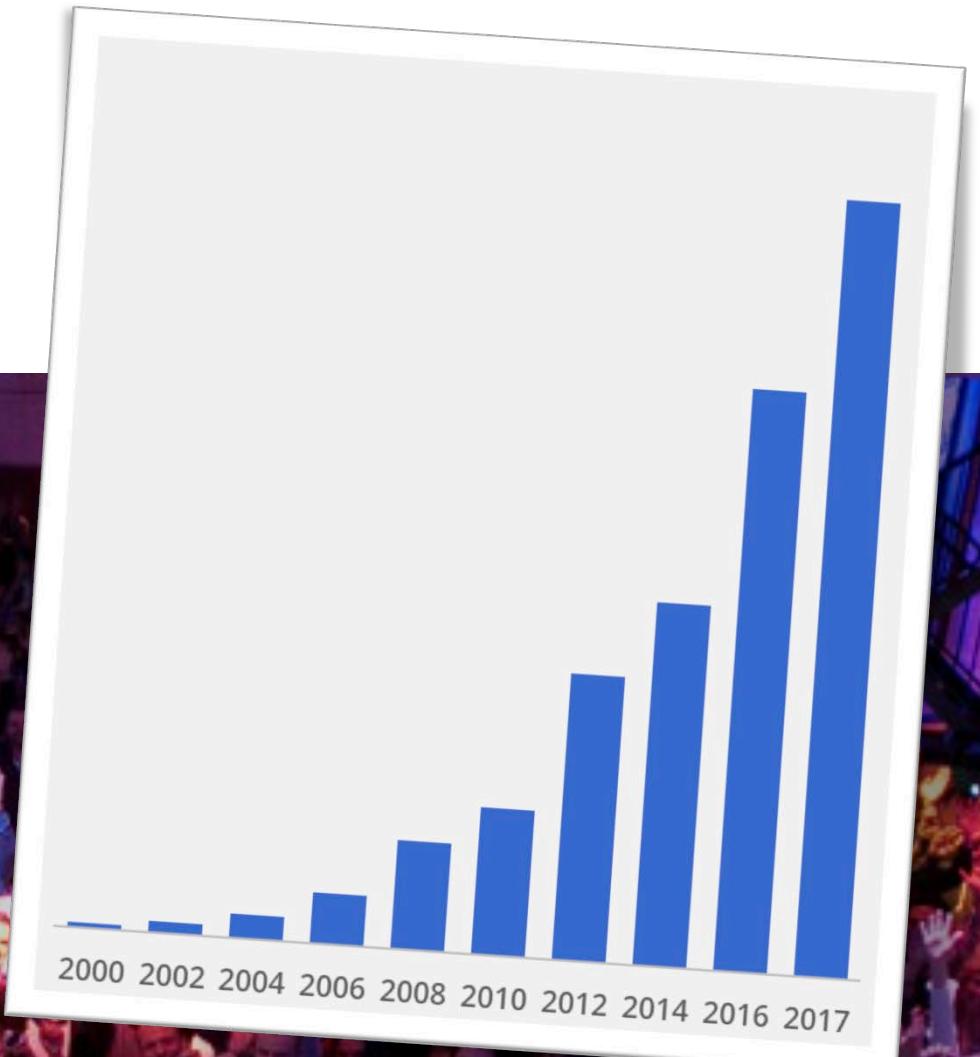


# Growing very fast

From a start-up in a portacabin to an enterprise in Utrecht WTC

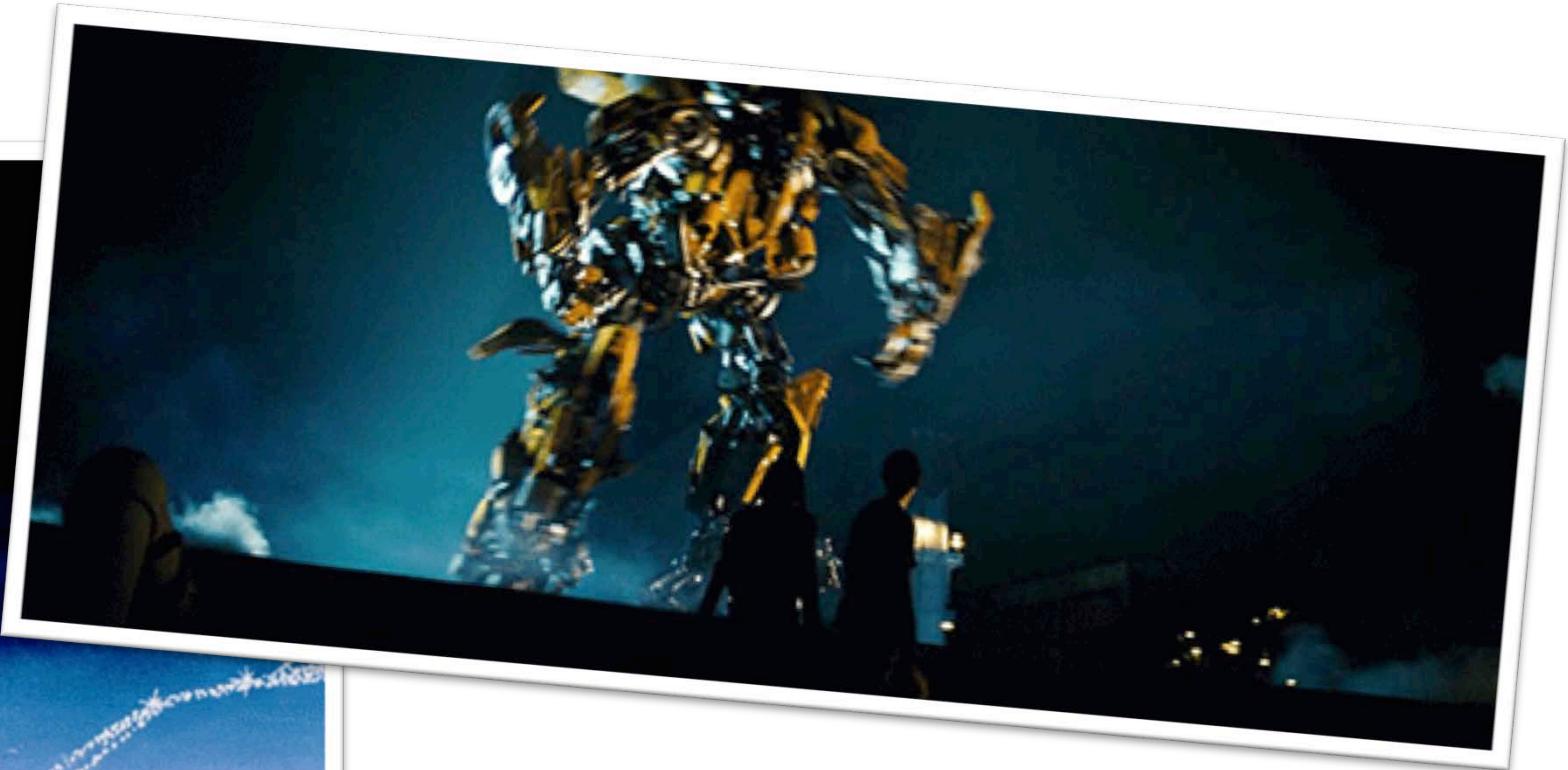


1.400  
employees  
**8M+** customers  
1.6B euro  
revenue



# Transforming all the time

Whether you want to or not



# Transforming all the time

Whether you want to or not



This is me

# Catalyst for our IT way of working

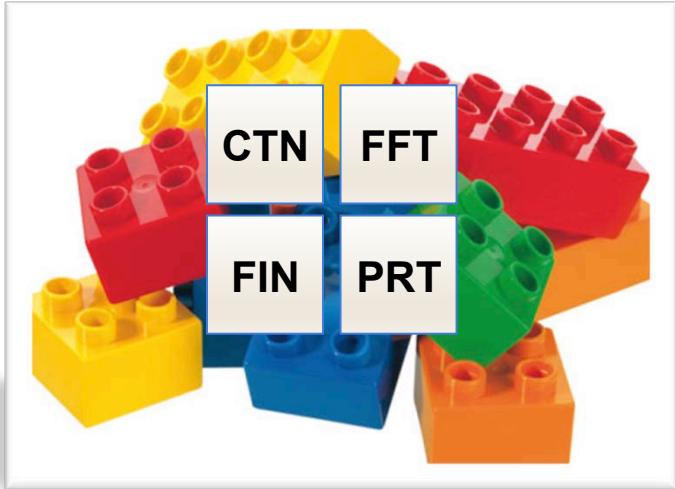


# IT is a driving force of innovation



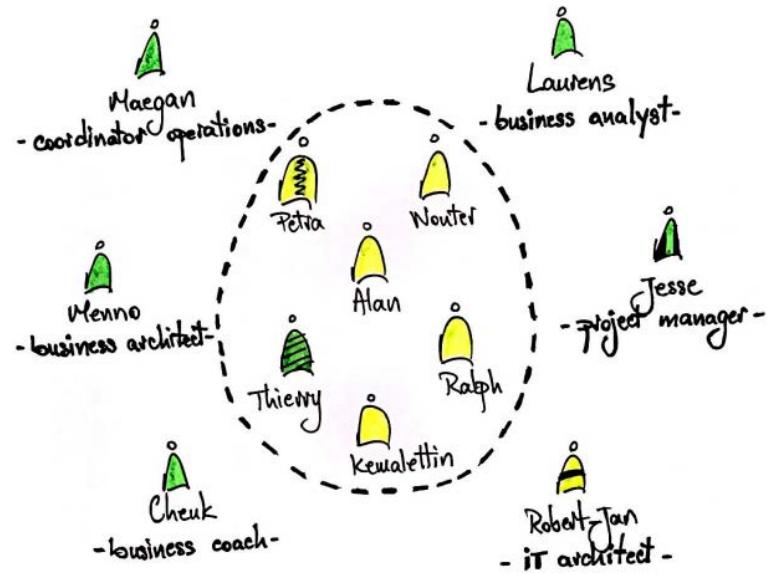
What is DevOps  
like in 2018?

