



AGILE TESTING @ ZALANDO



AGILE TESTING 2019



JAN HEGEWALD

HEAD OF PRODUCT OFFER PLATFORM



03.07.2019

JAN HEGEWALD

**Software
Engineering**
since 2002

**~ 7
years**

Of
Agile
Experience

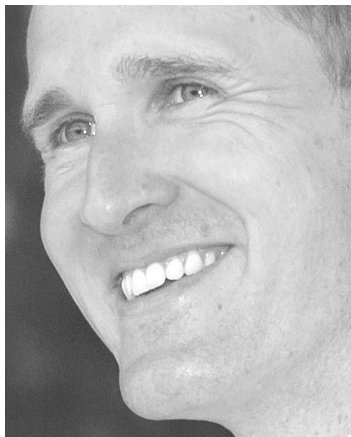
6 years
In E-Commerce

ISTQB

Certified Tester
2009

21

Pairs Of Shoes



Berlin
Born and
Based

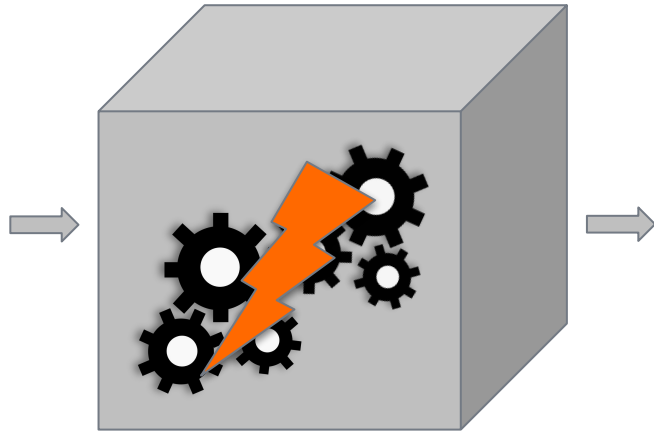
2
Kids

A top-down view of a silver laptop on a white surface. A black stethoscope is draped across the keyboard. Several pieces of crumpled white paper are scattered around the laptop. A black mouse is visible to the right. The entire scene is framed by a thick orange border. A semi-transparent white box is centered over the keyboard area, containing the text "TESTING NO LONGER WORKS AS IT DID".

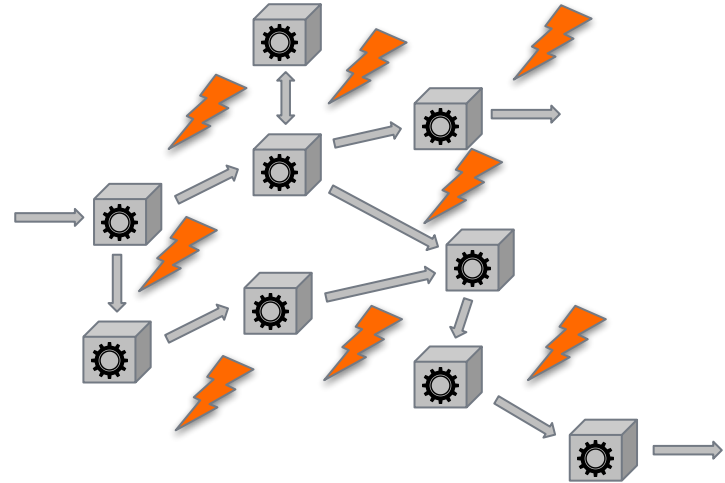
TESTING NO LONGER WORKS AS IT DID

TESTING CHALLENGES

YESTERDAY



TODAY



EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO



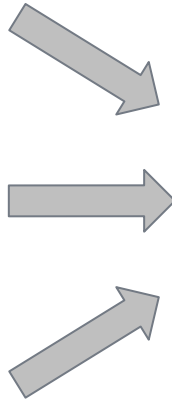
PRODUCT



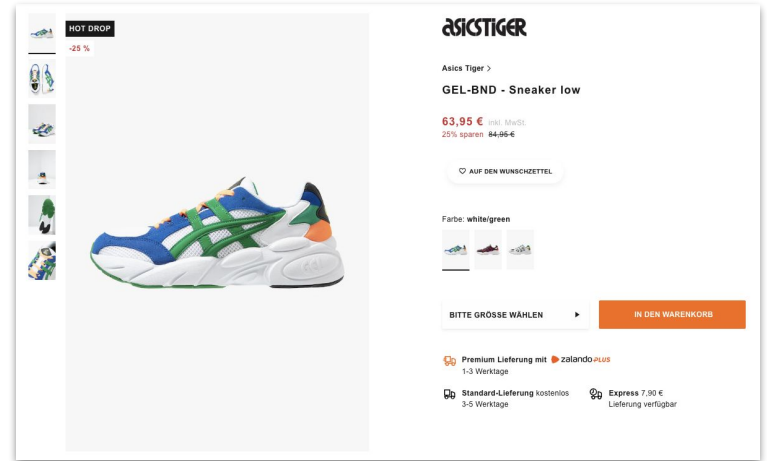
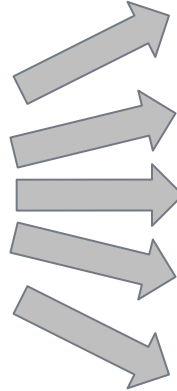
PRICE



STOCK



PRODUCT
OFFER
PLATFORM



PRODUCT OFFERS

EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO



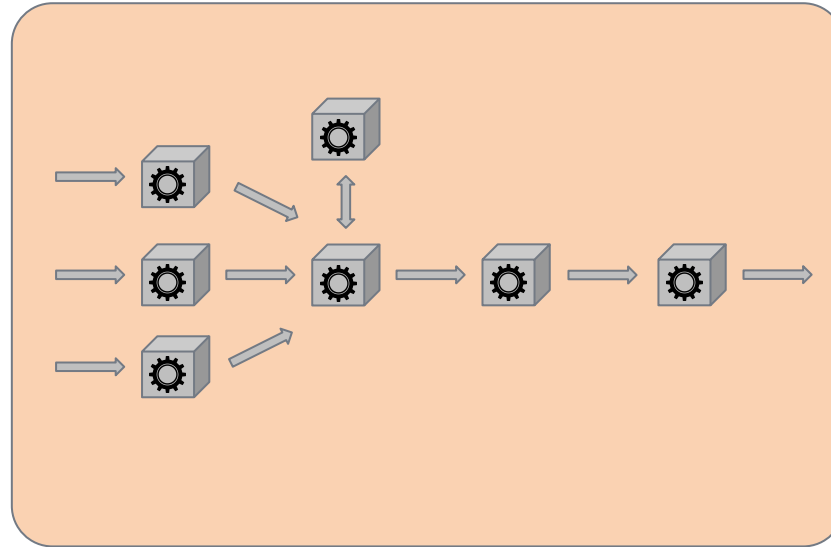
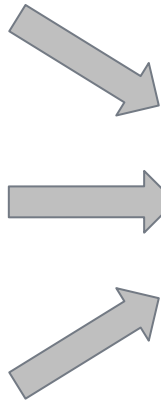
PRODUCT



