From twice a year to twice a month: the story of No More Majors

Tom Jans
Agile coach @ SFPD

in in/tomjans/

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SFPD: Service Fédérale des Pensions - Federale PensioenDienst

Belgian Federal Pension Service
Calculate and pay most Belgian legal pensions
2500 employees
www.mypension.be

SFPD: Service Fédérale des Pensions - Federale PensioenDienst
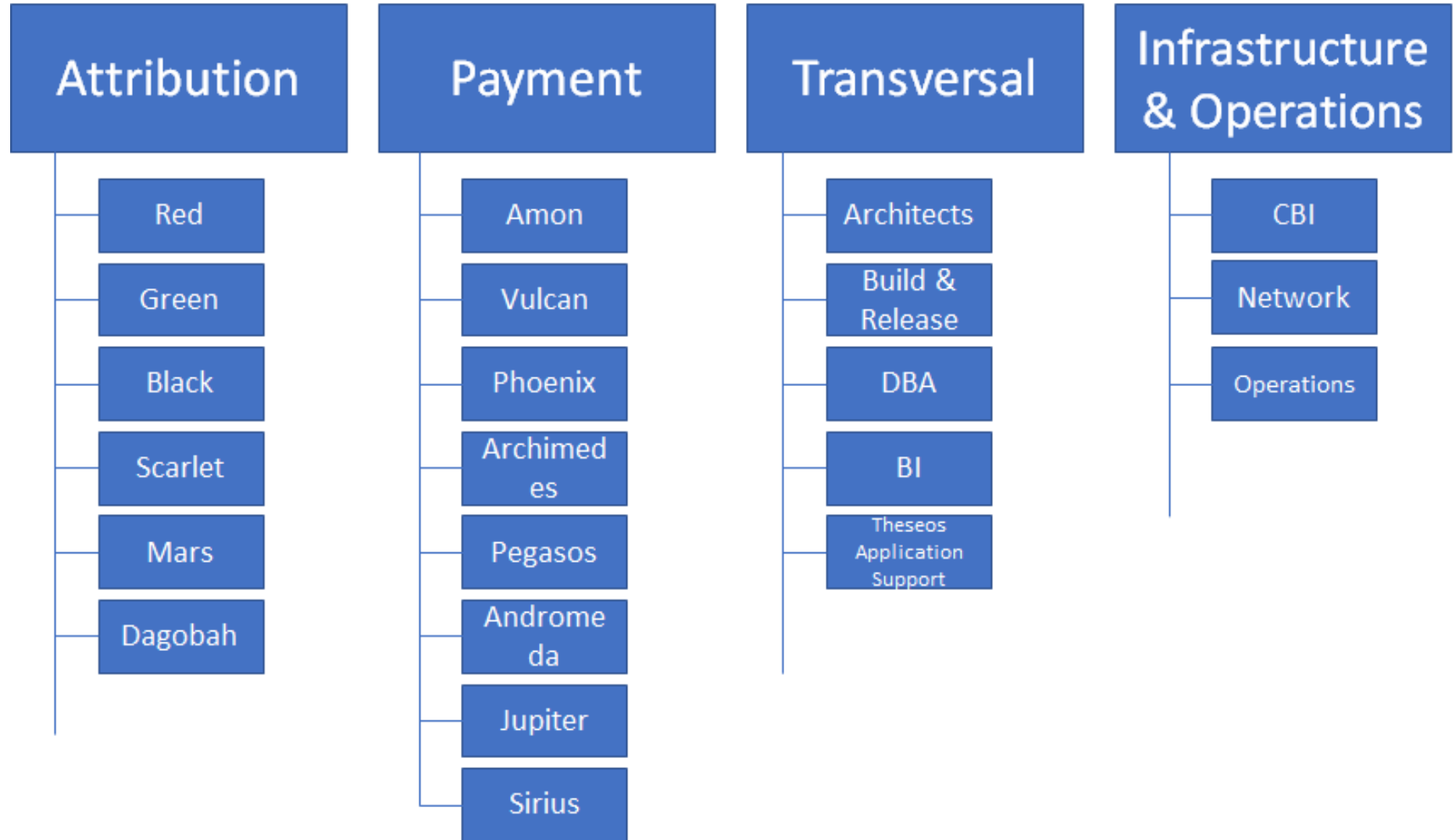
Belgian Federal Pension Service
    Calculate and pay most Belgian legal pensions
    2500 employees
    www.mypension.be

    11.000.000 customers
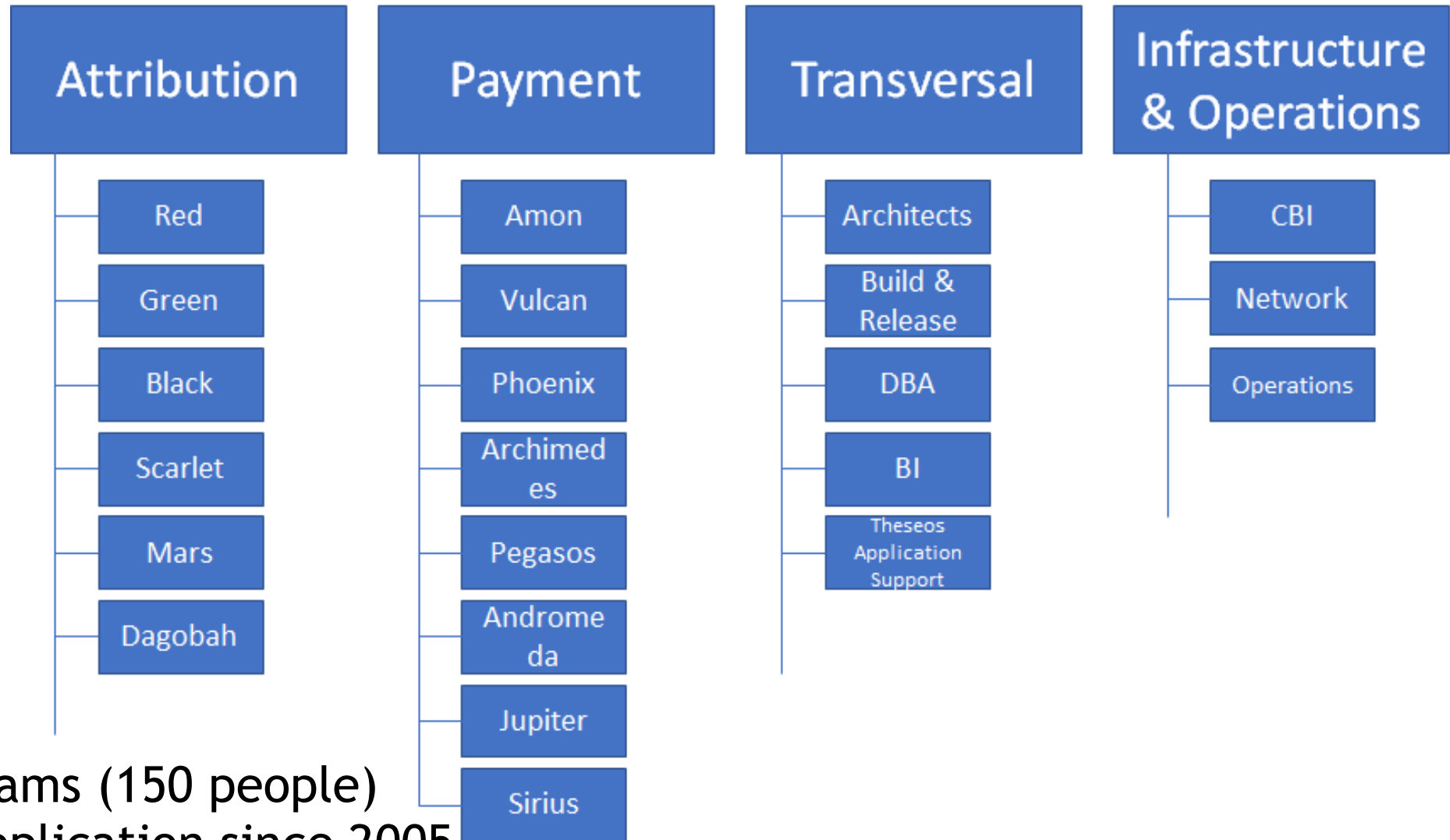   40.000.000.000 € per year

IT @ SFPD

250 people
4 sub-departments

IT @ SFPD

Attribution	Payment	Transversal	Infrastructure & Operations
Red	Amon	Architects	CBI
Green	Vulcan	Build & Release	Network
Black	Phoenix	DBA	Operations
Scarlet	Archimedes	BI	
Mars	Pegasos	Theseos Application Support	
Dagobah	Andromeda		
	Jupiter		
	Sirius		

250 people
4 sub-departments
Theseos
    15 development teams (150 people)
    Central in-house application since 2005