# Meet Team 4b - New Financial Processing



## Responsibilities:

- Build features & fixes
- Deploy stuff
- Run & monitor services

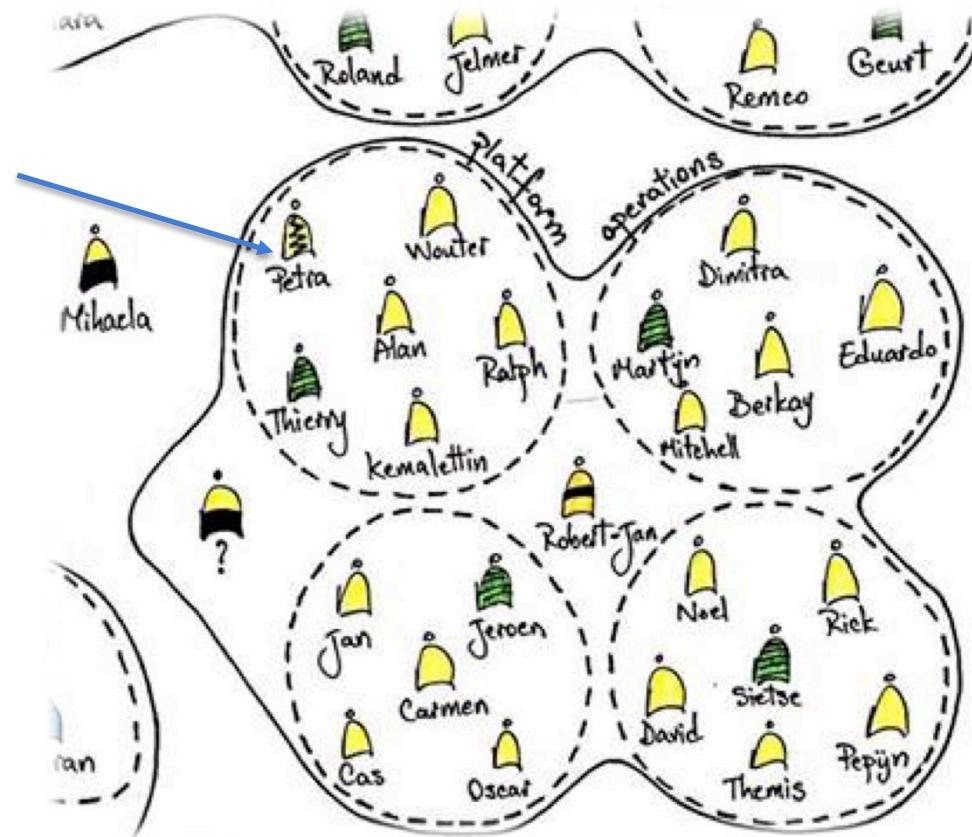


**Team 4b**

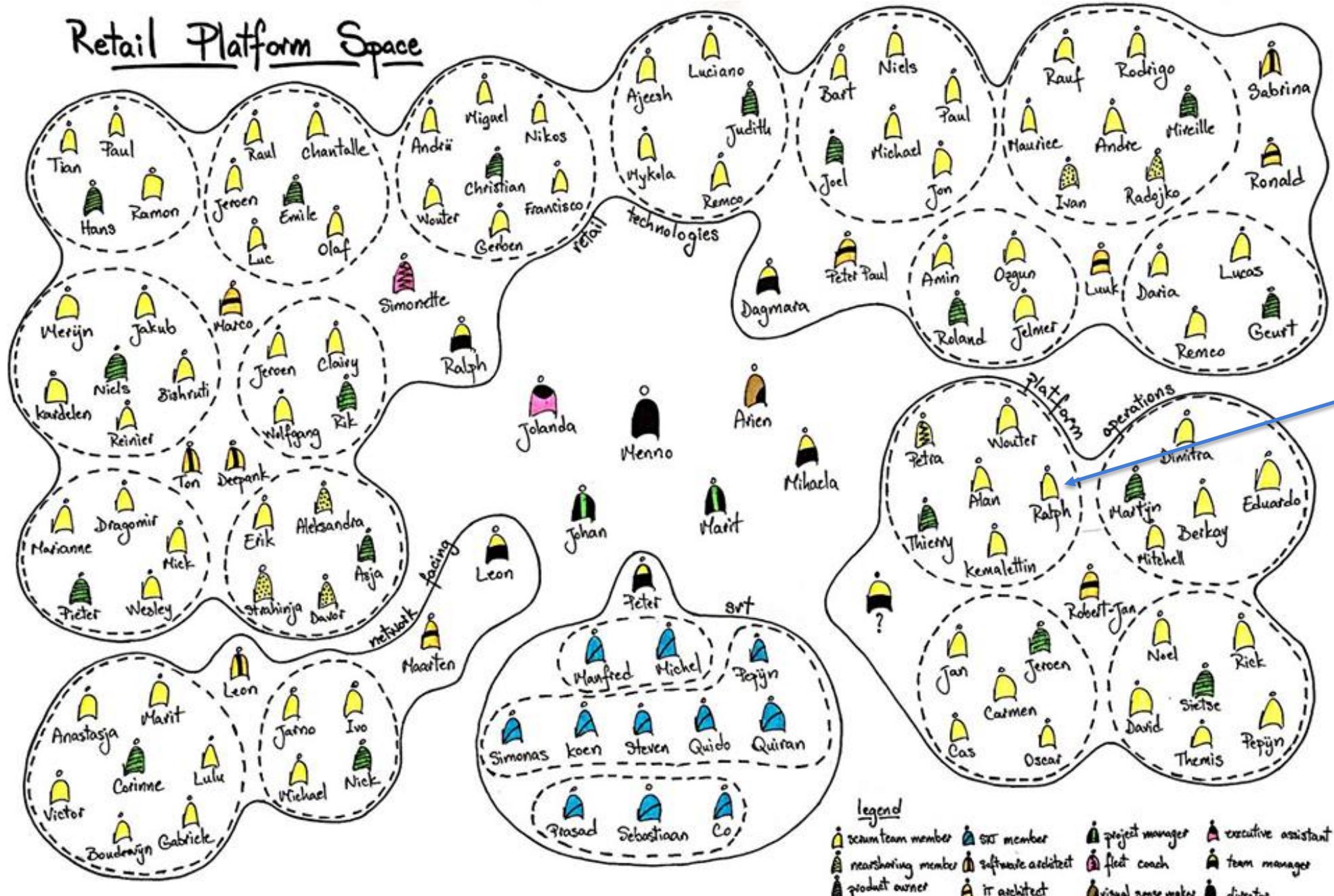
# Meet the Fleet - Financial Platform Operations



Team 4b  
is here

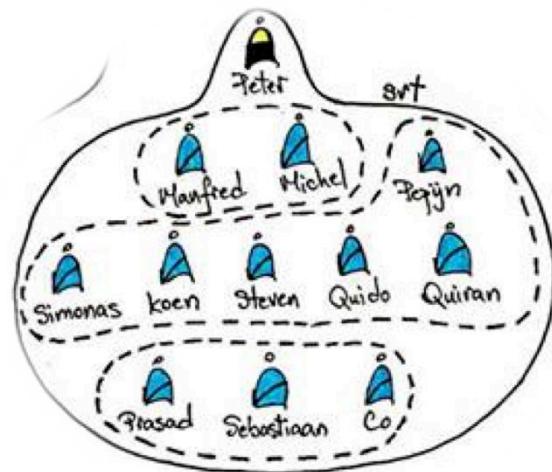
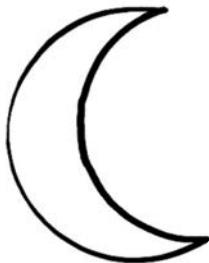


# Retail Platform Space

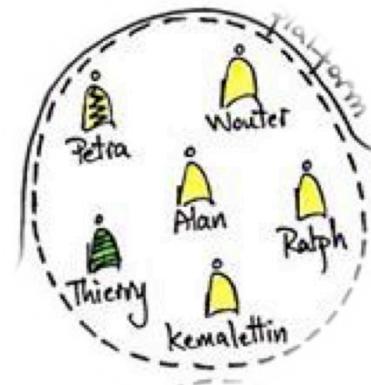
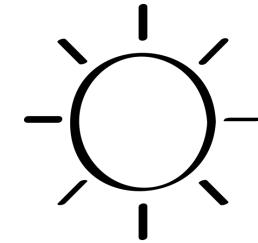


# DevOps with a twist

- ! No DevOps teams, Ops is a capability to treasure & nurture
- ! Don't wake up Dev's at night