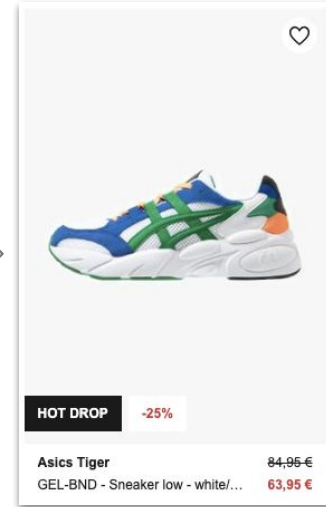
PRICE



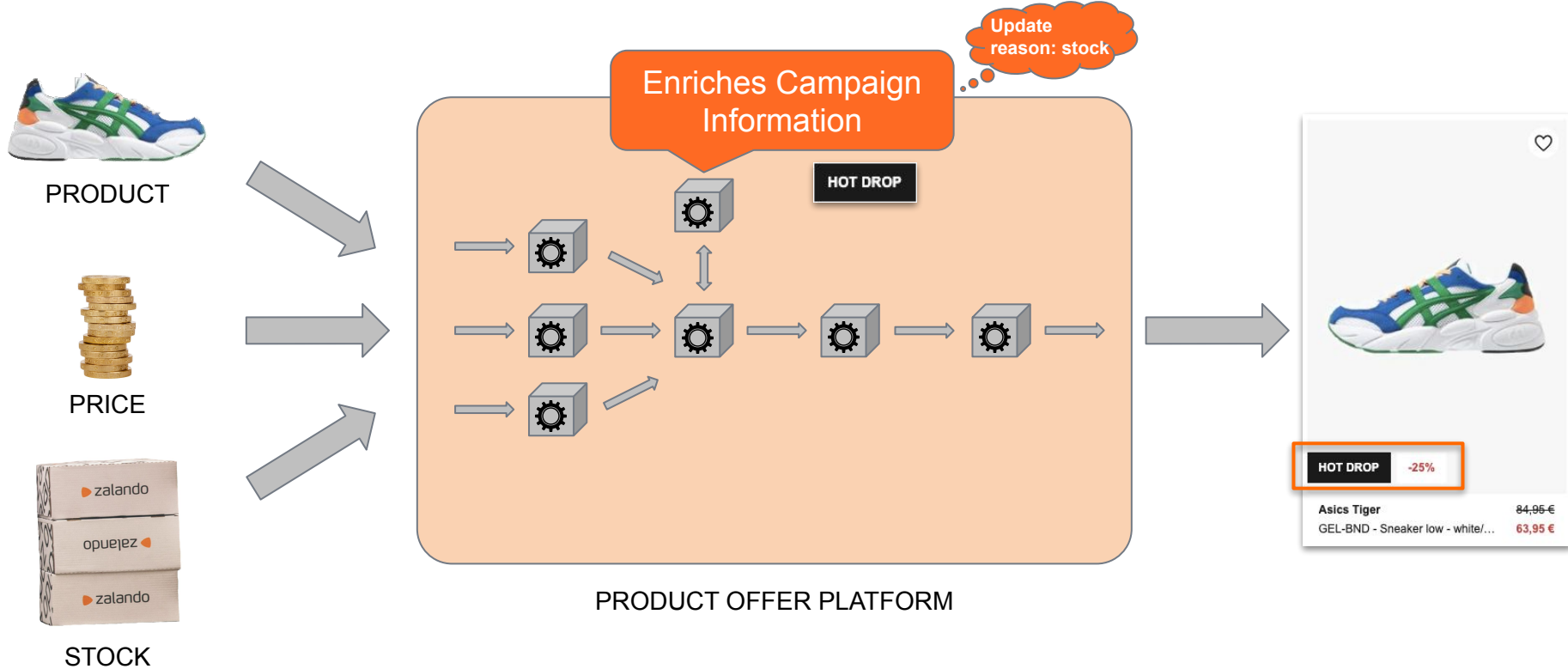
STOCK



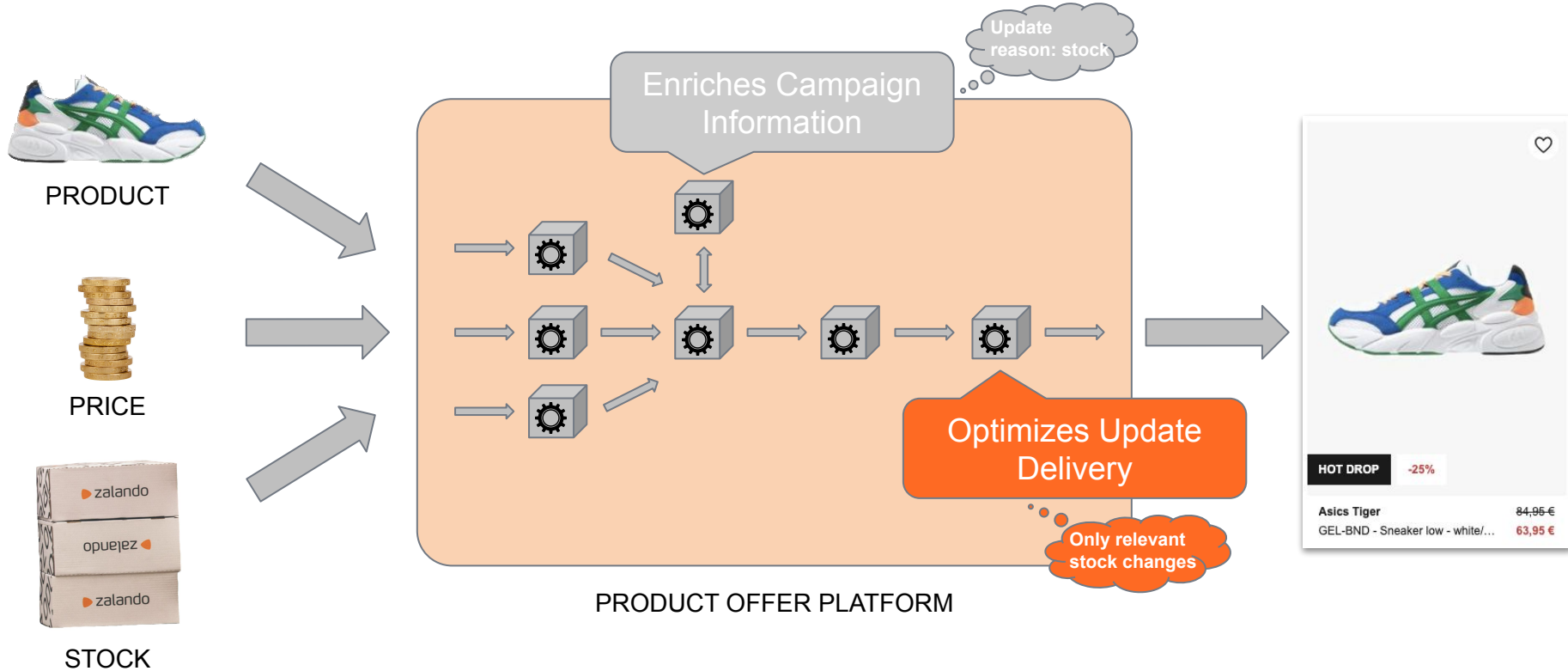
PRODUCT OFFER PLATFORM



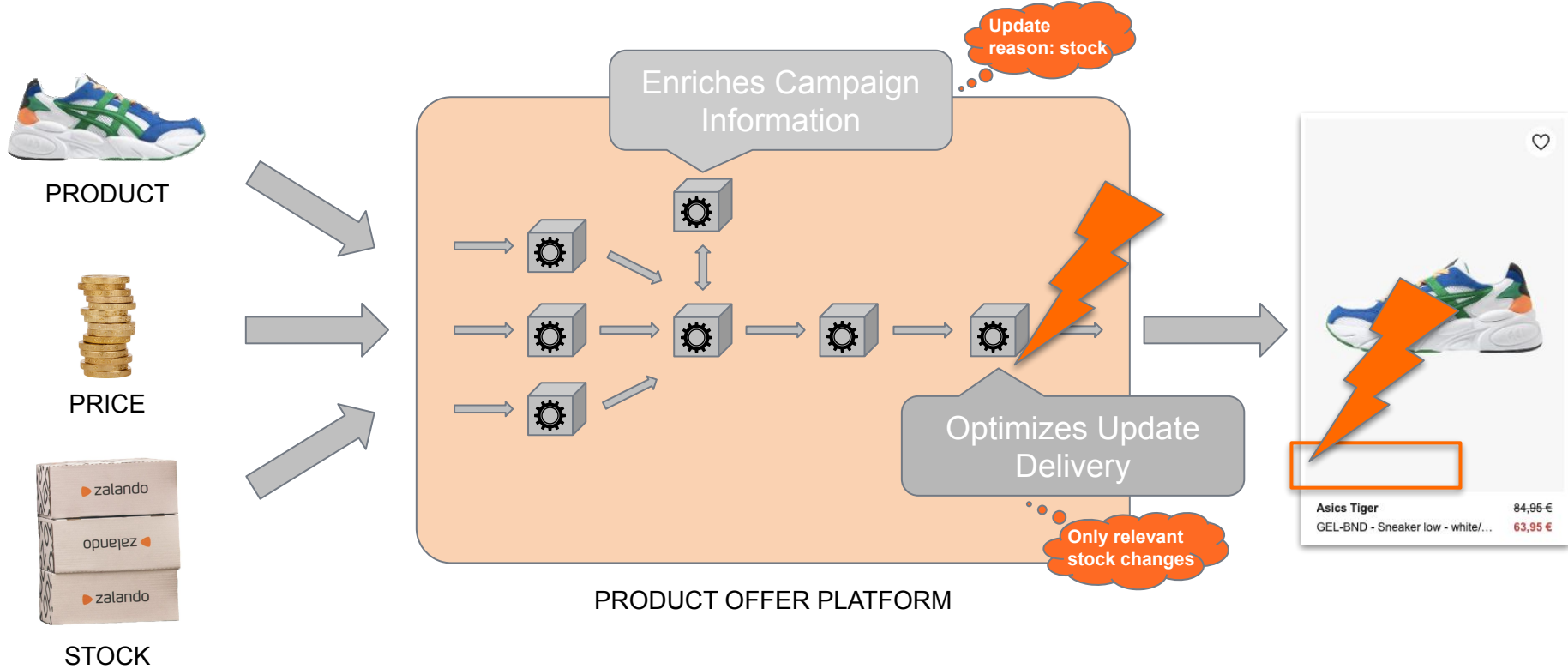
EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO



EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO

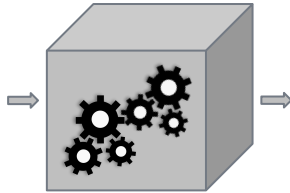


EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO



TESTING CHALLENGES

YESTERDAY

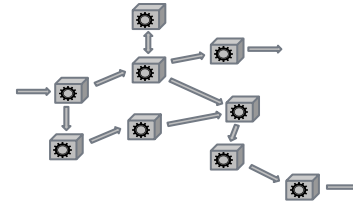


Inte-
grated test

Integration test

Unit test

TODAY



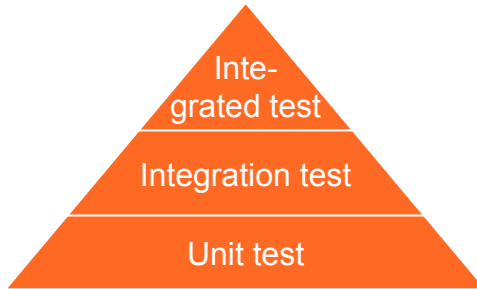
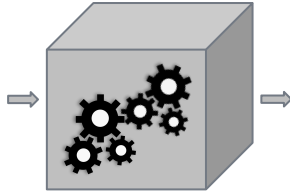
Inte-
grated test

Integration test

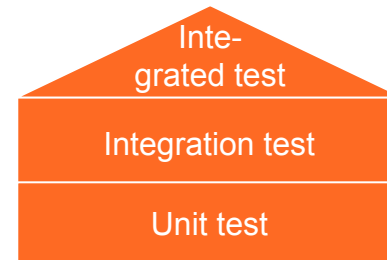
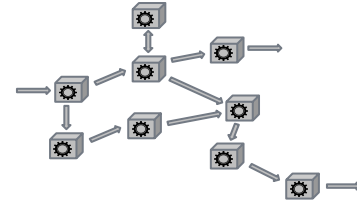
Unit test