Fusion

2016
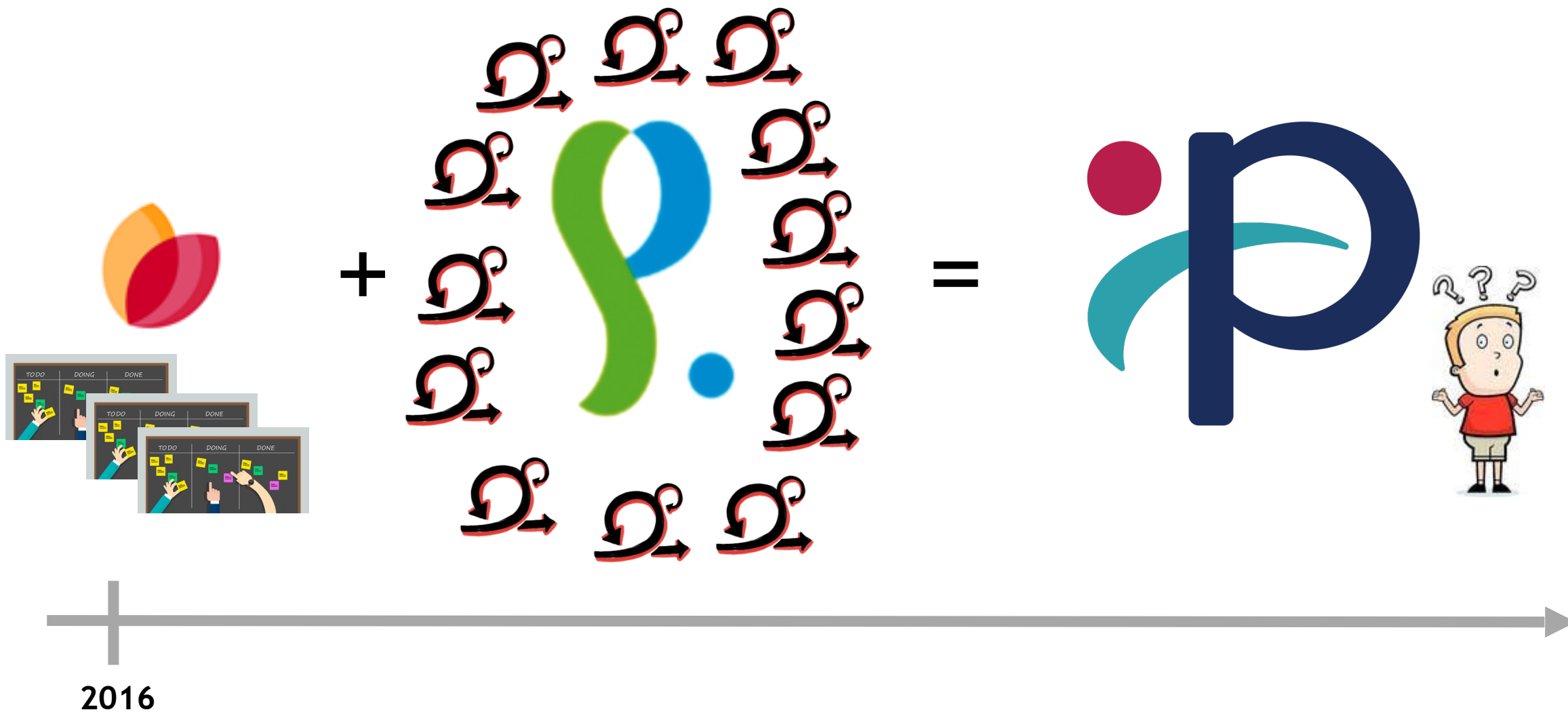
Fusion

2016

Confusion

2016

"Luck is what happens when preparation meets opportunity."

-- Seneca

We don't like major releases

Release cycle <As Is>

Cost

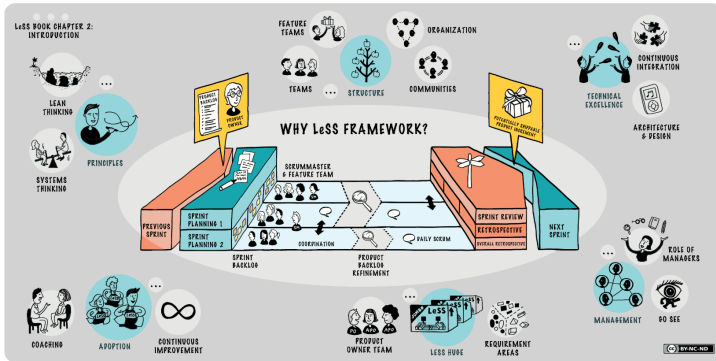| 1 patch	1 major
• Build & Release : 3 MD	• Build & Release : 63 MD
• IT-teams : 26 MD	• Dev : 56 MD
	• Regression test: 23 MD
• Business test : 4 MD	• I&O : 14 MD
	• Business test : 178 MD
Total : 33 MD	Total : 334 MD

Estimation - Exercices

2016

Nov 2017
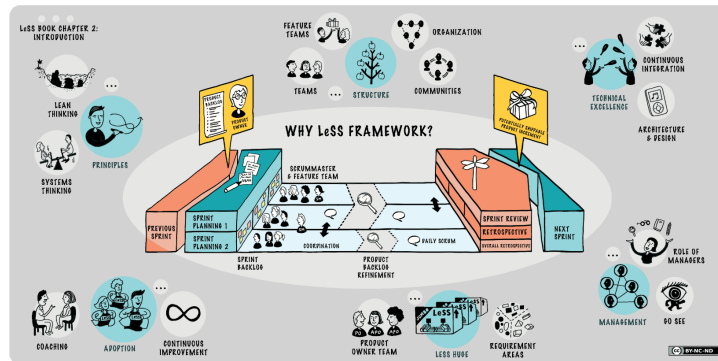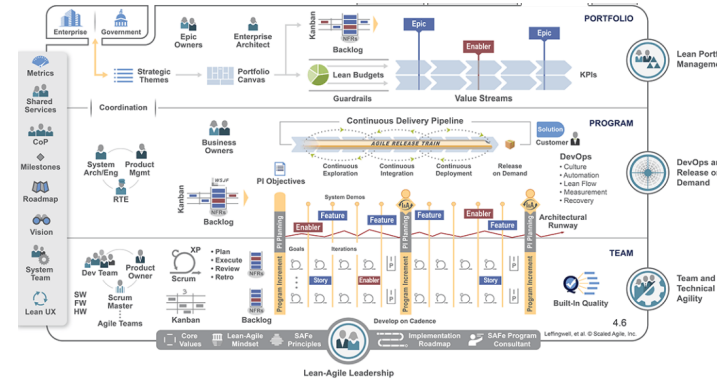
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Training

2016

Nov
2017

Feb
2018
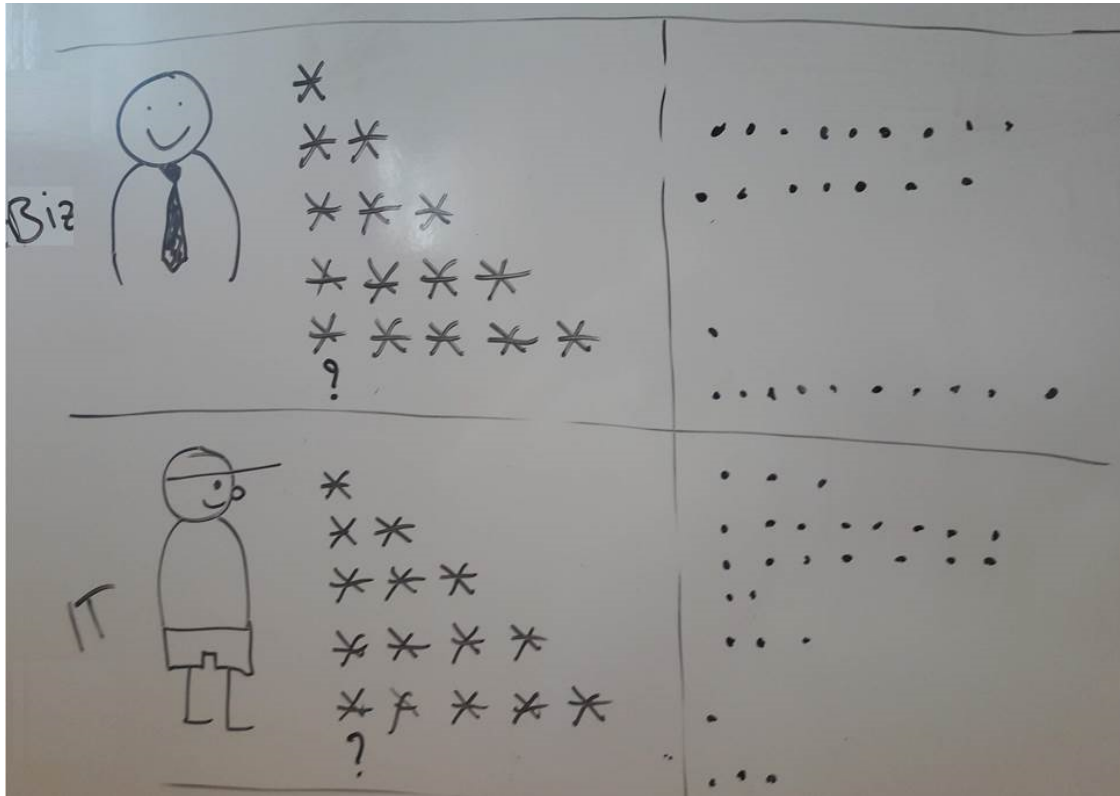
Training

+

2016   Nov   Feb
              2017   2018

Lessons Learned Major Release Theseos 18.06
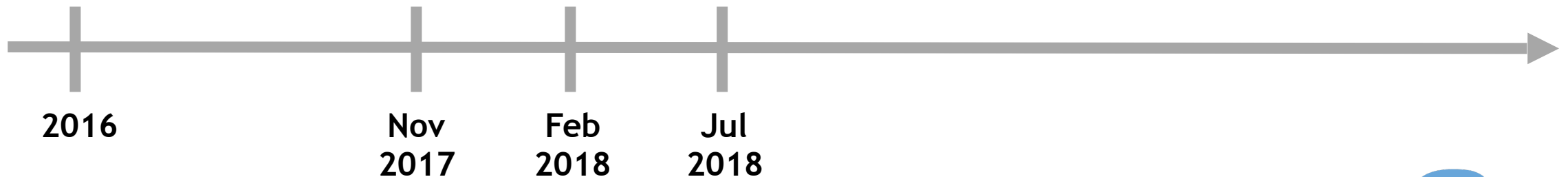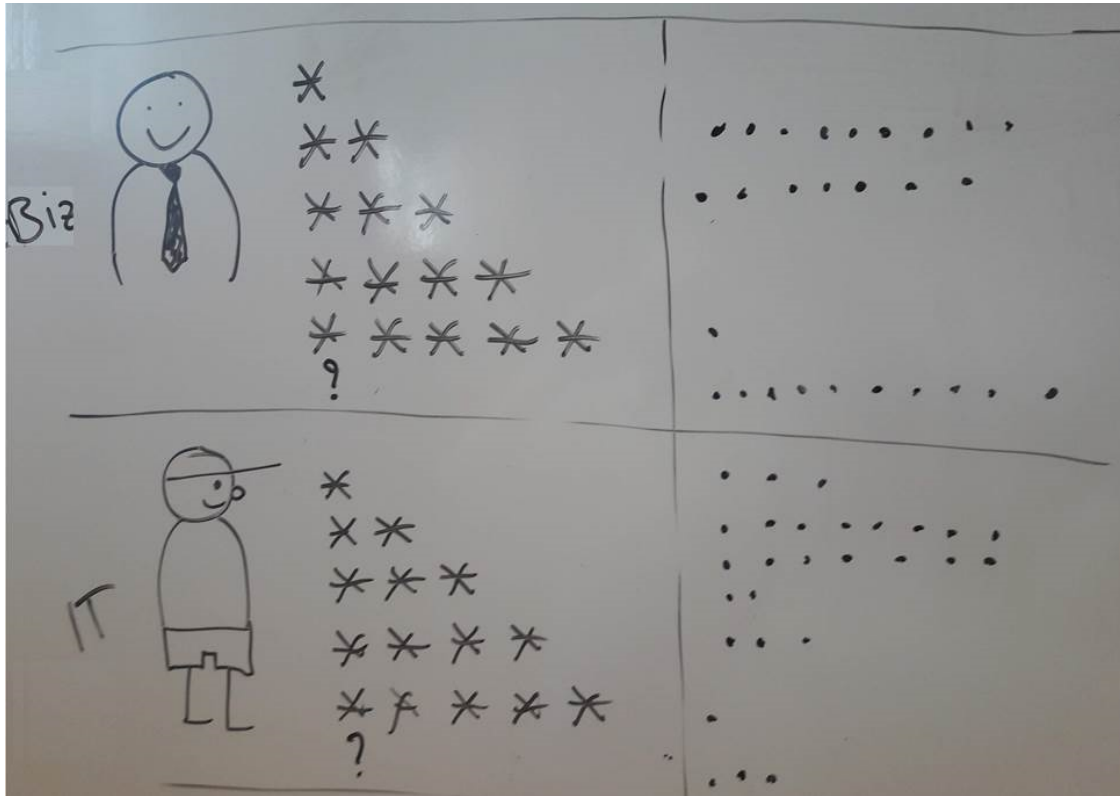
2016   Nov   Feb   Jul
              2017   2018   2018