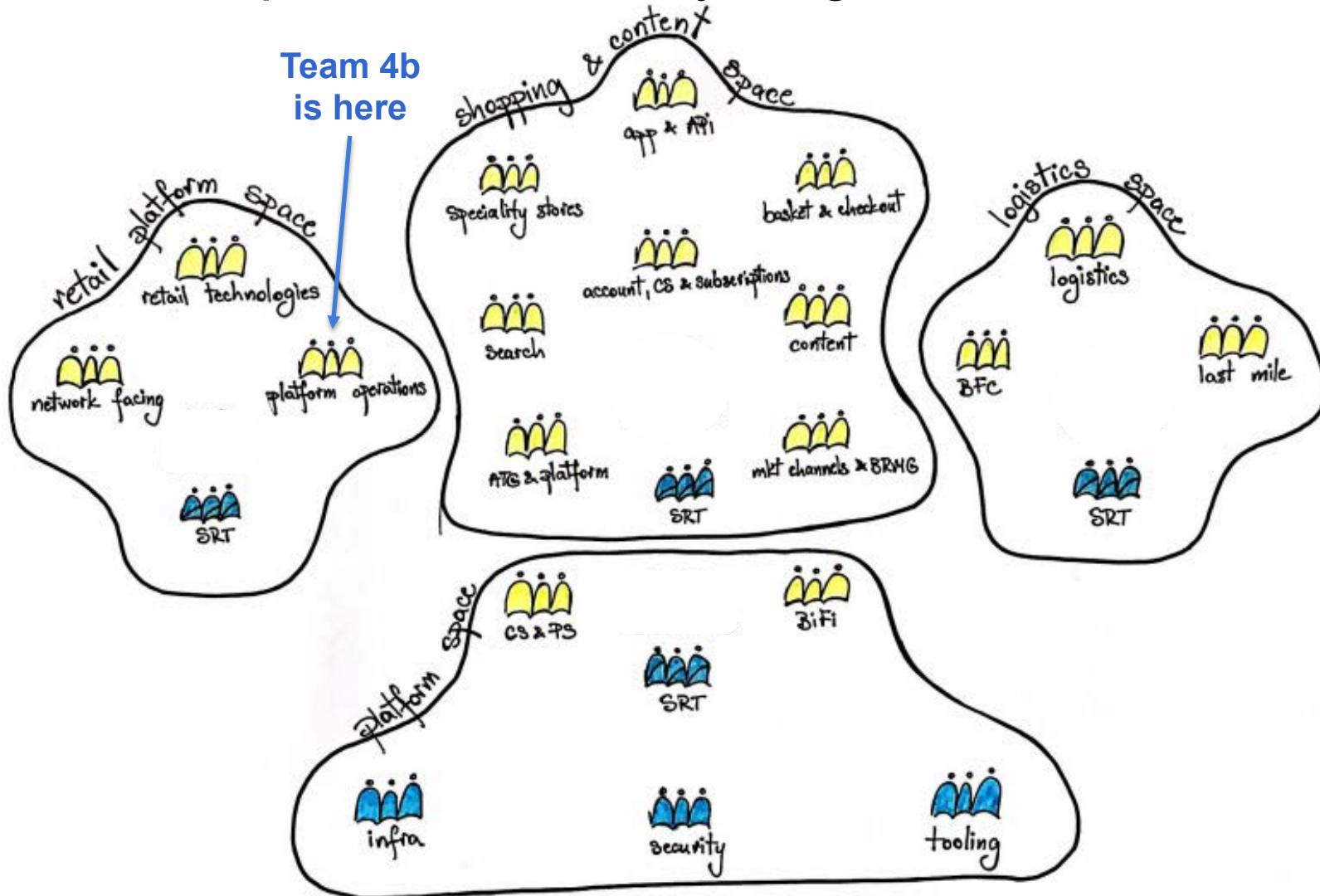
**Space  
Reliability  
Team**



**Team 4b**

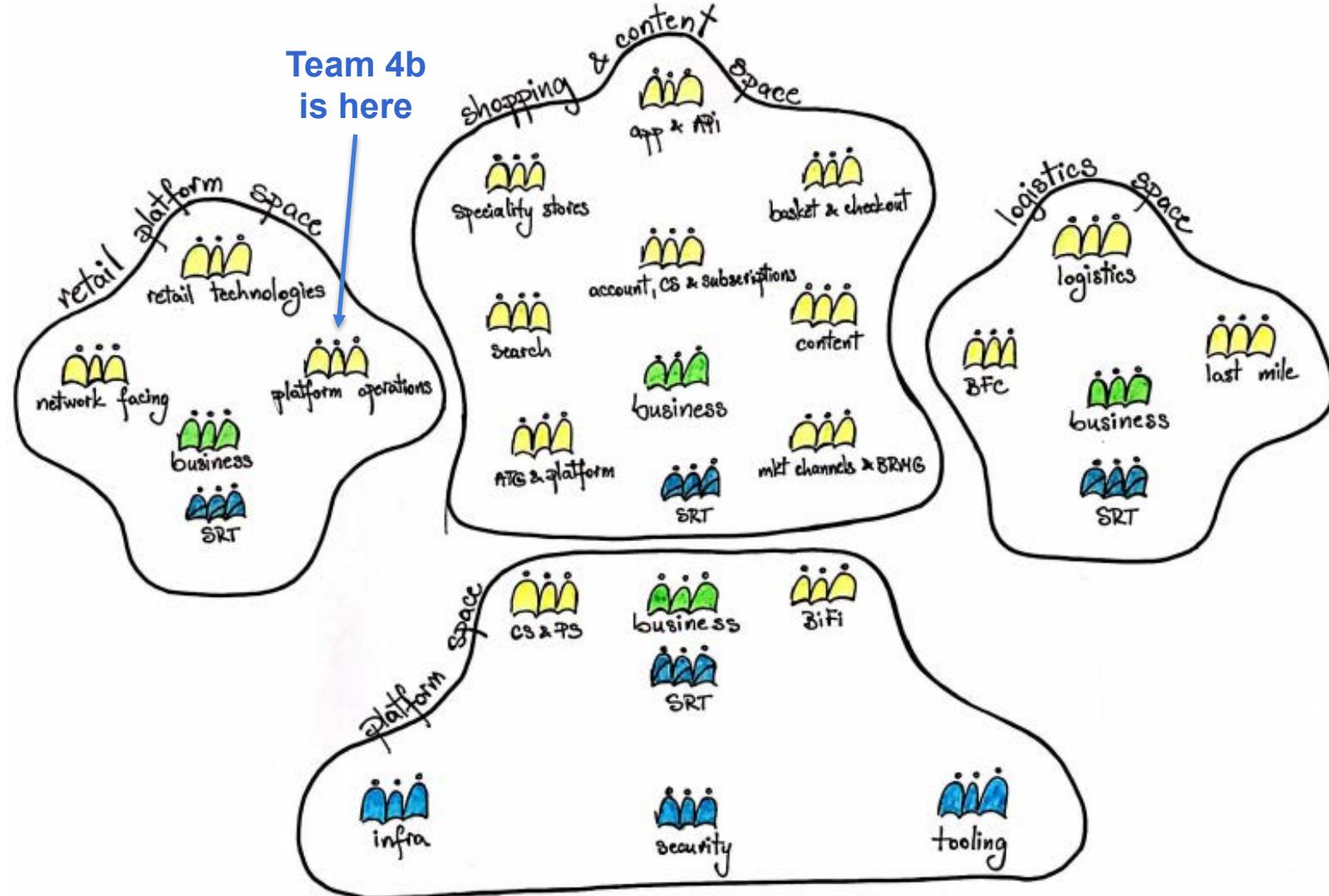
# Build & Run responsibility in 1 place space

Technical platform for everything-as-a-self-service



# Shared Business & IT ownership

With great power comes great responsibility



## For the people

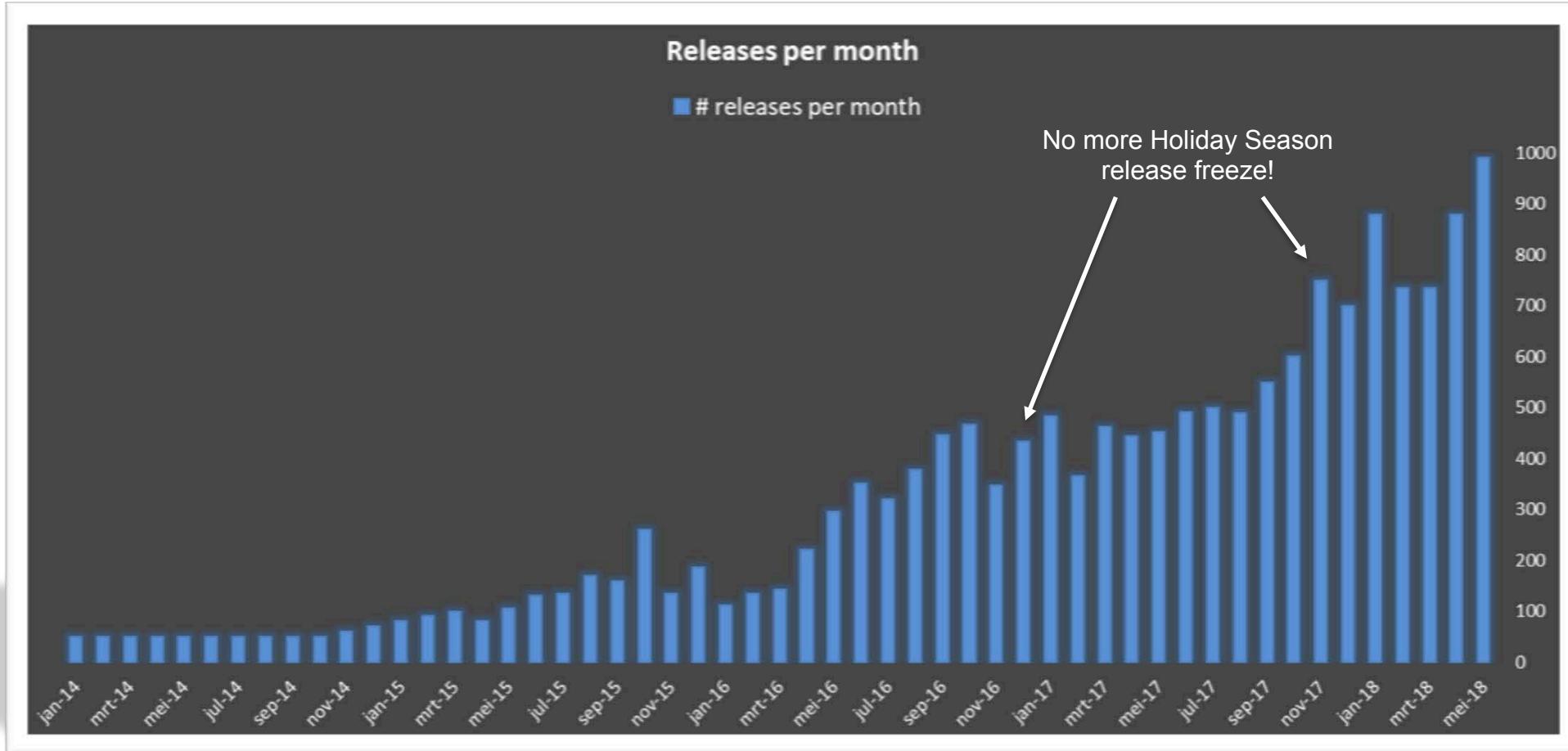
- Shared management & support team
- Which teams to grow or to stabilize

## For the product

- Performance
- Security
- Holiday Season readiness
- No more release freeze!
- No more IT projects!

# Deployment frequency increases

Smaller releases - less risky - faster time to market!



# We learn from

- ✓ Blameless post-mortem

Sabrina van Huik - Scholman | Confession (yes.. another blush)

Hi Scrumteams,

Since we are already in the blush-period, we need to make a confession...  
Yesterday we caused issues in the Webshop in production! FORTUNATELY it was only 3 minutes, and not on all page servers, which did not affect the conversion. We reacted right away and as a team.