TESTING CHALLENGES

YESTERDAY

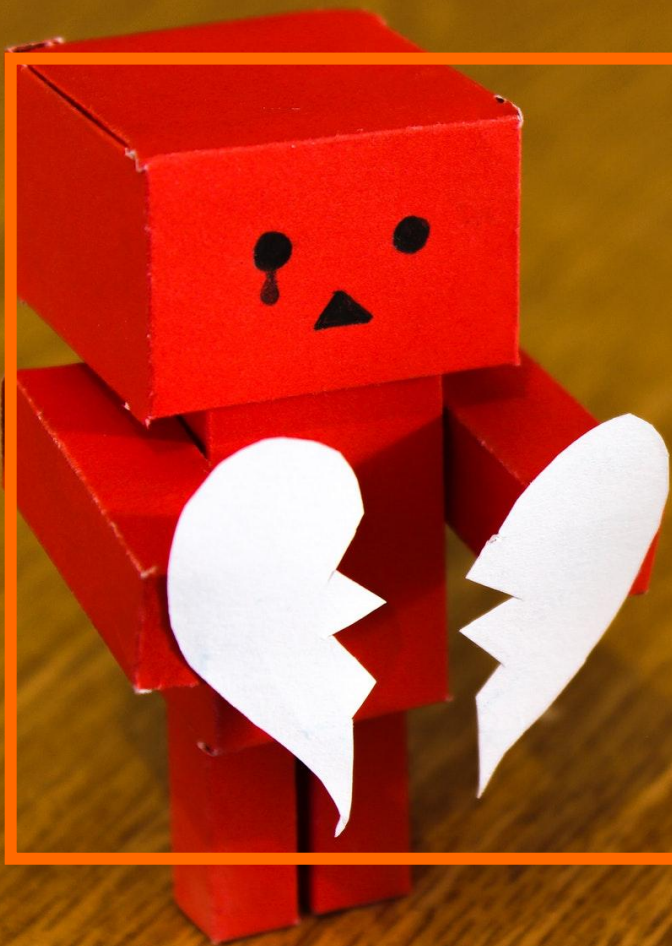


TODAY



A night scene featuring a large suspension bridge illuminated with lights, spanning across a body of water. The bridge's lights reflect on the water's surface. In the foreground, two black cats are perched on a dark, gnarled branch. A small heart-shaped graphic is positioned between the two cats. The sky is dark with a bright moon or star in the center. The entire image is framed by a thick orange border.

LOVE YOUR INTEGRATION TESTS!

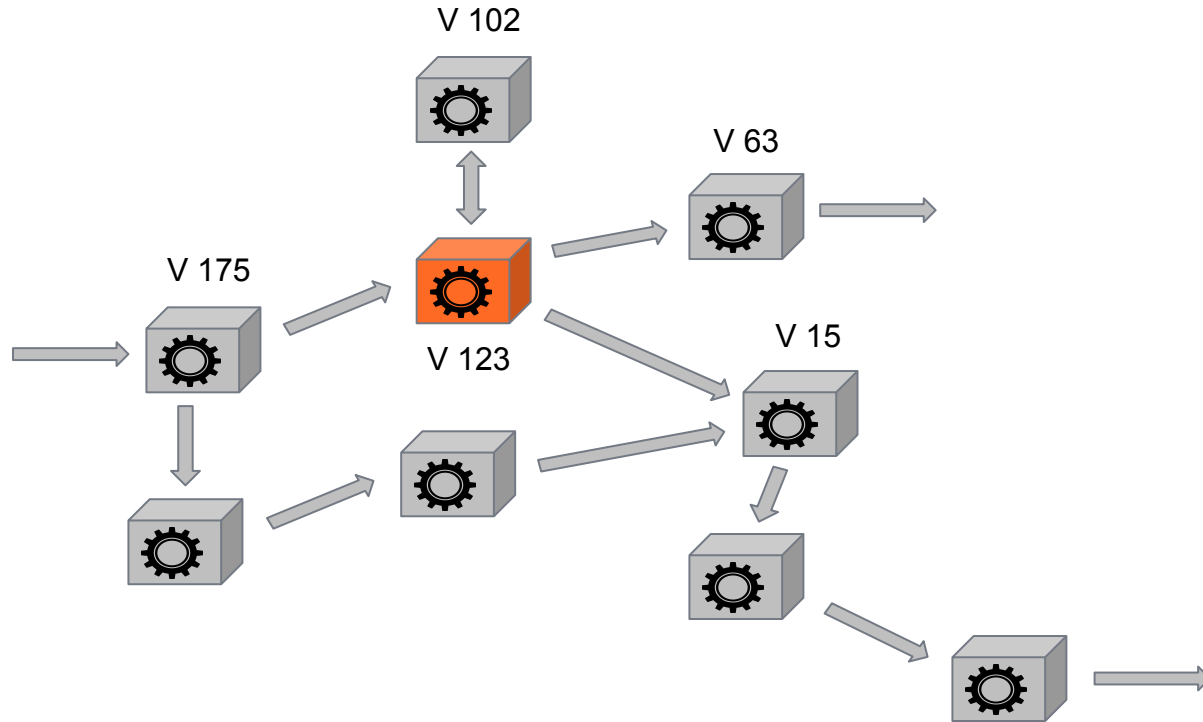


BUT IT'S HARD!