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Lessons Learned Major Release Theseos 18.06

2016   Nov 2017   Feb 2018   Jul 2018

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No More Majors

No more majors

Goal:
To make it possible to deliver everything in two-weekly patches, so that December will be the last major release ever

Timing:
Kick-off 19-20 September + 1 day/week until December

Main focus:
Theseos
From code commit to release
Experiments contained to 2 teams at a time

With:
Thierry De Pauw, an external trainer/expert in CI
A core group of ~10 SFPD people

NMM: Core group

Core group members will:
- Participate in (all) workshops
- Refine the goal and model the current situation
- Communicate to teams & stakeholders
- Define and execute experiments
- ...

So we need people who are
- Motivated
- Committed to at least 1 day per week
- Technically/functionally mature
- Good communicators and real team players
- (the right mix of profiles/roles)
- ...

| 2016 | Nov 2017 | Feb 2018 | Jul 2018 | Sep 2018 |
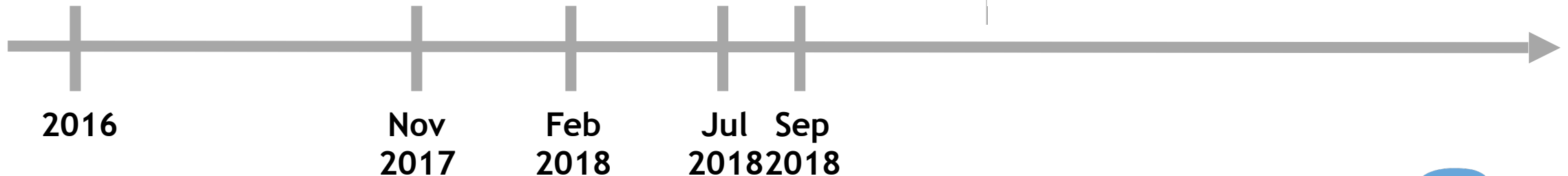
Sept 5th 2018:

Can you help us achieve
Continuous Delivery
with fortnightly release cycles
by end of December 2018?

"*In preparing for battle I have always found that plans are useless, but planning is indispensable.*"

-- Dwight Eisenhower, 1957

CO-LEARNING

- Improvement Kata

- Value Stream Mapping

- Measuring Continuous Delivery

- Theory of Constraints

Implementing Continuous Delivery is
not easy nor cheap ! It is very difficult.

CO-LEARNING

Technological changes

Version Control	Test Driven Development
Trunk Based Development	Acceptance Test Driven Development
Deployment Pipeline	Contract Tests
Continuous Integration	Exploratory Testing
Automated Configuration	Smoke Tests
Automated Infrastructure	Test Data Management
Evolutionary Architecture	Monitoring & Alerting
Database Migrations	Incremental Releases

acknowledgment: Steve Smith

CO-LEARNING

Organisational changes

Small Batch Sizes

Empowered Product Teams

Cross-Functional Teams

Shared Incentives

Blameless Post-Mortems

You build it, You run it

Everyone does On-Call

Continuous Change Review
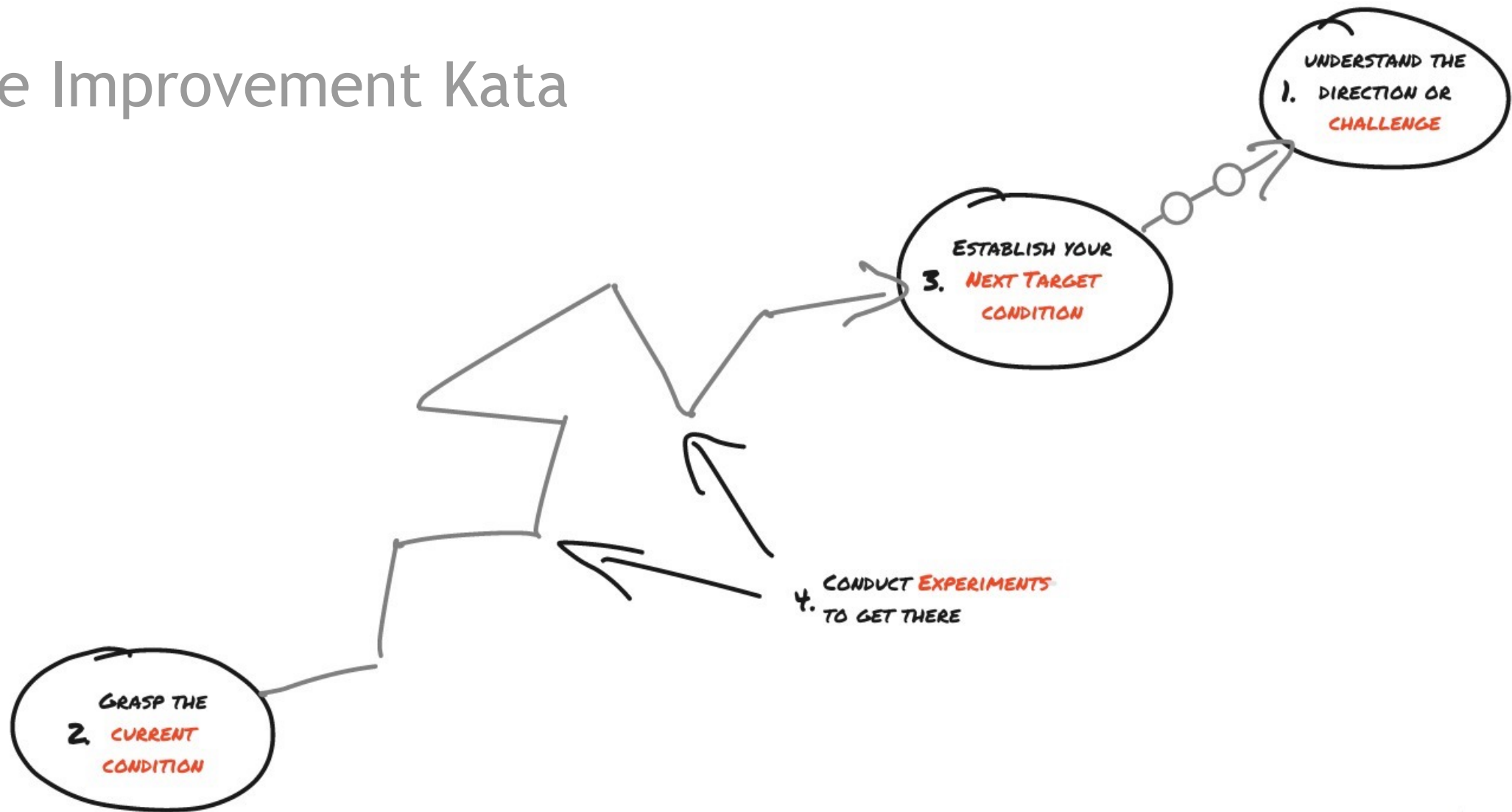
Traceability of Changes