**What was the problem?**  
We deployed SLT (with db), so stopped the service, with the assumption that the WSP is resilient. And we would only have functional degradation by not showing product attributes on 1/3 of page servers, which was approved for a short time period by business.

But... the Webshop was not resilient enough. The rainy day scenarios which we have performed on ACC in January, were not sufficient to 'replicate' this same situation, but we assumed that they were.

not the way we want to



Berend Martin | IT  
Confession from the shopping SRT

has a confession to make.  
[c.bol.com](http://c.bol.com) (and its  
undesired side effect



- ✓ Confidential post-mortem

- ✓ Self-organized post-mortem

- ✓ NV

Hi all,

Last two days we were talking about including

So we

During

shot

apart

we

Spa

run

each

diff

not the way we want to

not the way we want to



Carla de Groot | Scrumteams; IT  
Confessions on series implementation

Hello all,

After all confessions during the Sneak Peek and a couple of emails from other teams we'd like to share some experiences we had during implementation of the new series functionality. We think our experiences can be used by every team as well, to take into consideration.

## What happened?

Actually a couple of things happened. That's why we waited with this email. Just to see after go-live how things would go and whether things would surface. And they did...

1. Right after pro deployment of our fantastic new functionality it turned out the new XSD we deployed was not backwards compatible. This was caused by an (effectively) non-final XSD being released to Artifactory while we were still working on the new feature.

This XSD which was used by BIZ in the meantime and resulted in BIZ not being able to display offers for products which are part of a series.



# Feedback loop = Learning loop

CISL: Continuous Improvement through Structured Learning

You collect **data**

You gather  
**new data** and  
evaluate



You define a  
**hypothesis** for  
change

You  
design the  
change

You make the  
**change work**

If you're a scientist, you call  
this **falsification**



If you're Japanese and  
working in production, you call  
this **Kaizen**

改善

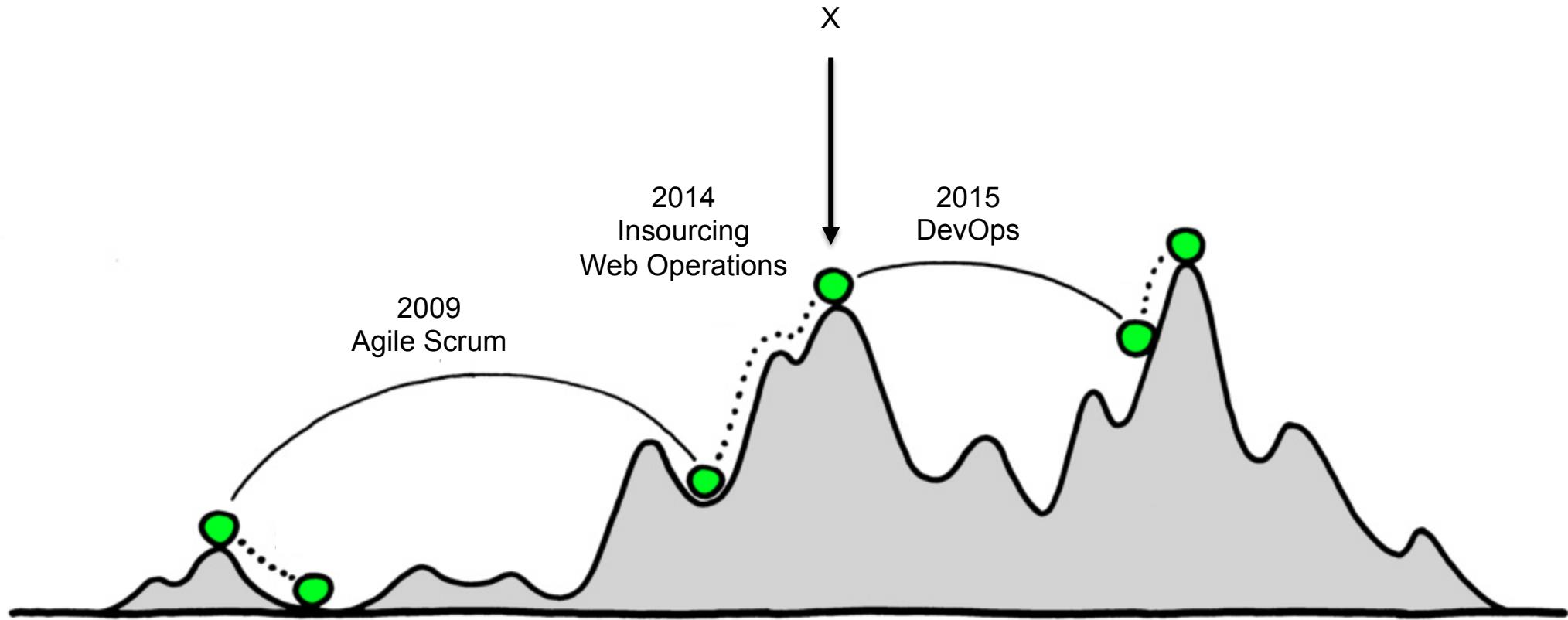
Working for bol.com? Then  
you call this **Continuous  
Improvement through  
Structured Learning**



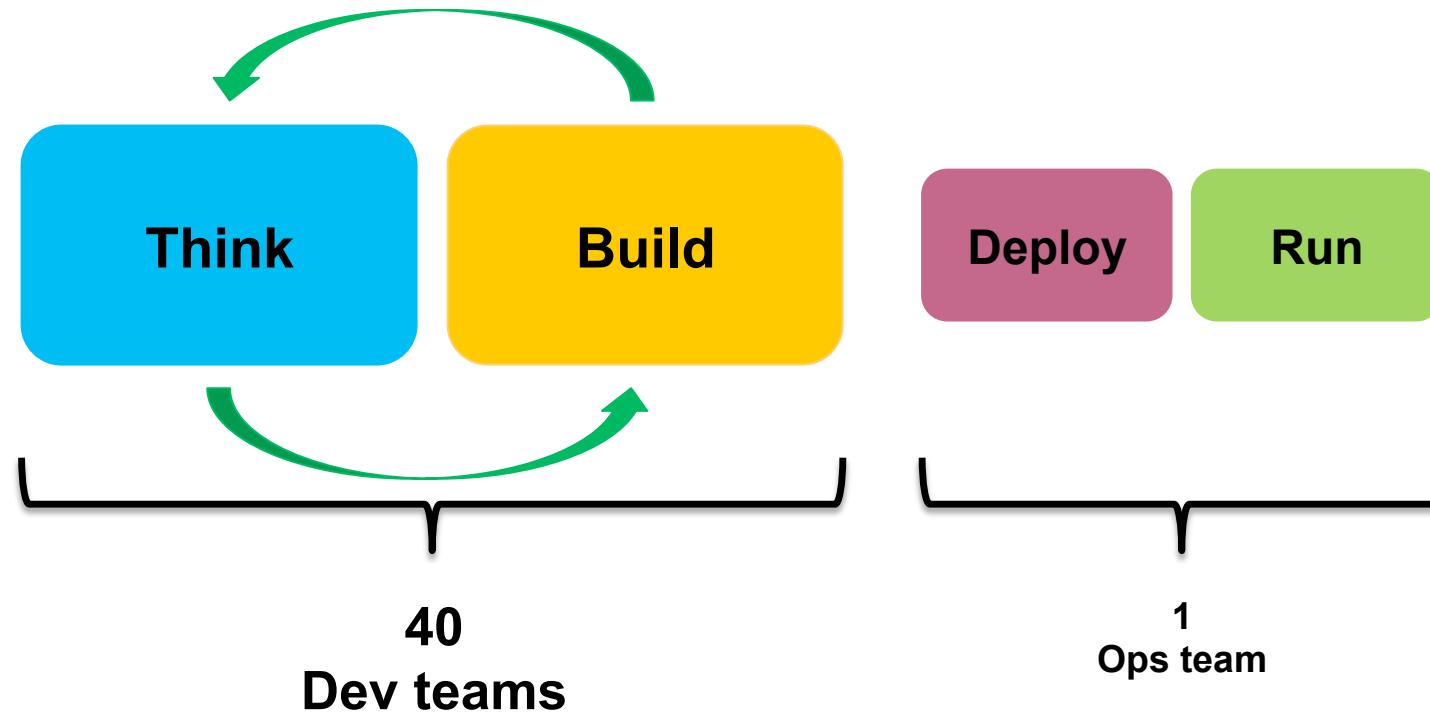
# Blue skies, no clouds, Teletubbies & unicorns...