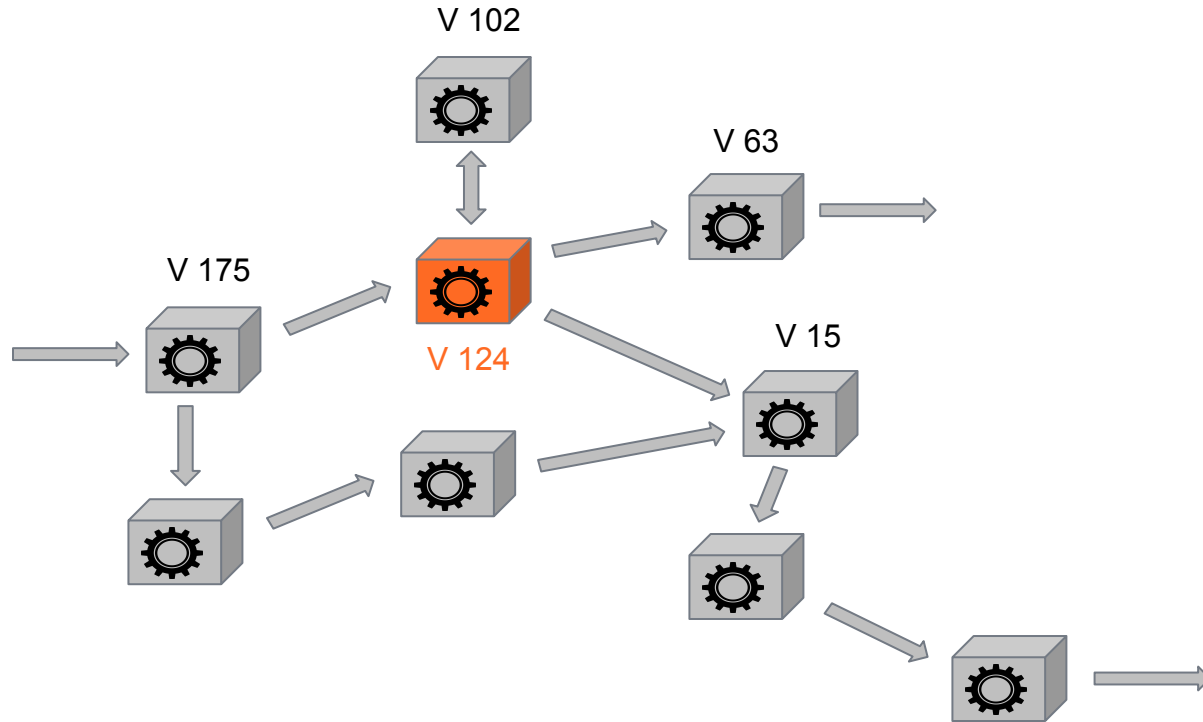
**WITH MICROSERVICES OUR
STAGING ENVIRONMENTS
BECAME USELESS FOR
INTEGRATION**



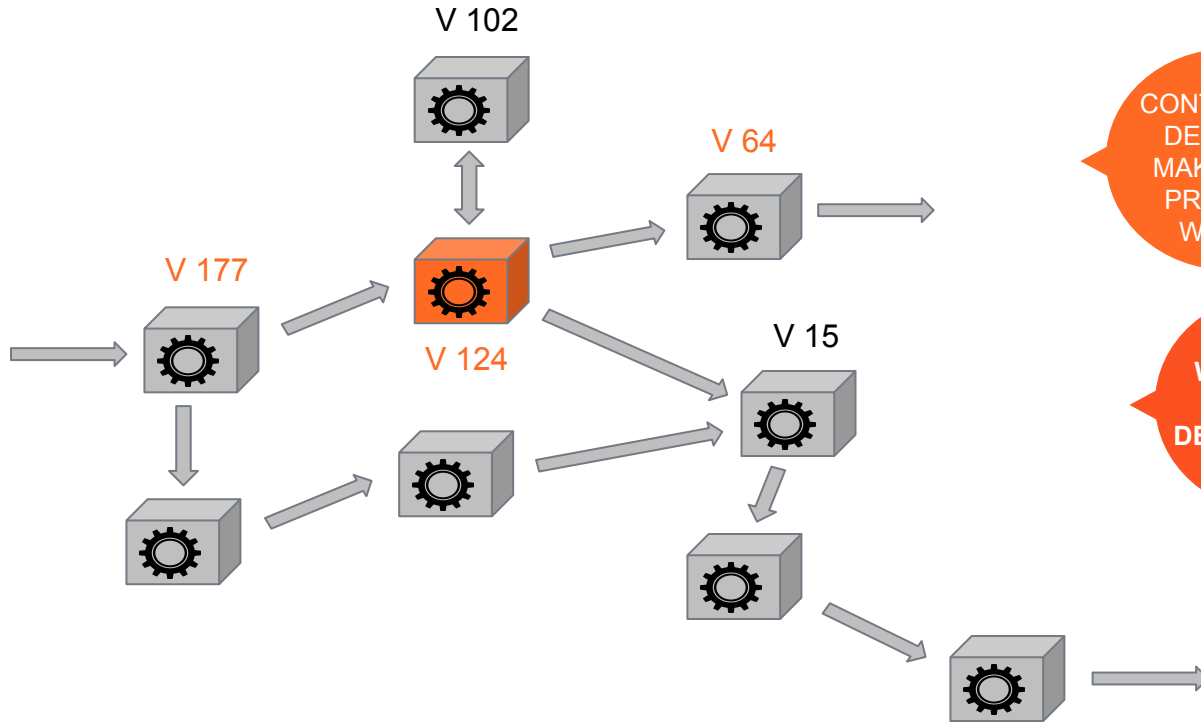
STAGING ENVIRONMENTS BECAME EXPONENTIALLY EXPENSIVE



STAGING ENVIRONMENTS BECAME EXPONENTIALLY EXPENSIVE



STAGING ENVIRONMENTS BECAME EXPONENTIALLY EXPENSIVE



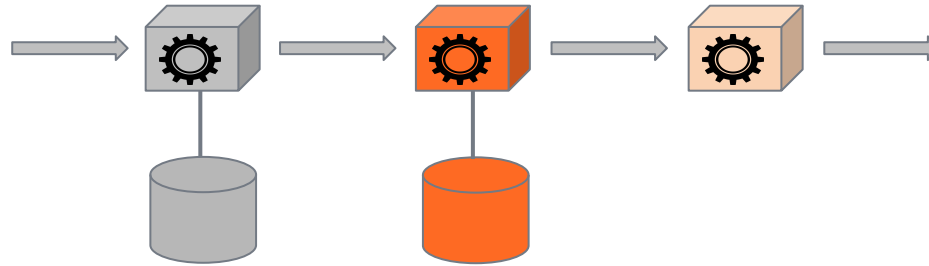
CONTINUOUS
DELIVERY
MAKES THE
PROBLEM
WORSE

WE NEED TO
MOCK
DEPENDENCIES

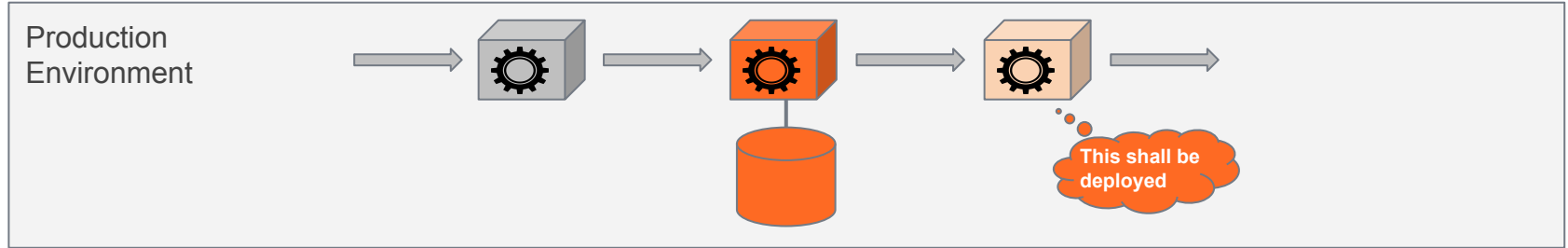


AND WHAT ABOUT DATA?