Upskilling and Empowering Employees

Conway's Law Alignment

Continuous Improvement

CO-LEARNING

The Improvement Kata

UNDERSTAND THE
1. DIRECTION OR
CHALLENGE

ESTABLISH YOUR
3. NEXT TARGET
CONDITION

4. CONDUCT EXPERIMENTS
TO GET THERE
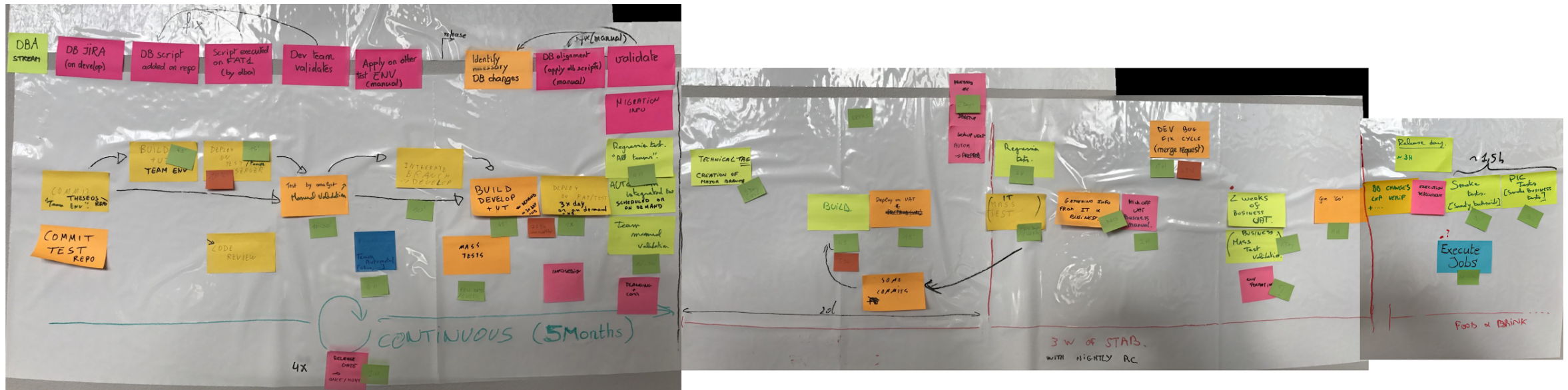
GRASP THE
2. CURRENT
CONDITION

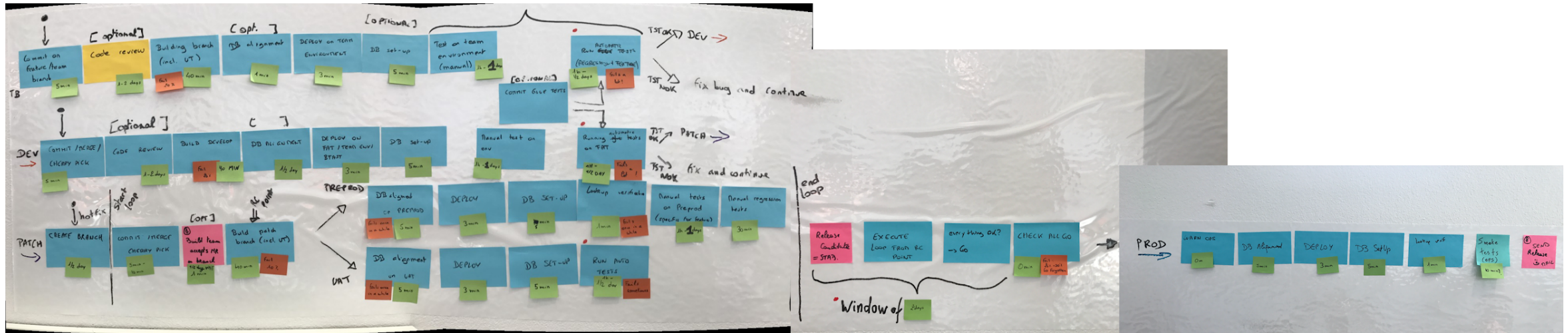# The Agency's Improvement Kata

CHALLENGE
1. LAST MAJOR RELEASE END OF DECEMBER 2018
FROM THEN ON RELEASE EVERY FORTNIGHT

2. CURRENT CONDITION
Value Stream Maps

Major release ~ 6 months lead time
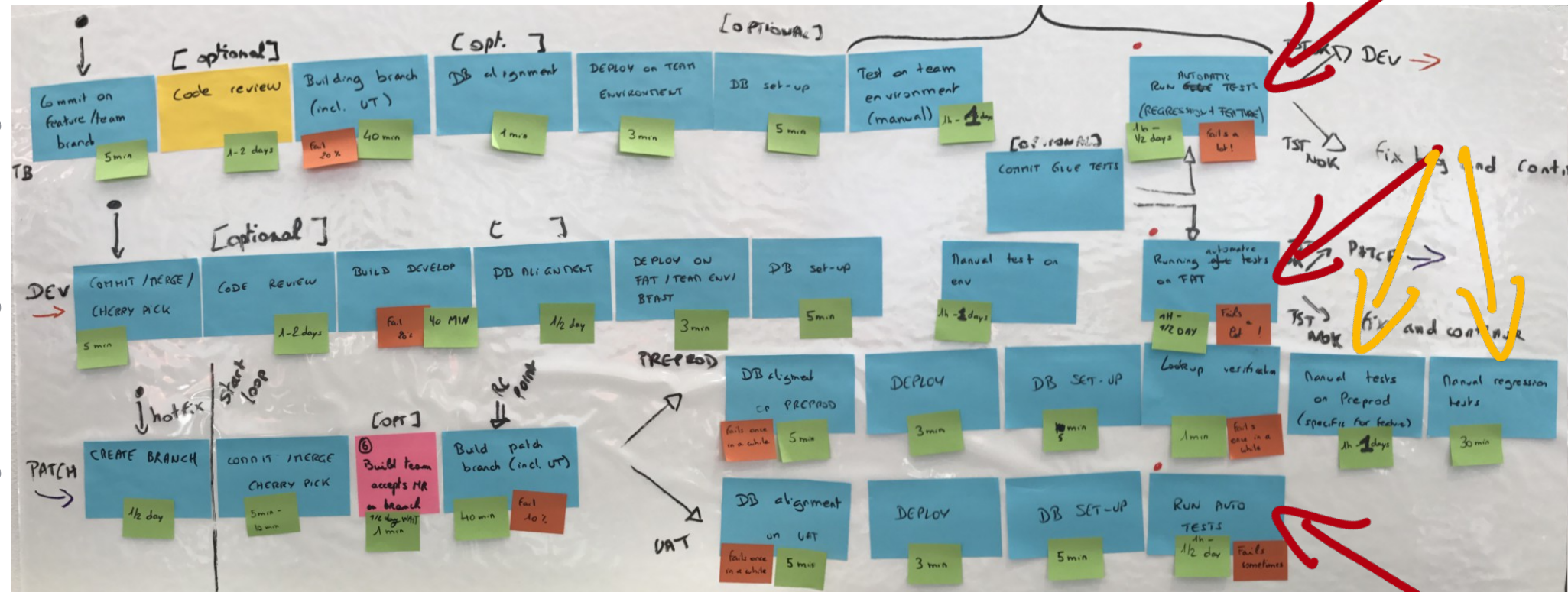
Patch releases - every fortnight

Theory of Constraints

Every system has a bottleneck.

Spending time optimising anything other than the bottleneck is an illusion.
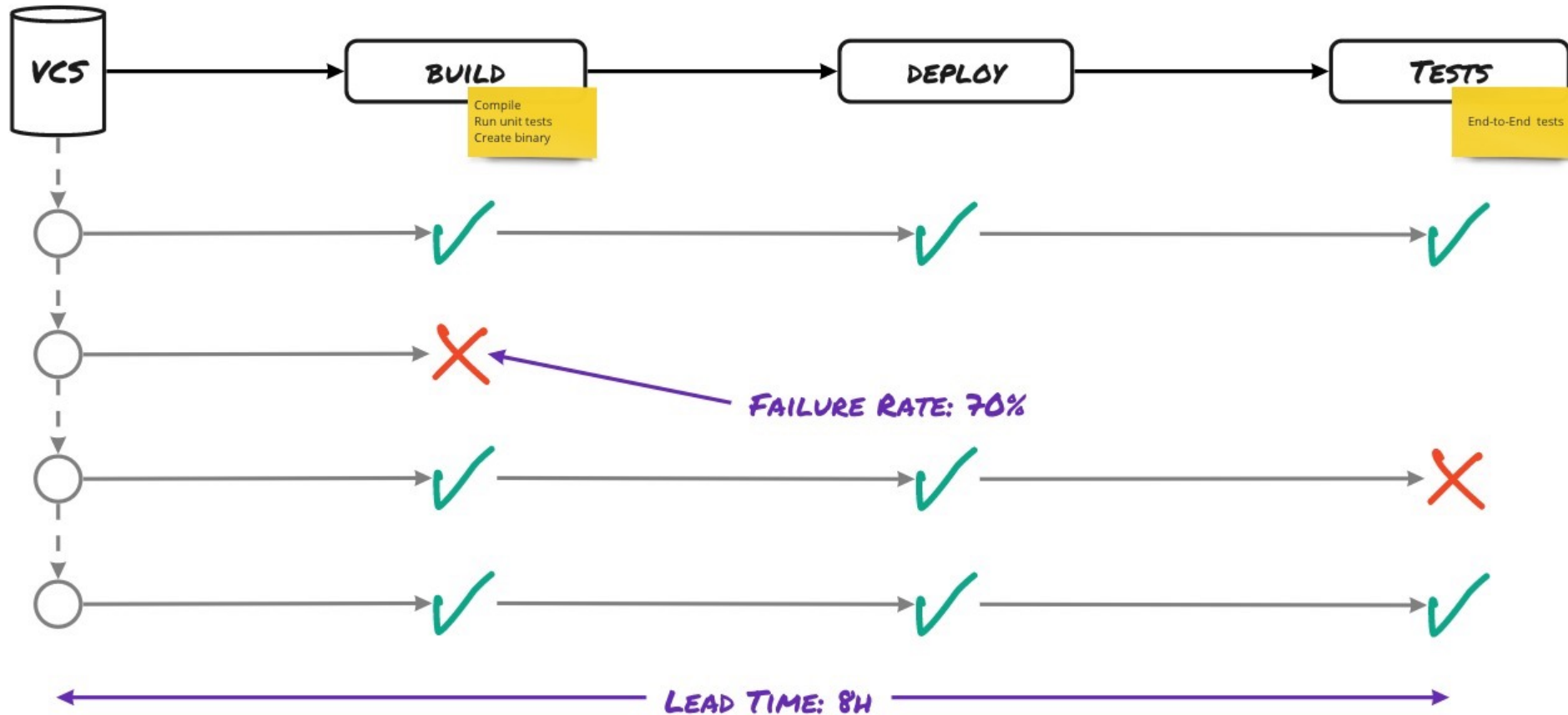
Where is the bottleneck?