# The summer of 2014...

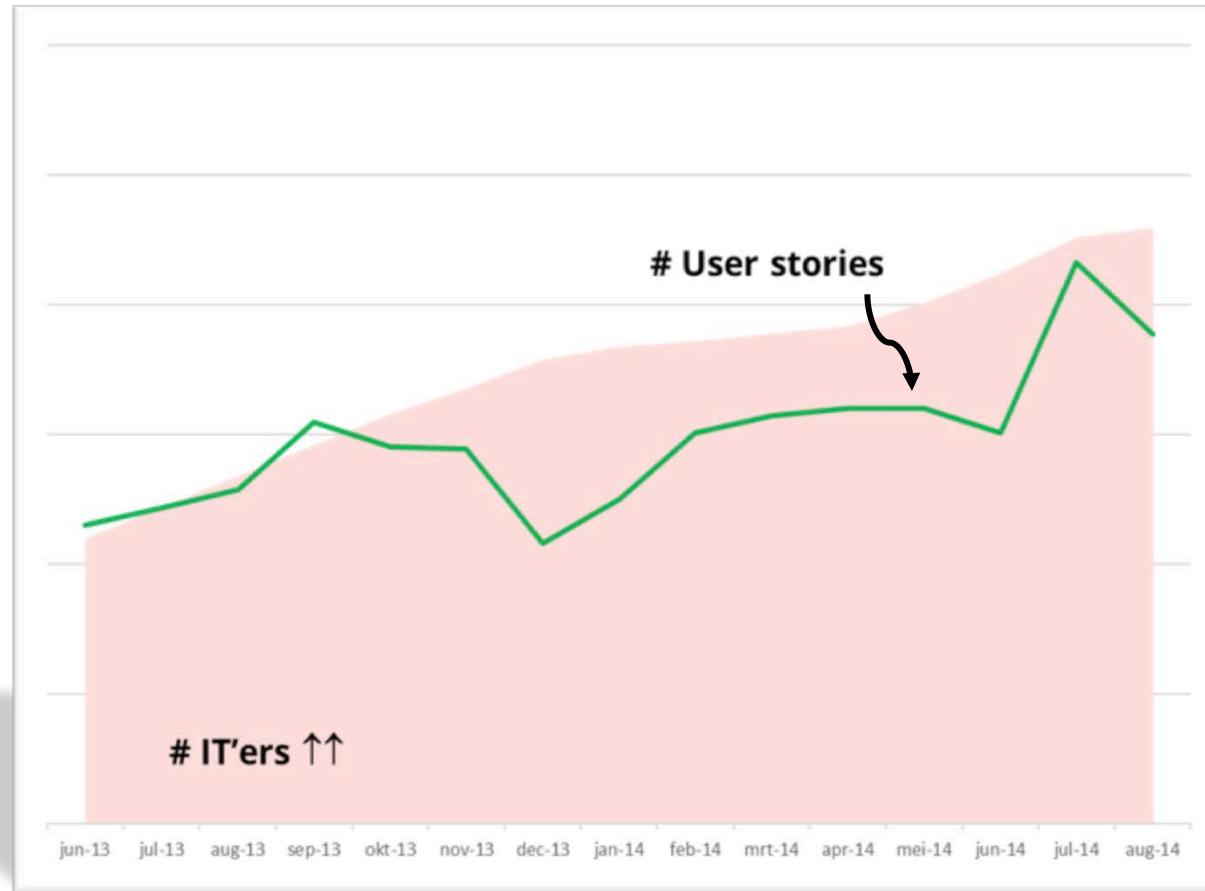


# The IT value chain



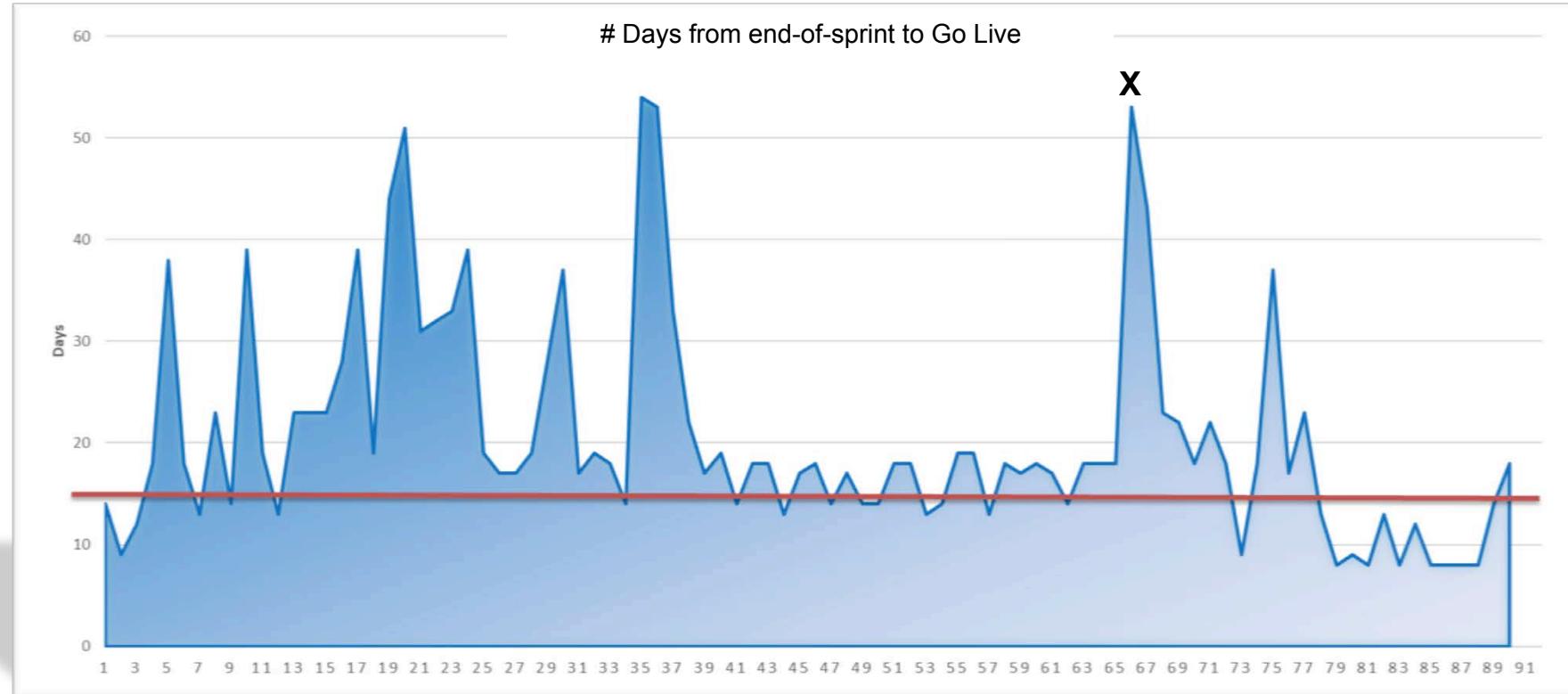
# We couldn't grow efficiently

Teams are in each others way – not productive – not scalable



# We couldn't release anymore

Time to Production was our most persistent bottleneck



# We had cool Ops!

## Principles:

- single version of truth
- no manual actions
- If it isn't high available it's bad
- set boundaries, be conditional
- measure and monitor everything
- manage all environments the same
- only peer reviewed changes

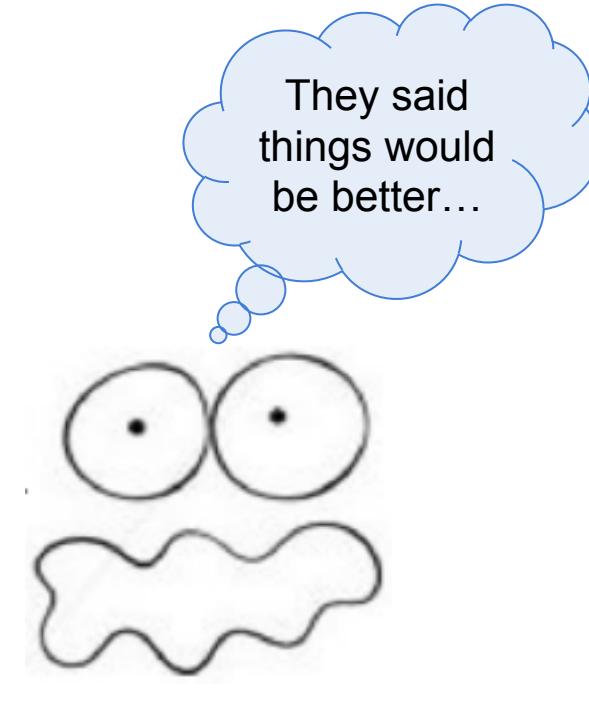


System engineer

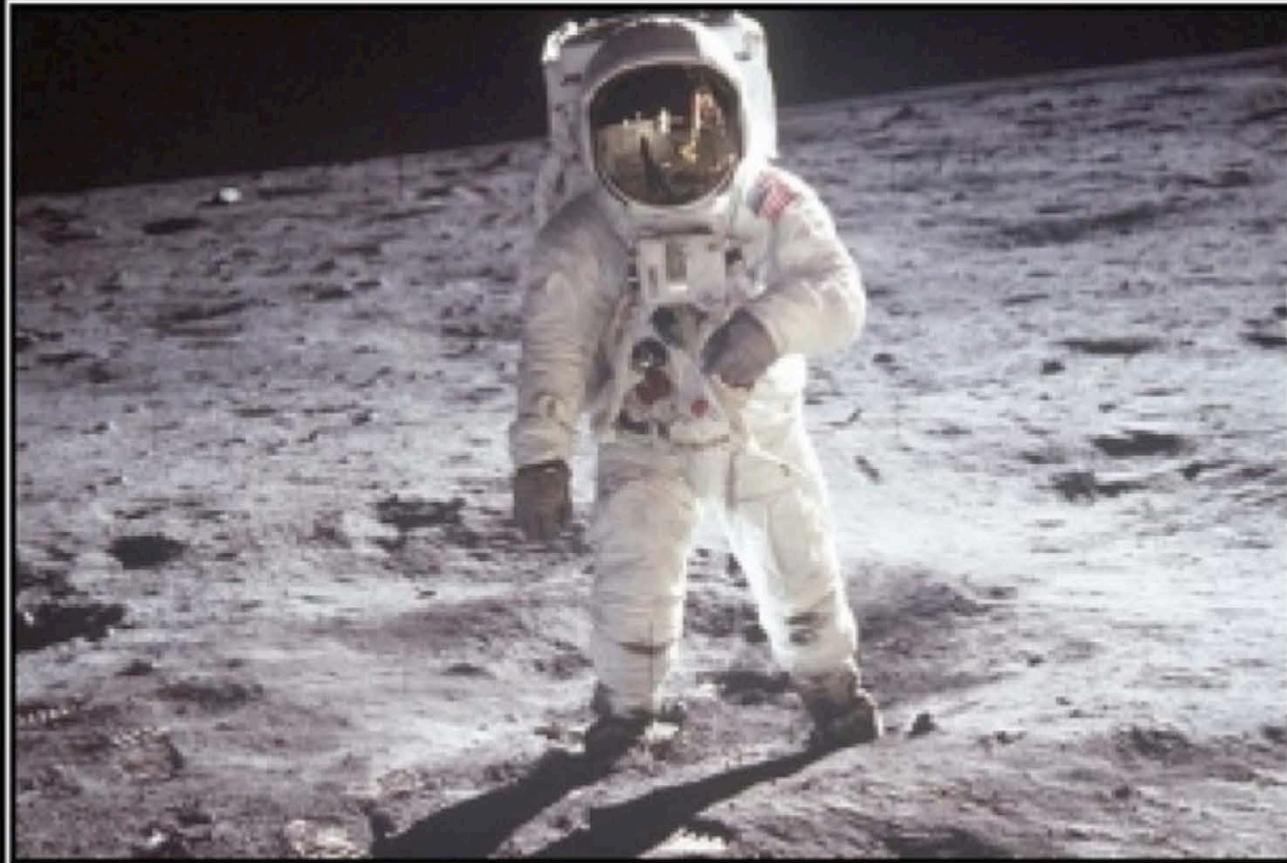


# Dev + Ops ≠ DevOps

Automation – culture – measuring – sharing – what not?