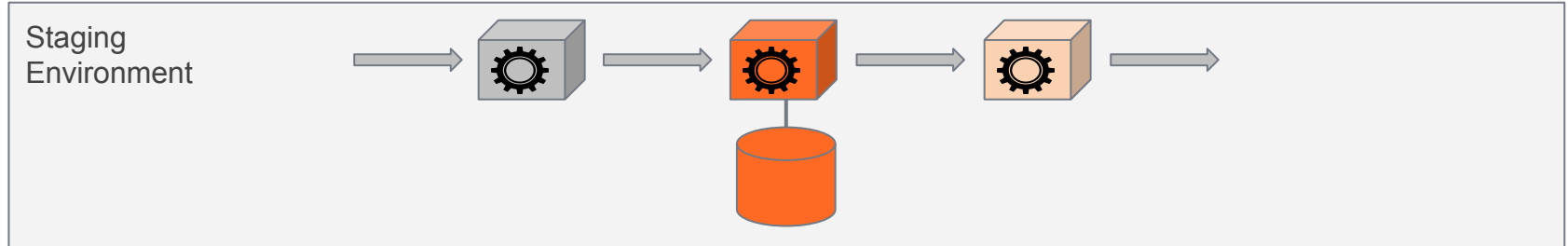
MICROSERVICES: SHARED NOTHING



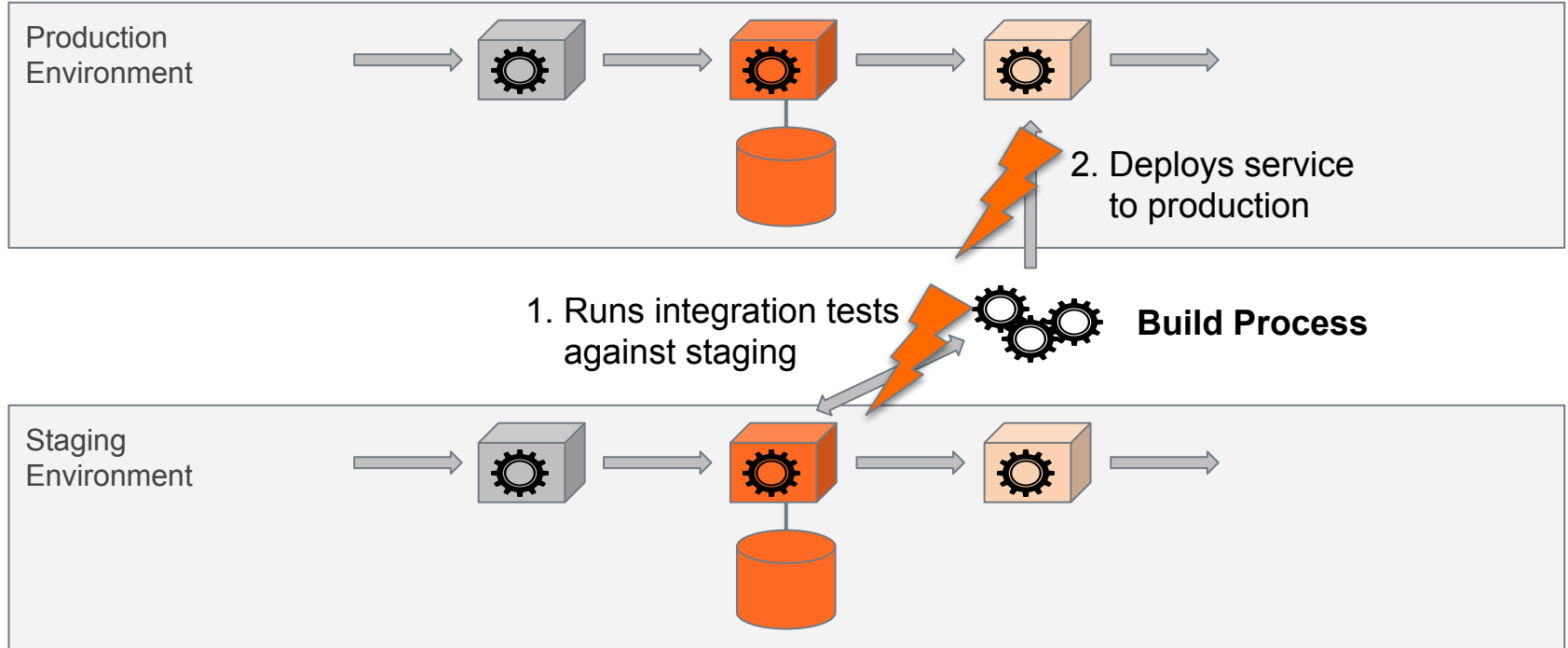
IT IS TRICKY TO RELY ON OTHERS' TEST DATA



Build Process



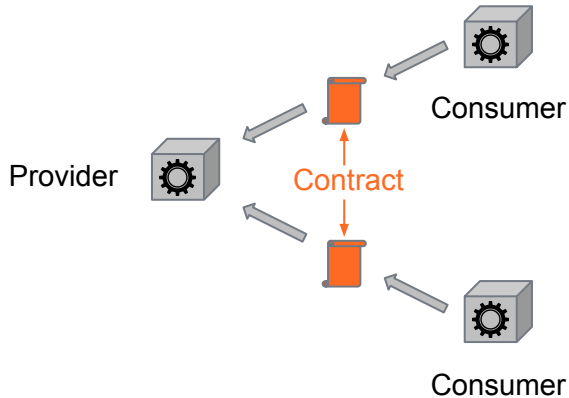
IT IS TRICKY TO RELY ON OTHERS' TEST DATA



**GO FOR
CONTRACT TESTING**



CONTRACT TESTING IN A NUTSHELL



Contract is written and run as a **consumer test**

Only the **specific interface** used is tested

The rest can be changed without breaking tests



BUSINESS MONITORING AND ALERTING

DETECT INSTEAD OF PREVENT

(BUSINESS) MONITORING



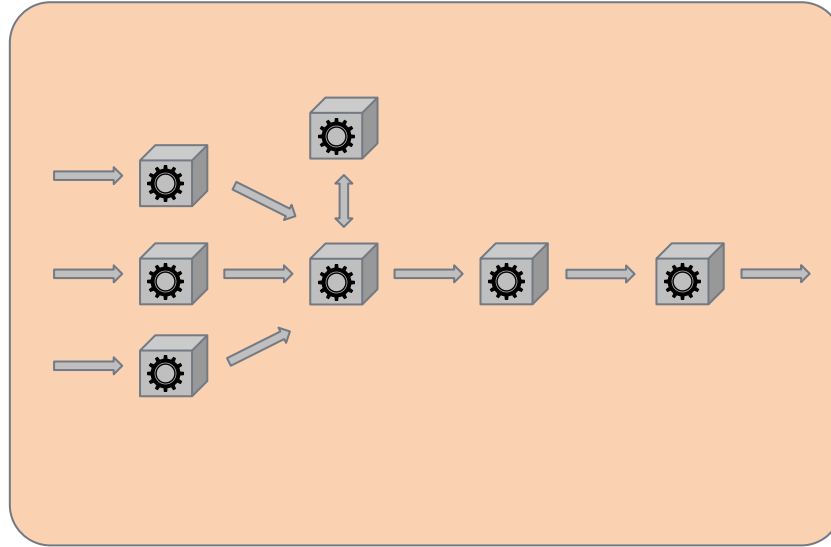
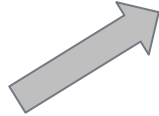
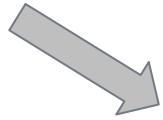
PRODUCT