activity lead time

activity failure rate

First experiment: the pipeline and its metrics

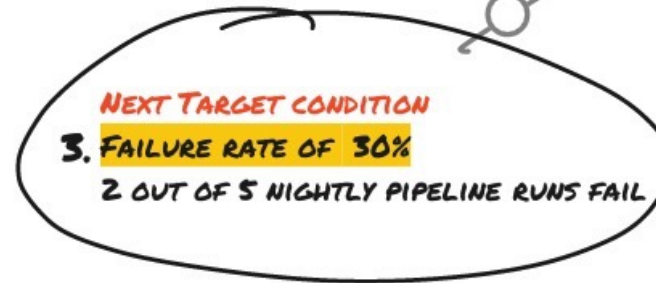# The Agency's Improvement Kata

CHALLENGE
1. LAST MAJOR RELEASE END OF DECEMBER 2018
   FROM THEN ON RELEASE EVERY FORTNIGHT

CURRENT CONDITION
2. 2 VALUE STREAMS
   FAILURE RATE OF 70%
   LEAD TIME OF 8H

CO-LEARNING

The Agency's Improvement Kata

CHALLENGE
1. LAST MAJOR RELEASE END OF DECEMBER 2018
   FROM THEN ON RELEASE EVERY FORTNIGHT

NEXT TARGET CONDITION
3. FAILURE RATE OF 30%
   2 OUT OF 5 NIGHTLY PIPELINE RUNS FAIL

CURRENT CONDITION
2. 2 VALUE STREAMS
   FAILURE RATE OF 70%
   LEAD TIME OF 8H

CO-LEARNING

The Agency's Improvement Kata

CHALLENGE
1. LAST MAJOR RELEASE END OF DECEMBER 2018
FROM THEN ON RELEASE EVERY FORTNIGHT

NEXT TARGET CONDITION
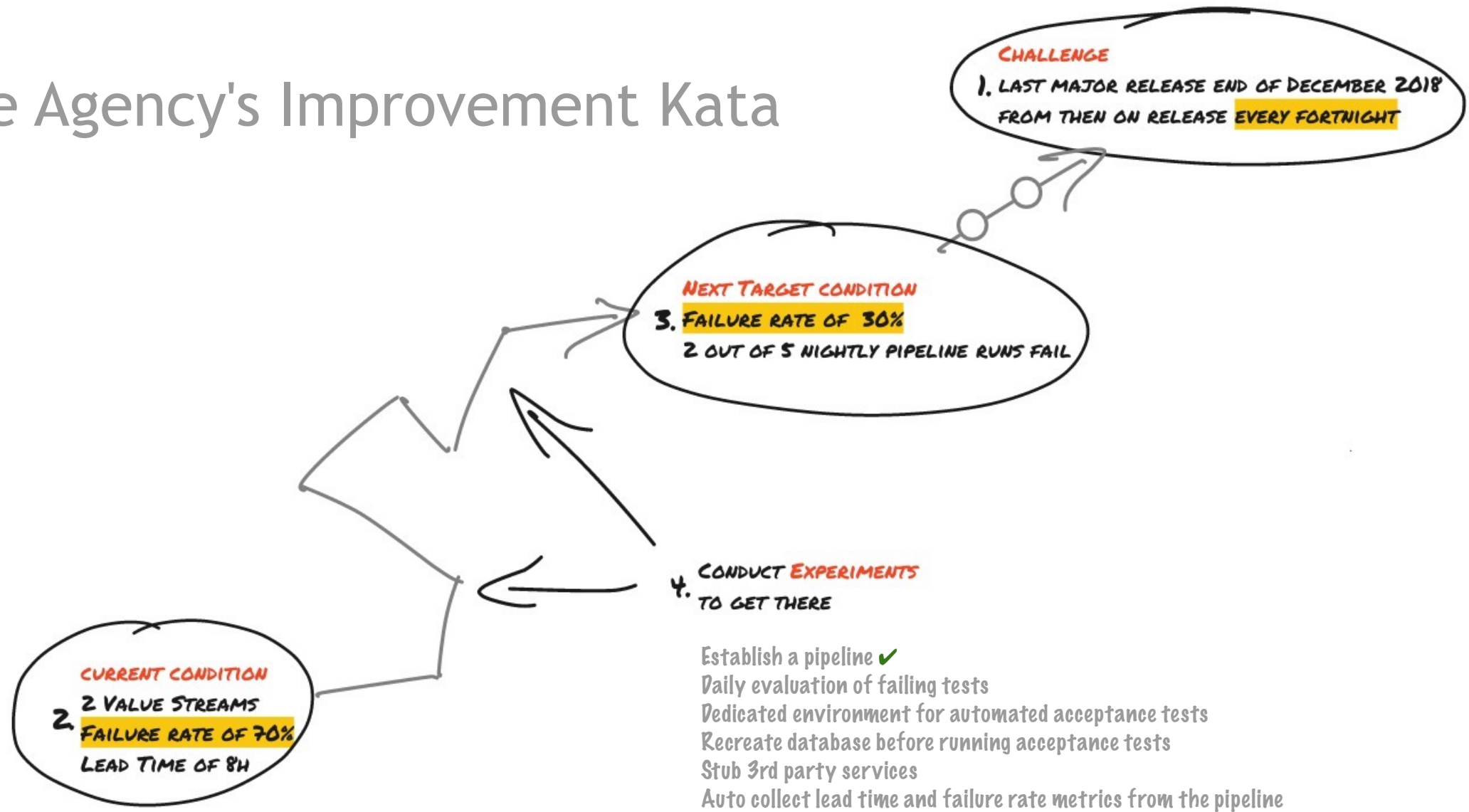3. FAILURE RATE OF 30%
2 OUT OF 5 NIGHTLY PIPELINE RUNS FAIL

4. CONDUCT EXPERIMENTS
TO GET THERE

Establish a pipeline ✔
Daily evaluation of failing tests
Dedicated environment for automated acceptance tests
Recreate database before running acceptance tests
Stub 3rd party services
Auto collect lead time and failure rate metrics from the pipeline

CURRENT CONDITION
2. 2 VALUE STREAMS
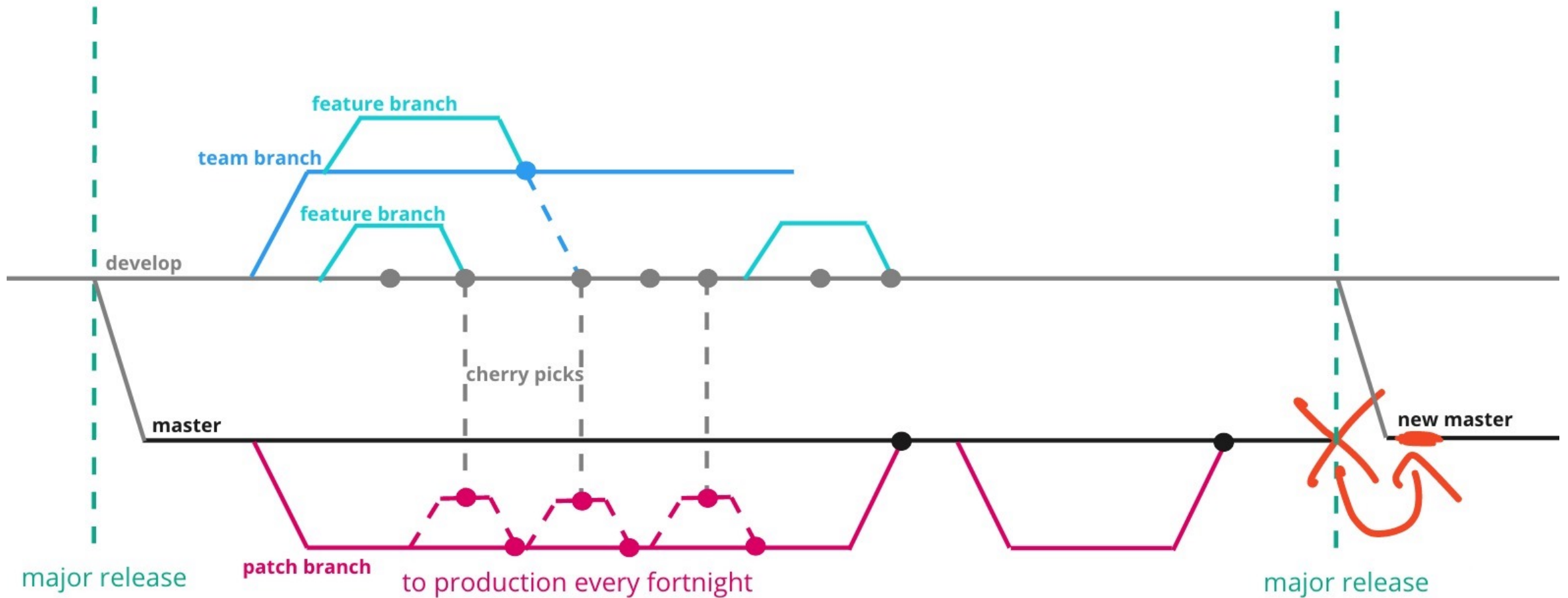FAILURE RATE OF 70%
LEAD TIME OF 8H

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"*… but plans are worthless when the fighting is once begun, and all depends on the inspiration of the moment.*"
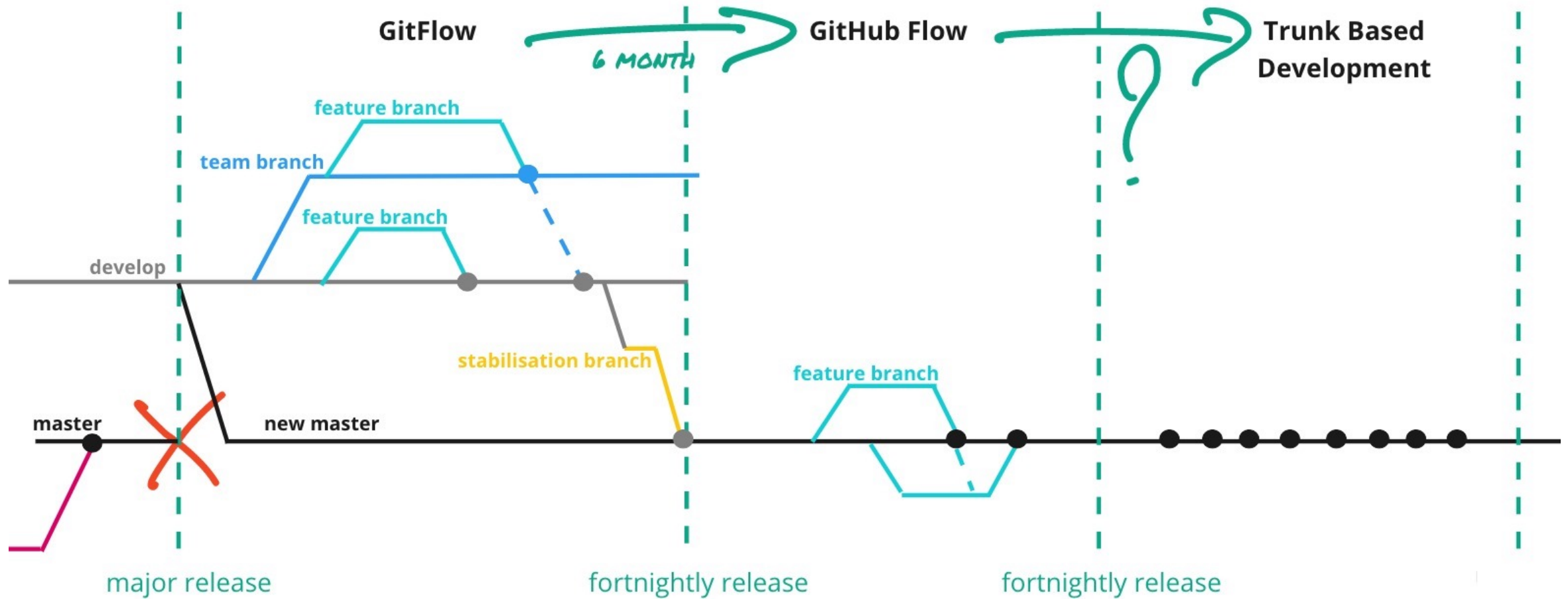
-- a war correspondent for the British newspaper "The Daily News", 1877

Fear of Complexity

Complex branching strategy

www.co-learning.be

Proposed branching strategy roadmap

GitFlow

GitHub Flow

Trunk Based Development

6 MONTH

feature branch

team branch

feature branch

develop

stabilisation branch

master

new master

feature branch

major release

fortnightly release

fortnightly release

Fear of Missing Key Steps

Meanwhile ...