# DevOps is like putting a man on the moon



**TO PUT A MAN ON THE MOON**

Response from a custodian when asked what his job was at NASA.  
(circa 1968)

# One spark is all we needed

40+ times...



## Service Architecture

Independent Services

Compatibility & Resilience

## Continuous Delivery

Weekly Daily Delivery

DIY Deployments

## Test Automation

Test in Production

Fail early, fail often

## Platform as a Service

No more paperwork

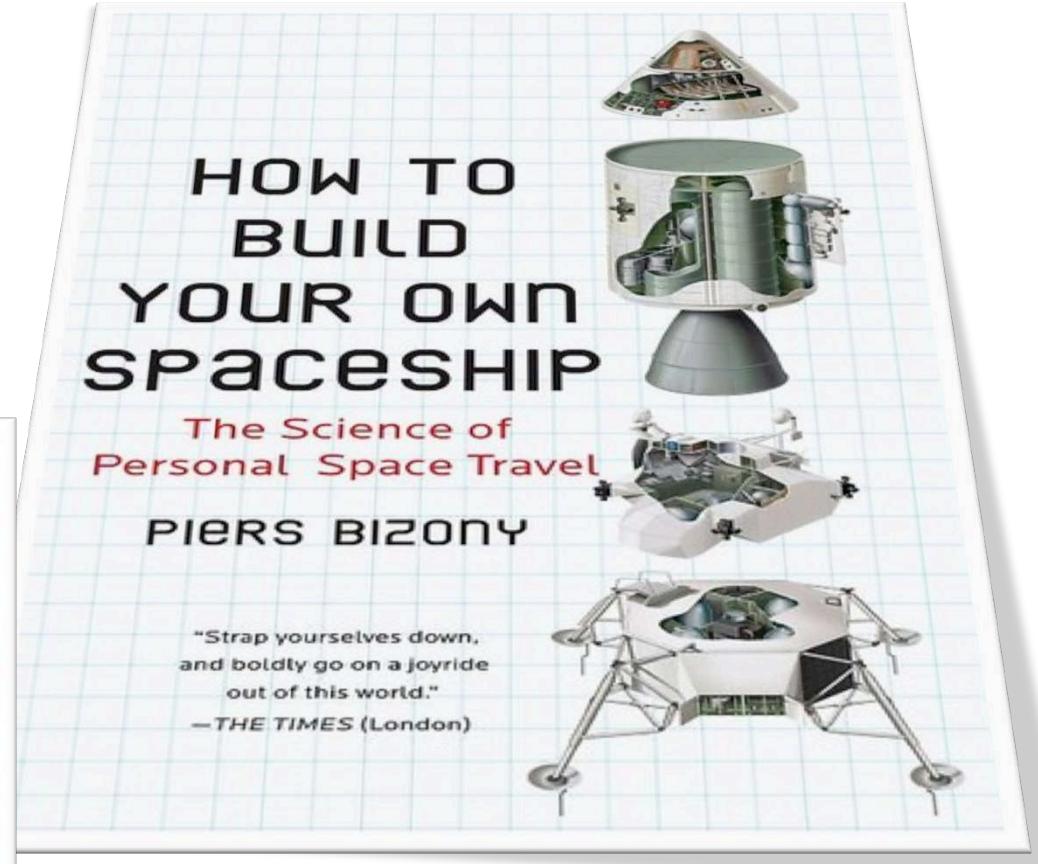
Rights to Production

## Way of Working

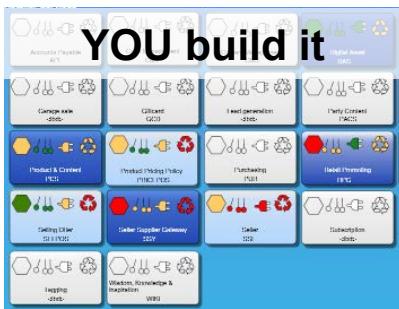
Autonomy!!

# What are you waiting for?

Kill dependencies one at a time – celebrate – share knowledge



# YBIYRIYLI: you build it, you run it, you love it



## Phase 0

- Independent service(s) and applications: compatible, resilient & online deployable

## Phase 1

- DEV deploys to PRO with OPS approval



## Phase 2

- DEV deploys to PRO
- DEV runs during office hours
- OPS runs during non-office hours



YOU love it

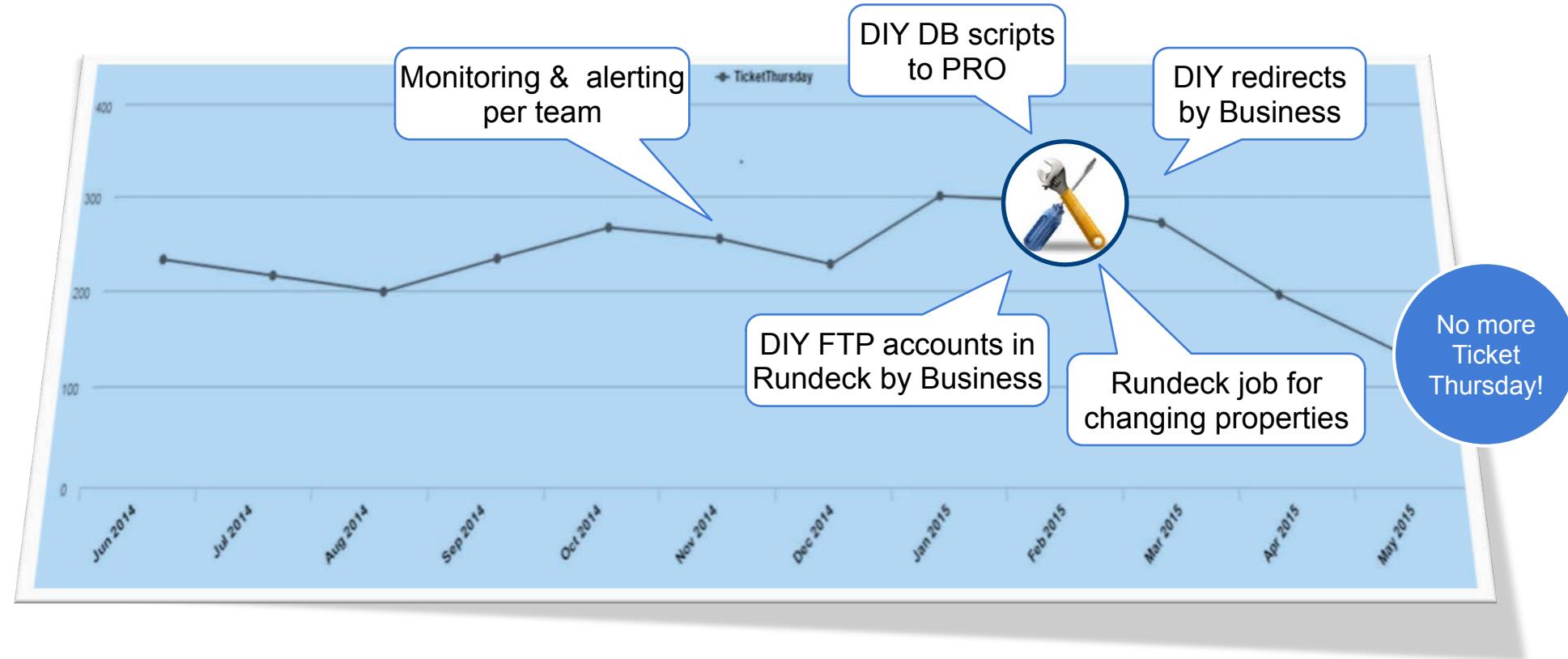
## Phase 3

- You tell us!



# Ops is no longer the bottleneck

- ✓ Site Reliability Engineering – basis for scalability



## ... but instead:

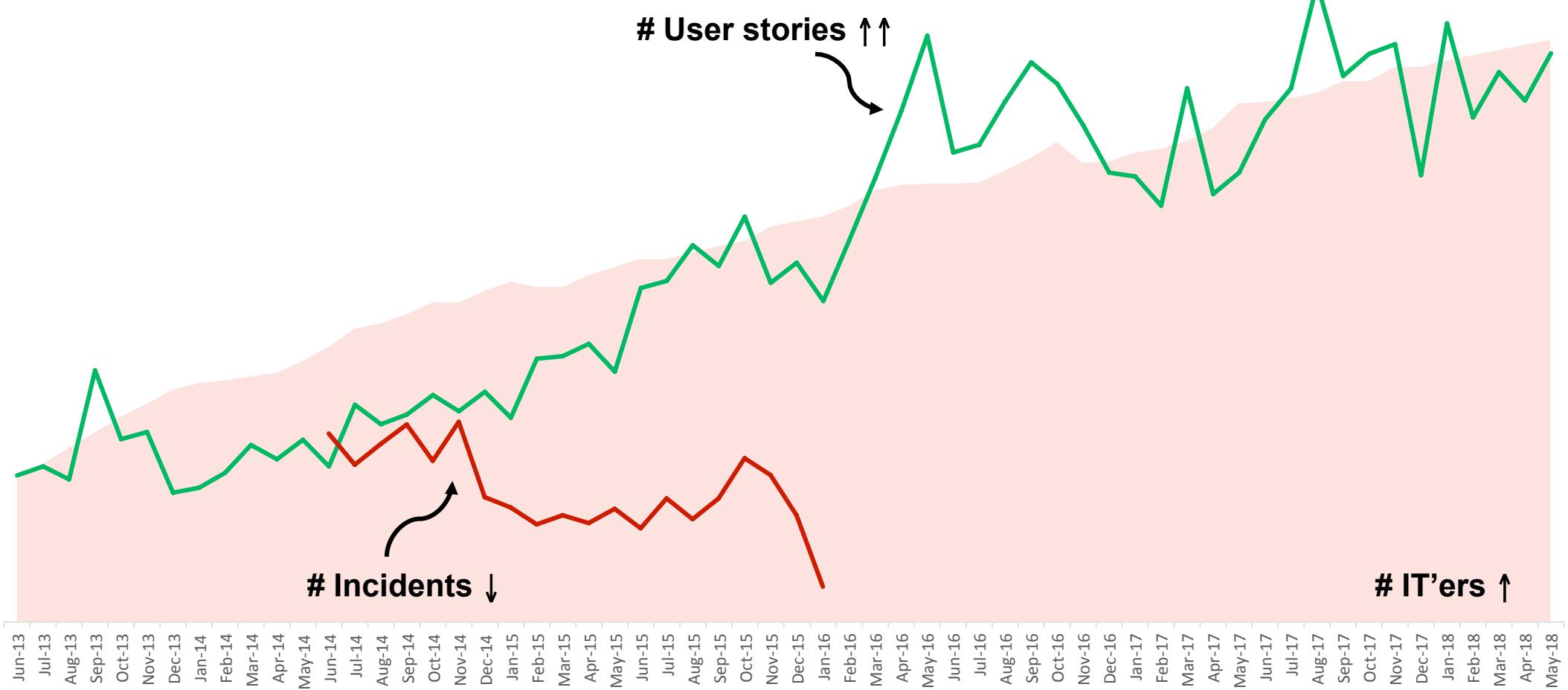
- ✓ Session Replication
- ✓ Monitoring HA
- ✓ Puppetized Monitoring Agents