PRICE



STOCK



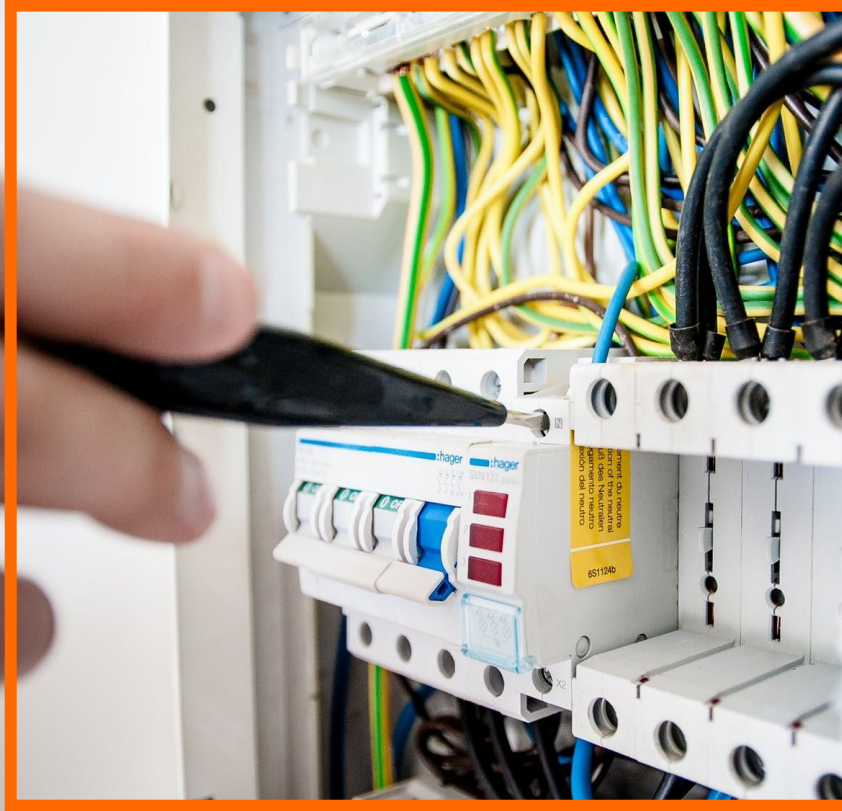
PRODUCT OFFER PLATFORM



End-2-End Business Monitoring

The image features a dense, intricate network of glowing blue lines and nodes, resembling a complex data or communication network. This network is superimposed over a blurred city skyline at night, with various lights and building silhouettes visible in the background. A prominent orange border frames the entire scene. In the center, a semi-transparent white rectangular box contains the text "NEXT STEP: CHAOS ENGINEERING" in a bold, black, sans-serif font.

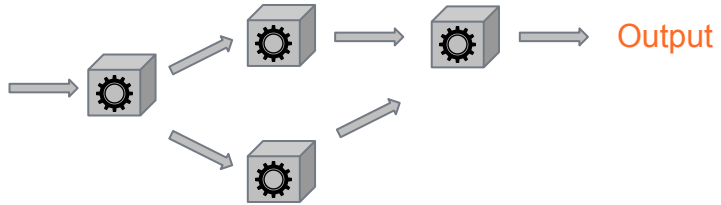
NEXT STEP: CHAOS ENGINEERING



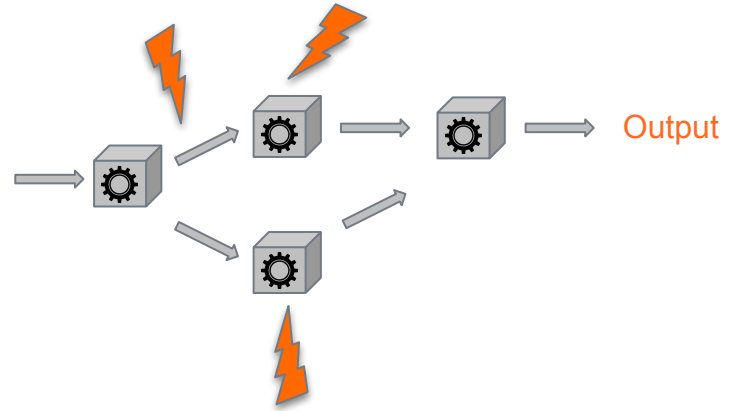
CHAOS ENGINEERING AIMS AT IMPROVING RESILIENCE

CHAOS ENGINEERING

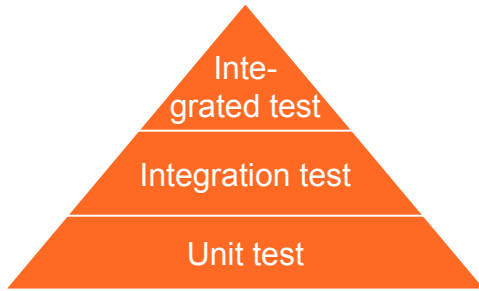
STEADY STATE



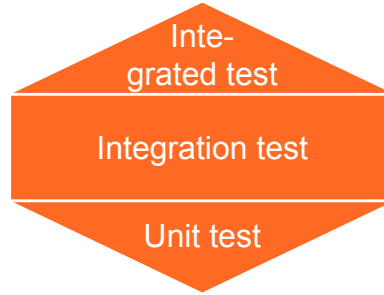
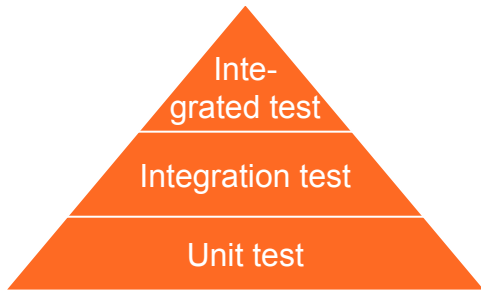
EXPERIMENTAL STATE