18/10: LT of 8h, 21/3529 failing tests
29/10: LT of 4h, 545/5390 failing tests
05/11: pipeline did not run for 5 days - CI upgrade
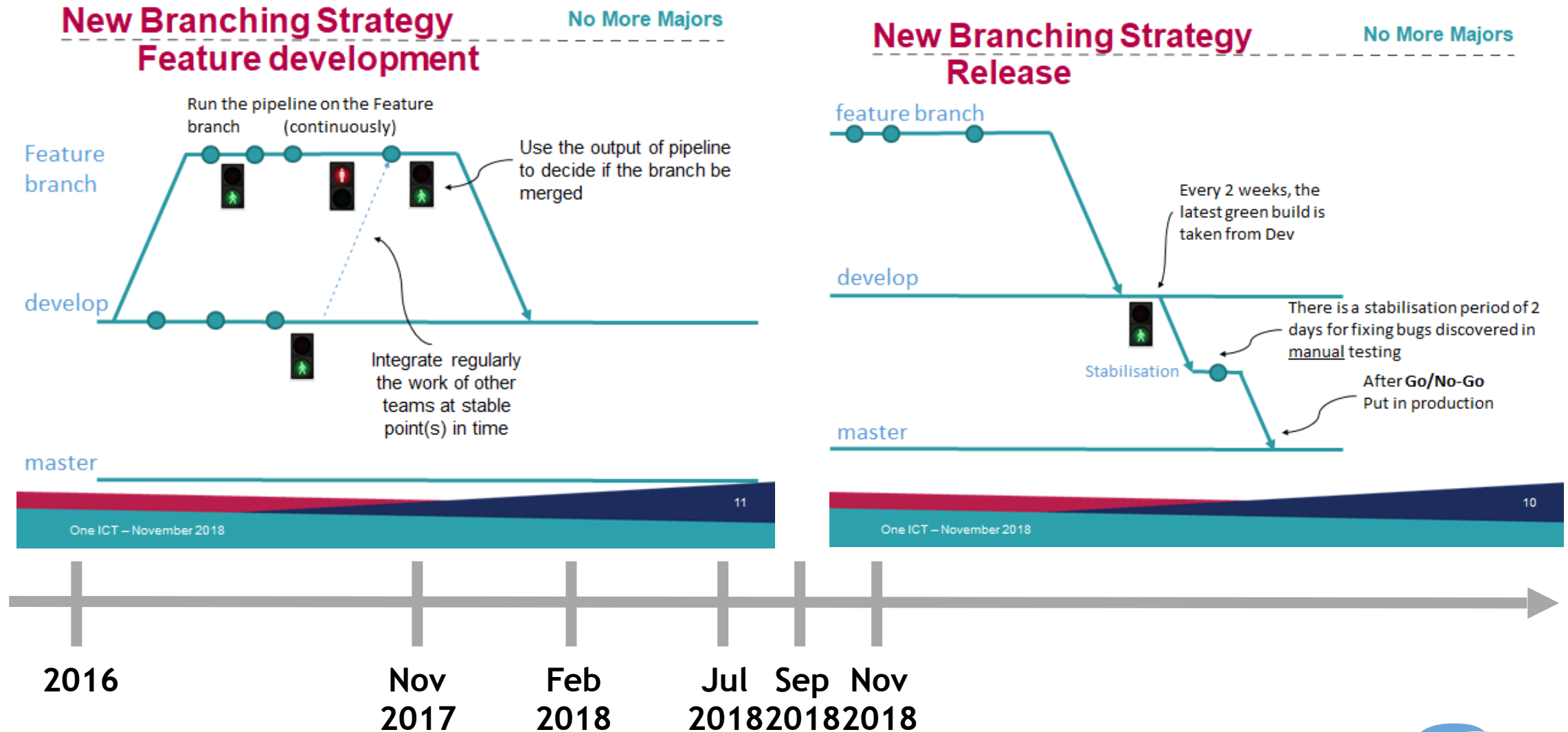23/11: first green pipeline, all tests passing 🎉

Afterwards the pipeline was **red** for 2 weeks 😒

"If anyone can refute me - show me I'm making a mistake or looking at things from the wrong perspective - I'll gladly change.
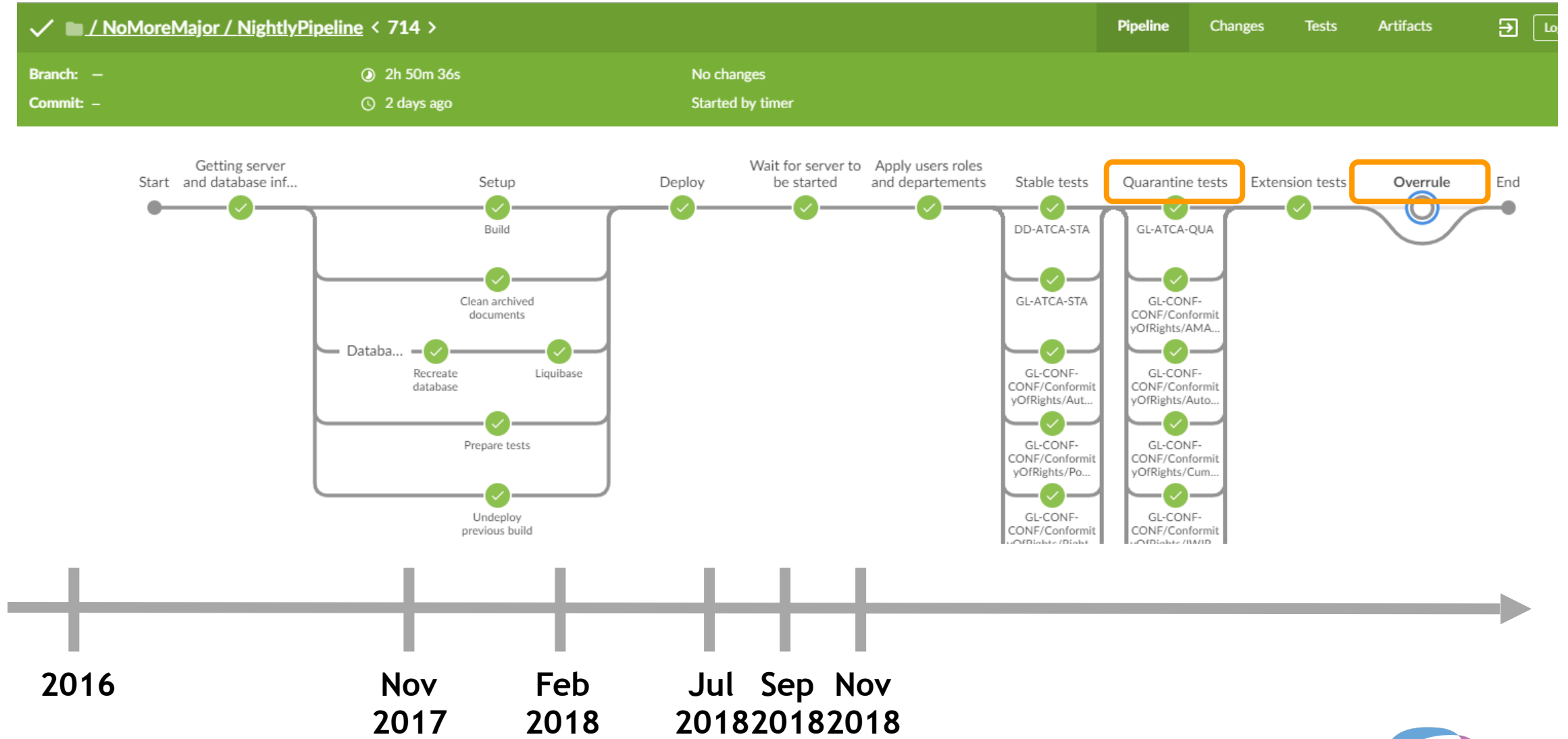
It's the truth I'm after, and the truth never harmed anyone."
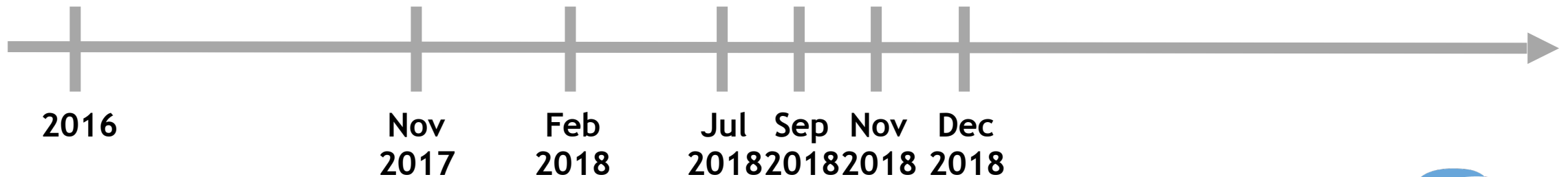
-- Marcus Aurelius

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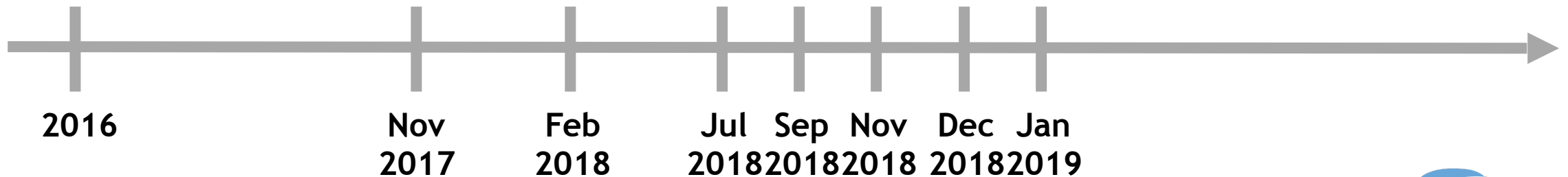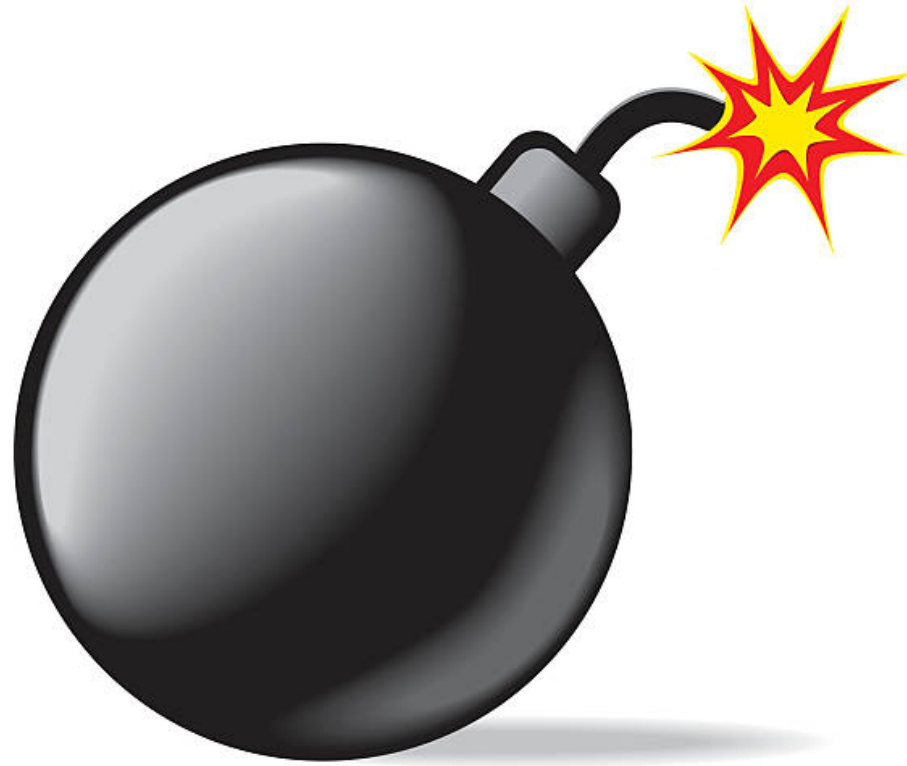# Time to go public