- ✓ Alternative Scheduling
- ✓ Hadoop upgrade
- ✓ Overall patch level increased
- ✓ WSP online deploy

- ✓ Lowered CA impact by WSP release
- ✓ DWH HA
- ✓ Independent Cronacle release
- ✓ ...

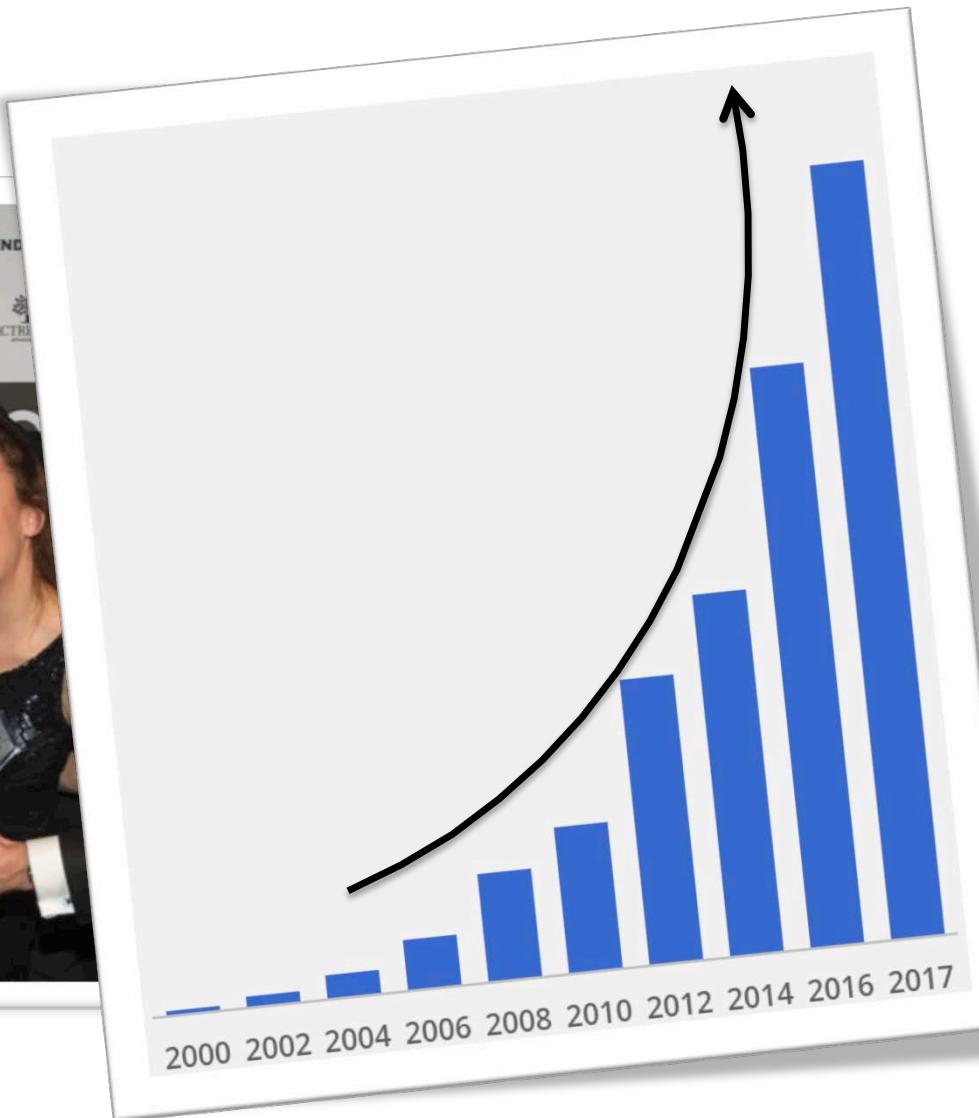
# The moon is a happy place

## Productivity back on track, quality improved



# Scalability = the ability to grow your business

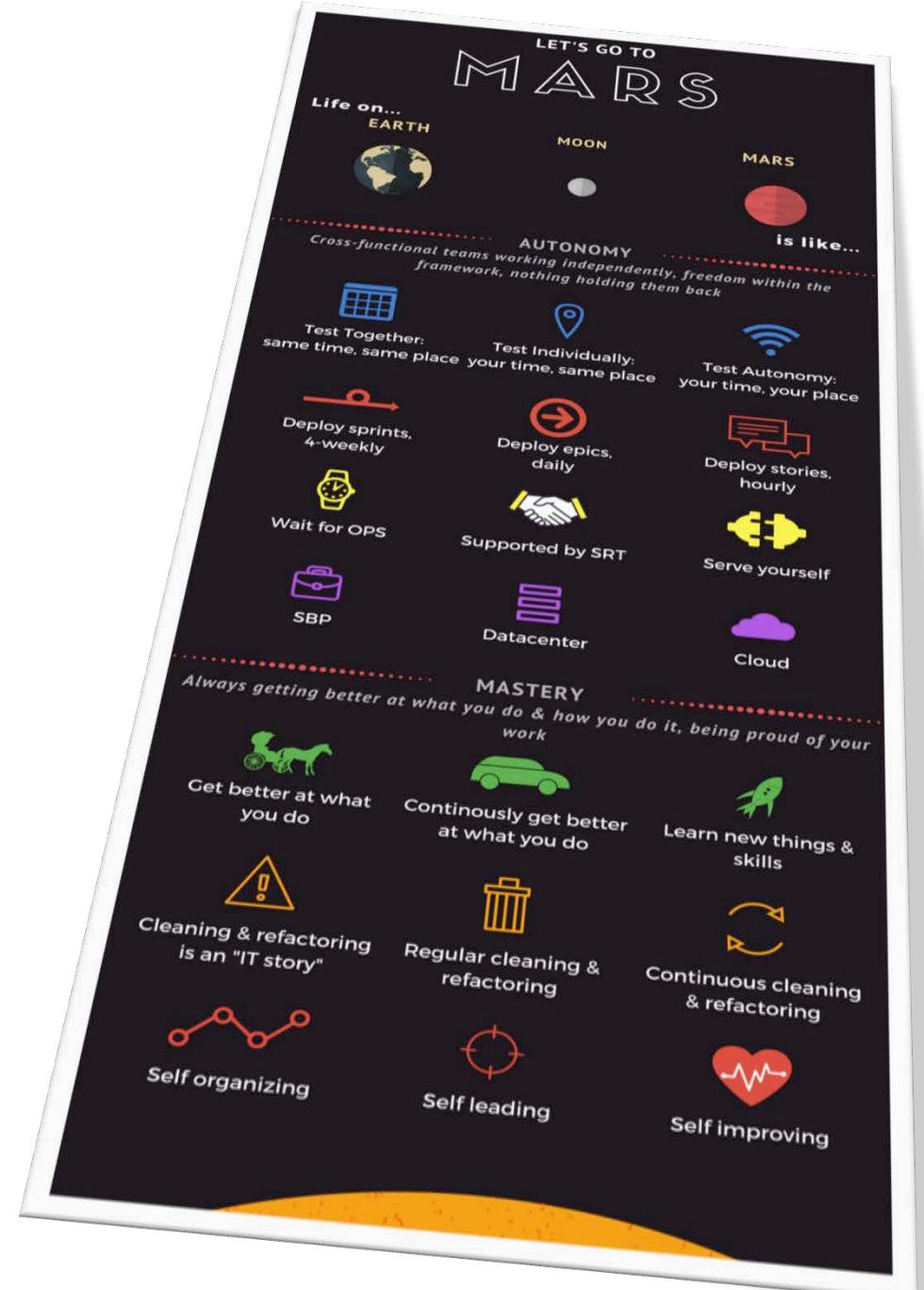
Not just IT



# Day-to-day mode ON

Transformation mode OFF ?!

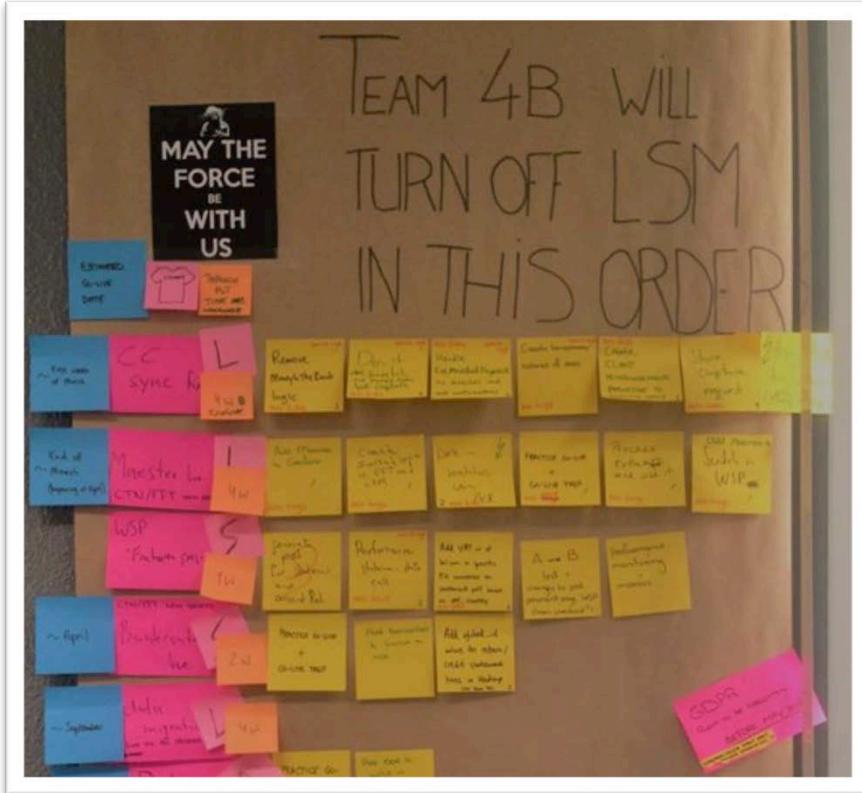
- Remove dependencies
- Manage complexity
- Take ownership
- Continuously improve



Where do we go  
from here?

# Services were first, legacy is next

Big legacy systems keep dependencies alive



2015  
4-Weekly  
Deploys



July 2016  
Scheduled  
Deploys

March 2016  
2-Weekly  
Deploys

July 2017  
**Daily**  
Deploys!

# Cloud9

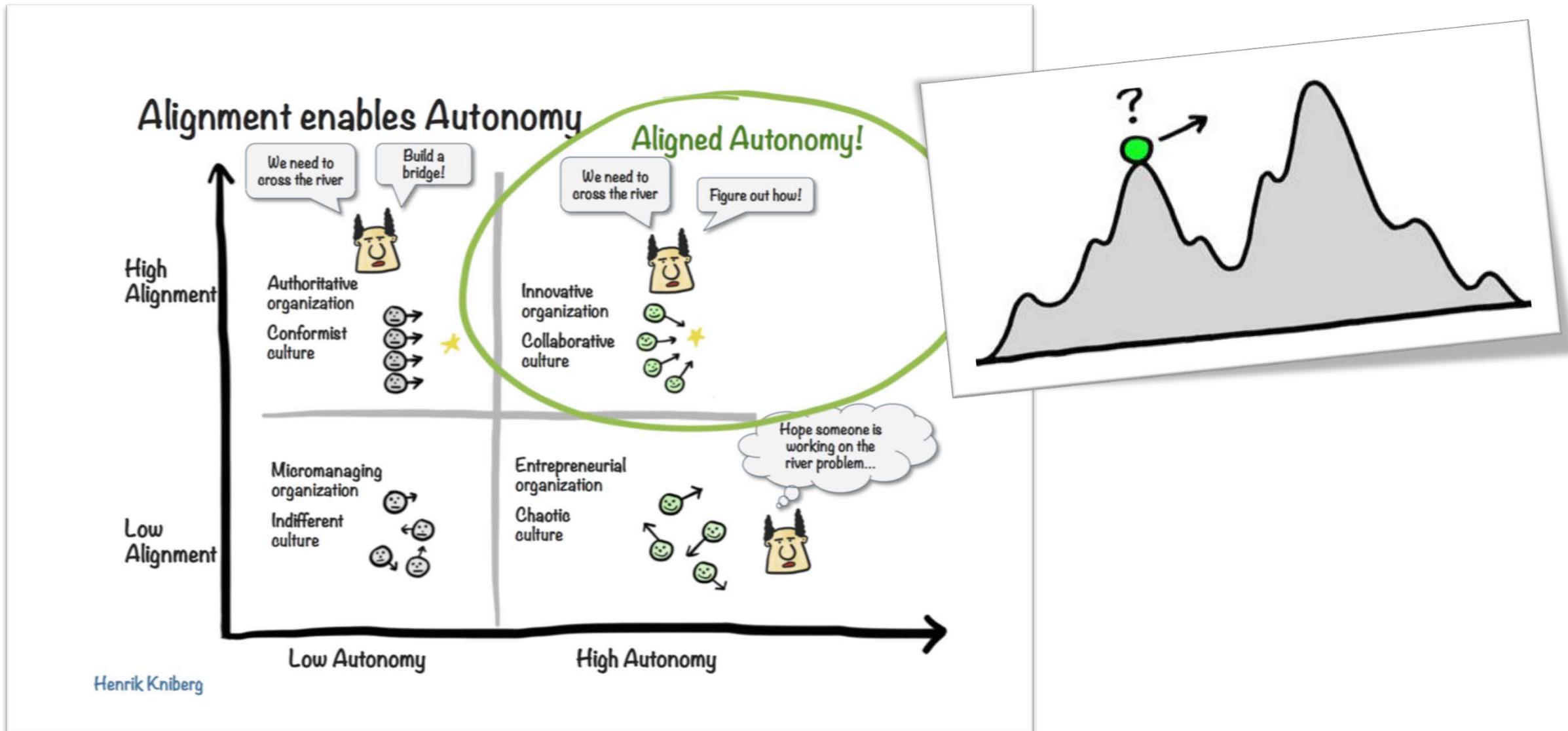
Next step in scalability & productivity & fun  
... and wake-up DEV?



CLOUD 9  
*LET'S GO COMPUTEREN!*

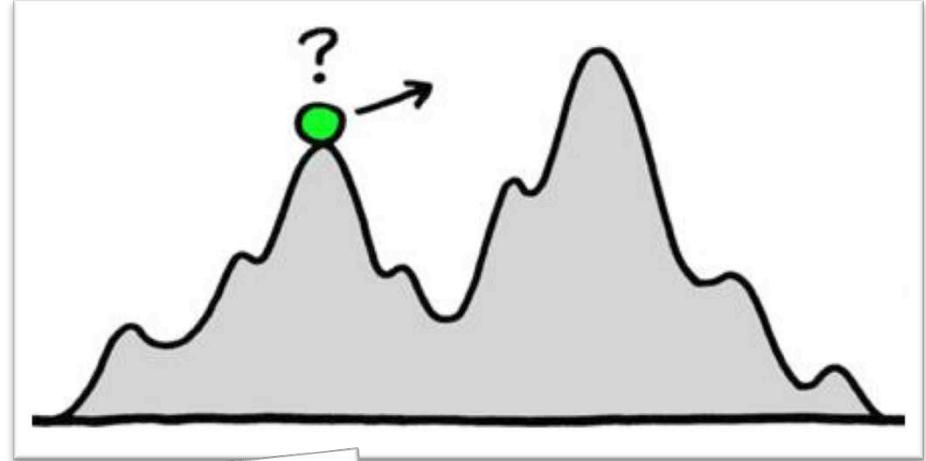
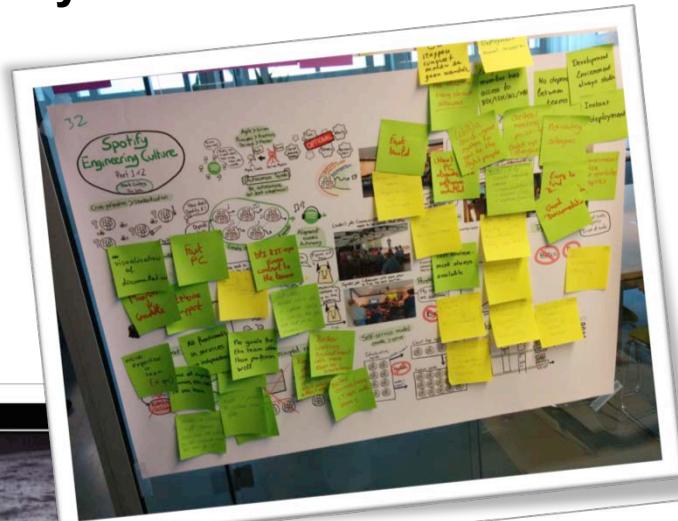


# Autonomy enabled by alignment while still growing fast



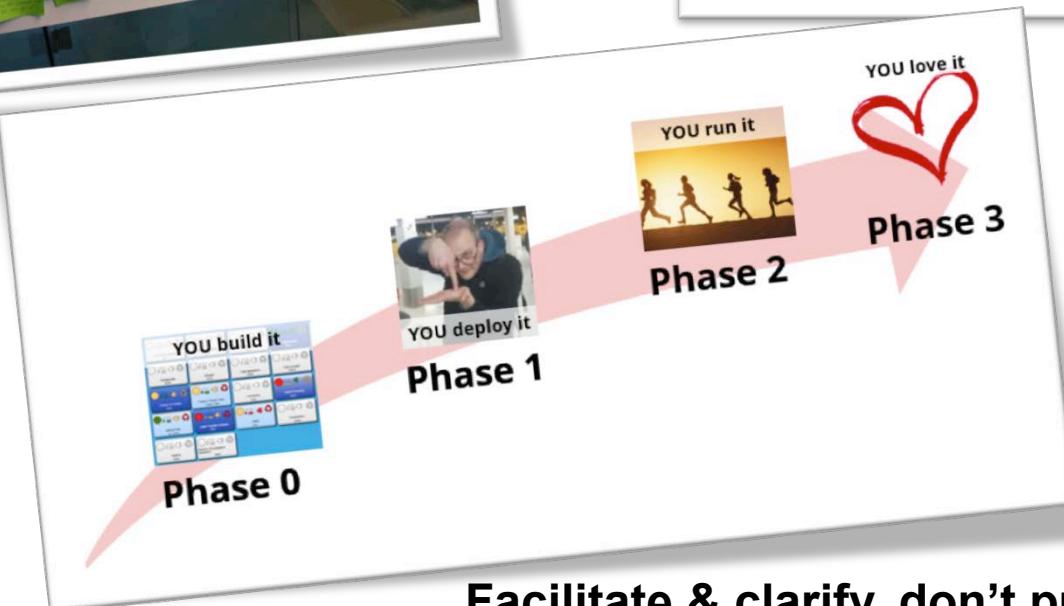
# Take-aways

Follow the teams, they know their bottlenecks best



You're never done 😊

There's no DevOps blueprint



Facilitate & clarify, don't push

# DevOps all through the value chain

It's about people and customers, not systems



Thanks!  
till next bol.com

Frederieke Ubels  
[fubels@bol.com](mailto:fubels@bol.com)