New Branching Strategy Feature development

No More Majors

Run the pipeline on the Feature branch (continuously)

Feature branch

Use the output of pipeline to decide if the branch be merged

develop

Integrate regularly the work of other teams at stable point(s) in time

master

One ICT – November 2018

11

New Branching Strategy Release

No More Majors

feature branch

Every 2 weeks, the latest green build is taken from Dev

develop

There is a stabilisation period of 2 days for fixing bugs discovered in manual testing

Stabilisation

After Go/No-Go Put in production

master

One ICT – November 2018

10

2016

Nov 2017

Feb 2018

Jul 2018

Sep 2018

Nov 2018

Negotiations

The last major release ever?

Timeline markers: 2016 — Nov 2017 — Feb 2018 — Jul 2018 — Sep 2018 — Nov 2018 — Dec 2018

First new release

2016

Nov
2017

Feb
2018

Jul
2018

Sep
2018

Nov
2018

Dec
2018

Jan
2019

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First new release

2016   Nov 2017   Feb 2018   Jul 2018   Sep 2018   Nov 2018   Dec 2018   Jan 2019
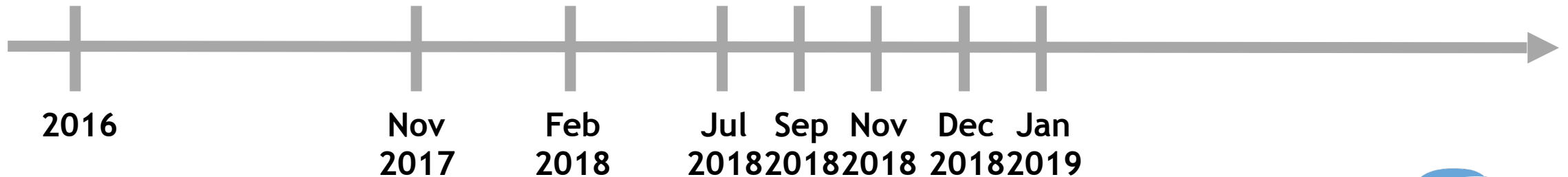
"They did not know it was impossible, so they did it."
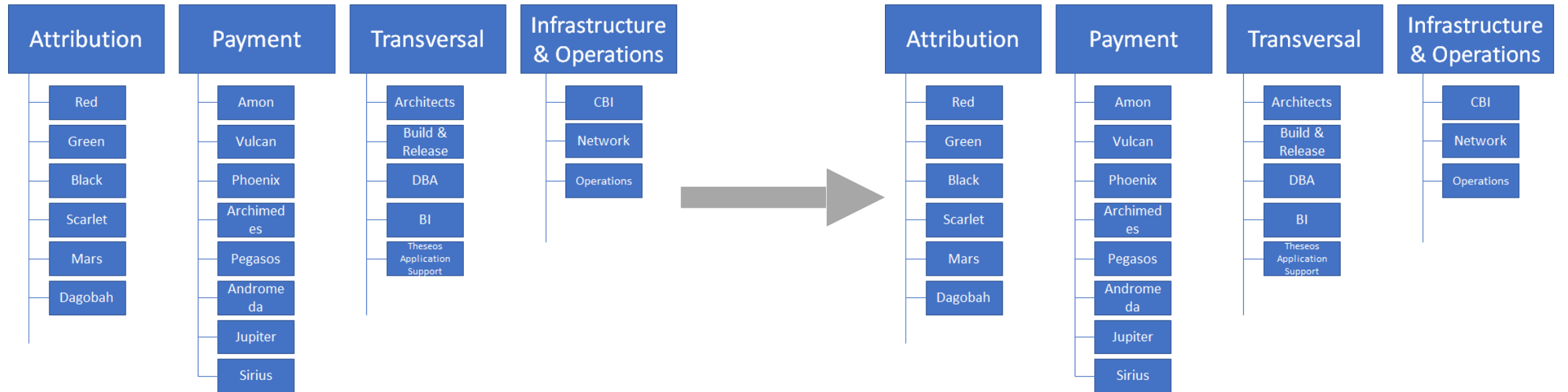
-- Mark Twain

But, but, but ...

are fortnightly releases considered to be
Continuous Delivery?

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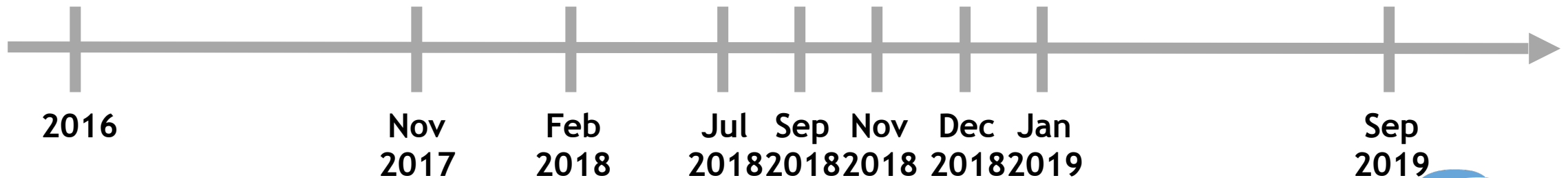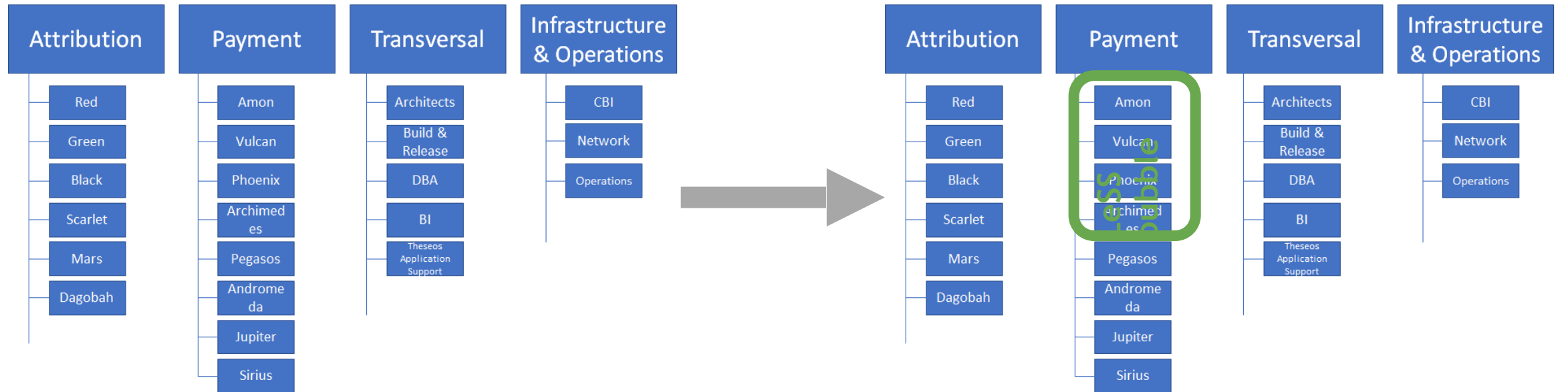It is possible to **achieve Continuous Delivery without** first reaching **Continuous Integration.**
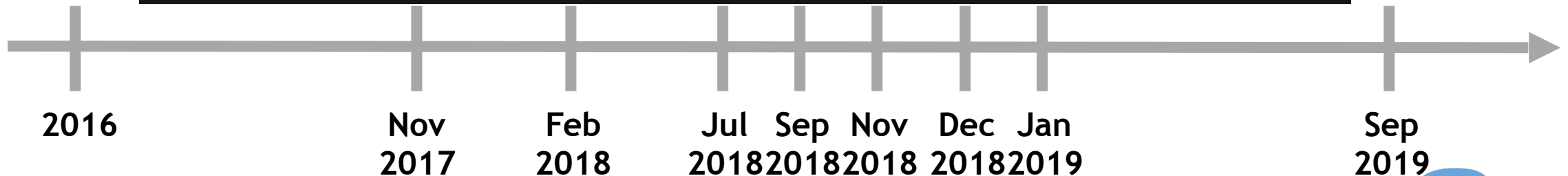
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Effects on the organisation

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Effects on the organisation

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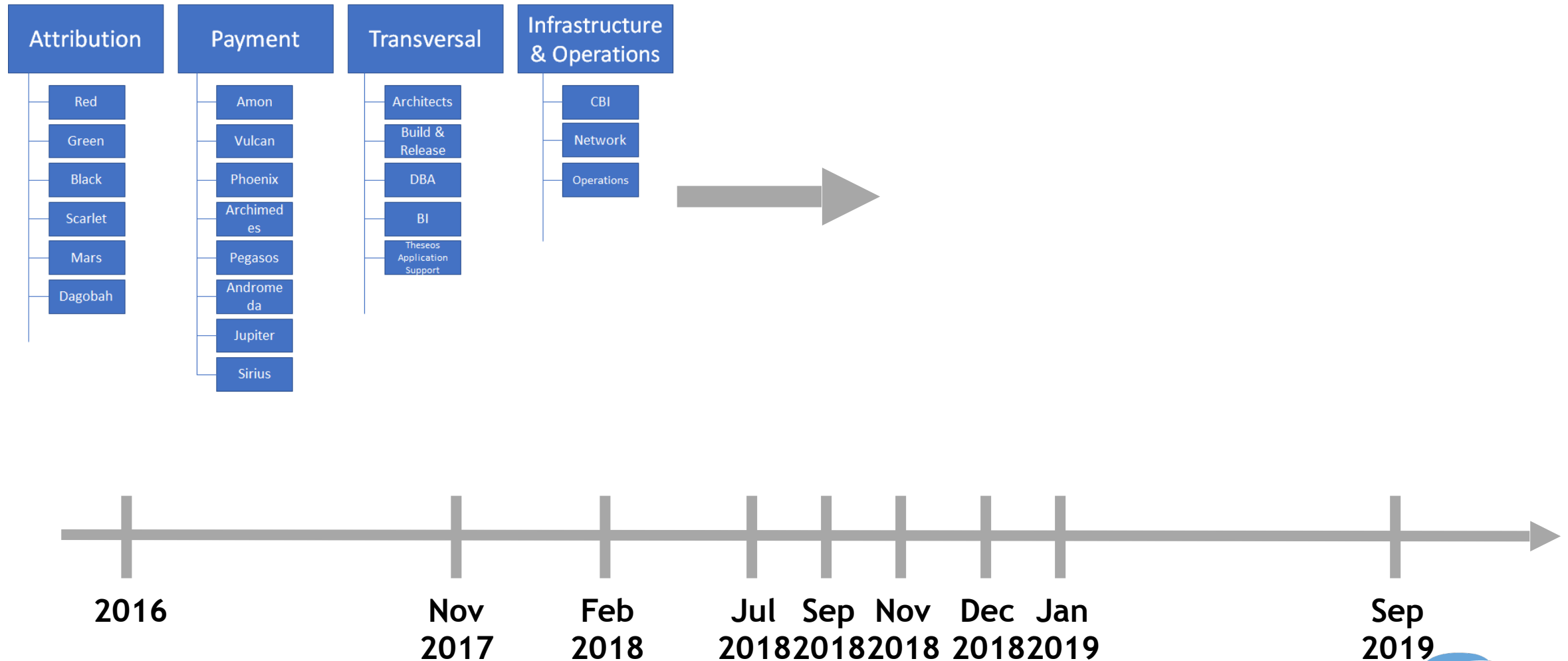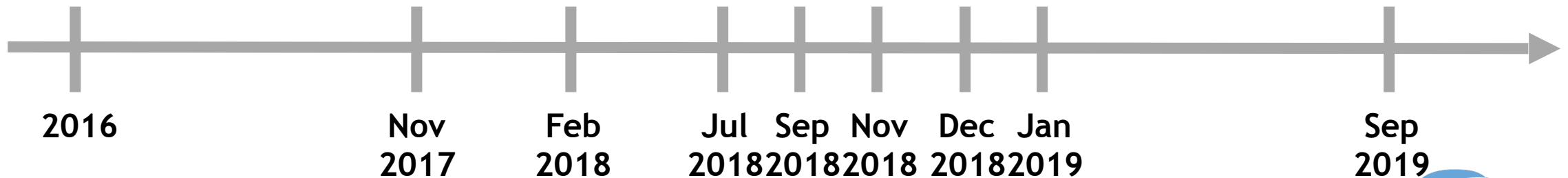
Effects on the organisation

So many conversations about quality & testing

2016

Nov
2017

Feb
2018

Jul
2018

Sep
2018

Nov
2018

Dec
2018

Jan
2019

Sep
2019
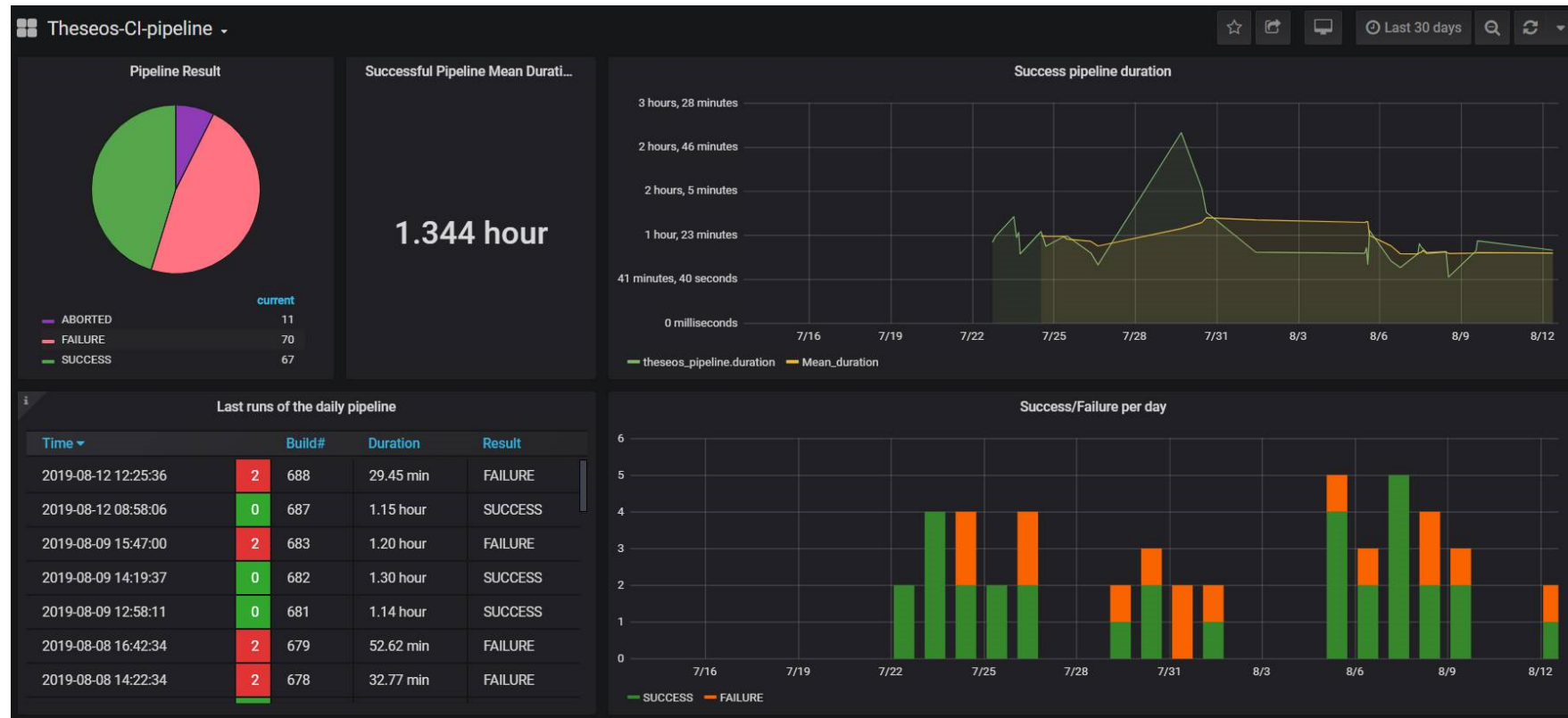
Problems become very visible
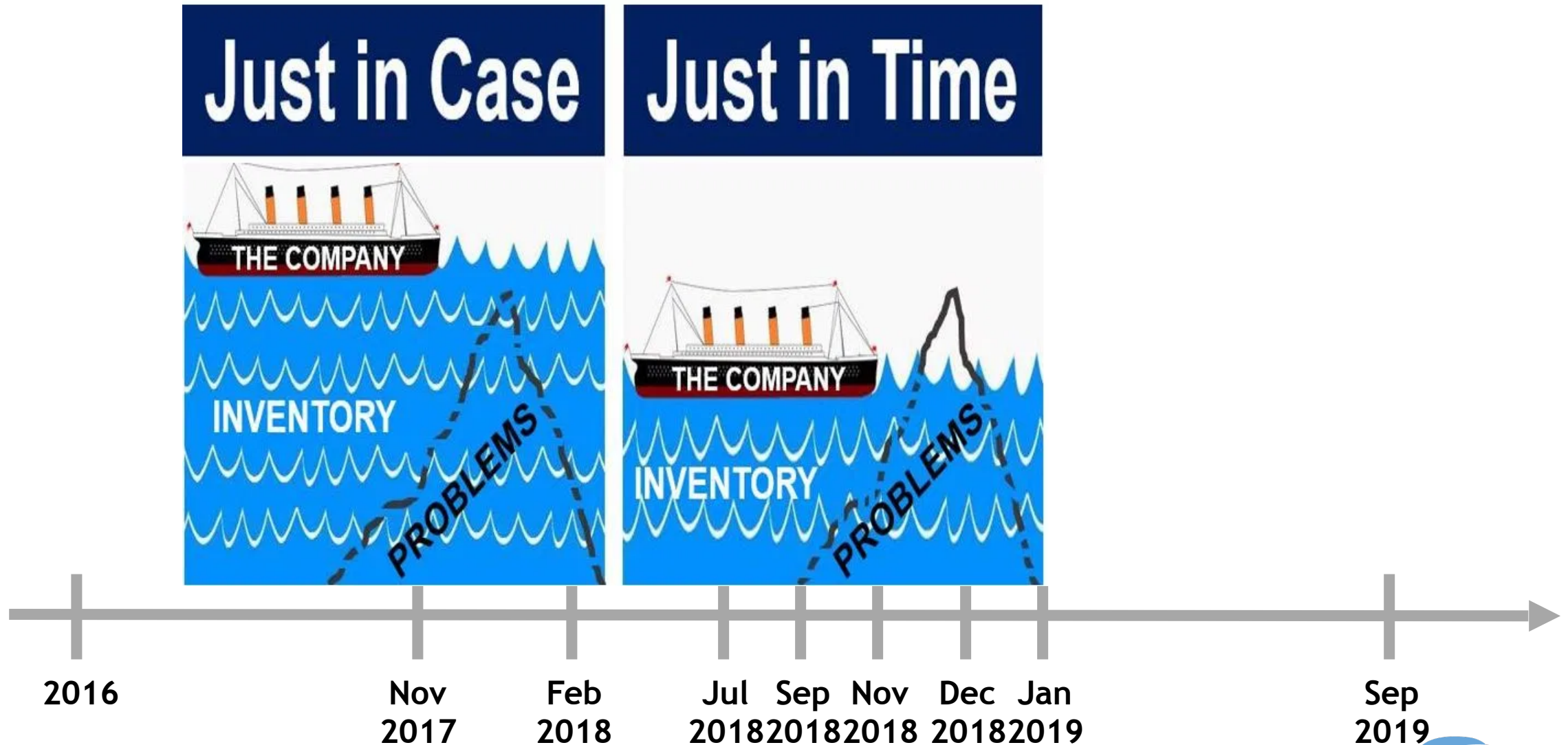
Why did it work?

Open and pro-active communication

Why did it work?

Open and pro-active communication

Great people

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Why did it work?

Open and pro-active communication

Great people

Spend time building the core team

Why did it work?

Open and pro-active communication

Great people

Spend time building the core team

Short deadline

Why did it work?

Open and pro-active communication

Great people

Spend time building the core team

Short deadline

External coach

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"I tell you in solemn truth that no prophet is welcomed among his own people"

— Jesus