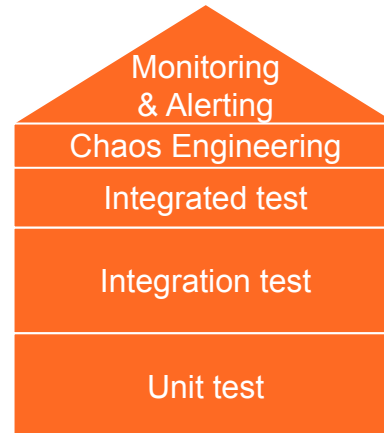
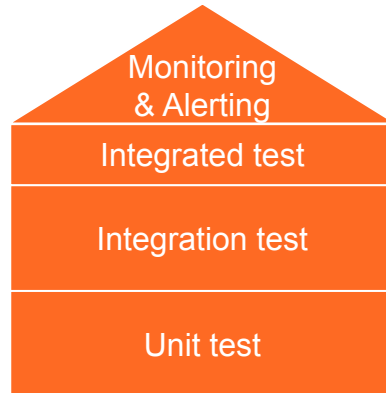
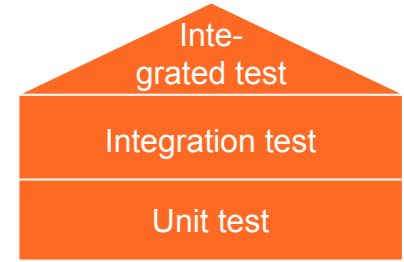
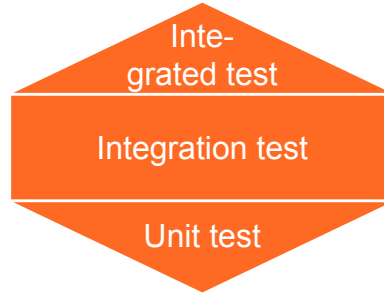
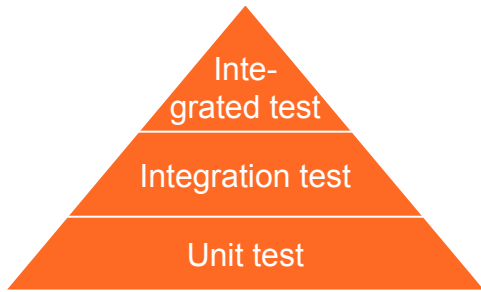
FROM THE TESTING PYRAMID



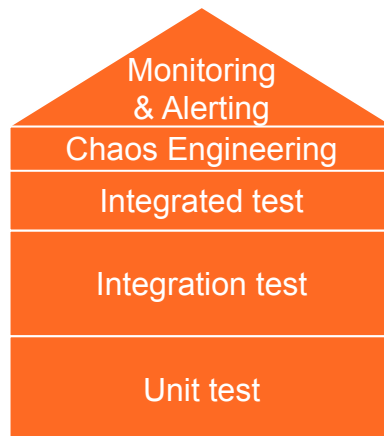
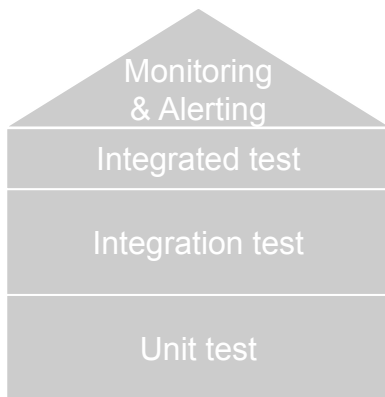
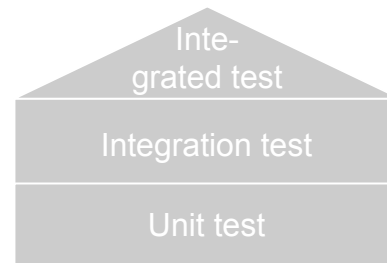
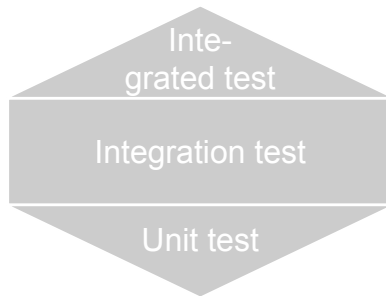
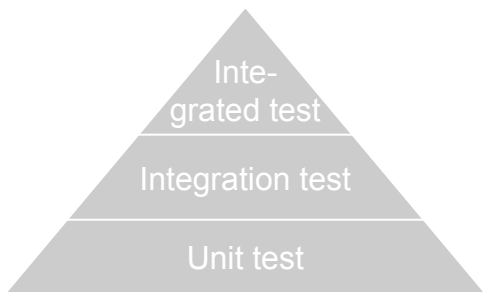
... TO THE TESTING DIAMOND



...TO THE TESTING HOUSE



...TO THE TESTING HOUSE



WHAT ABOUT AGILE?

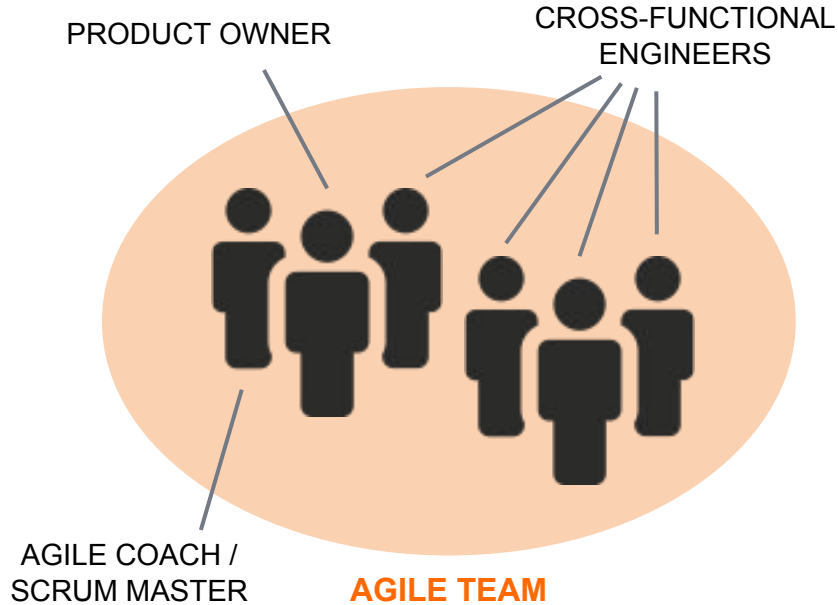
WATERFALL.



QUALITY CANNOT BE BUILT IN AT THE END

**WHAT IS “THE END” IN
PRODUCT DEVELOPMENT
OR CONTINUOUS
DEVELOPMENT?**

WHO IS RESPONSIBLE FOR QUALITY THEN?



Product Owners are accountable for product quality - functional and non-functional

Engineers are responsible for product quality

Engineers need to educate Product Owners on quality-related requirements, Product Owner prioritises

DevSecQualOps?

YES!



everything
is
connected



**SO WE DON'T NEED TESTERS
ANY MORE?**

TESTERS CAN BRING VALUABLE EXPERT KNOWLEDGE

Testers should have **engineering skills**

They bring **expert knowledge** on automation, operations, integration testing frameworks and approaches

Can educate and support engineering teams in a **consulting/agency model**



A large crowd of people is gathered outdoors, likely at a festival or fair. They are enthusiastically throwing a wide variety of colorful objects into the air. The objects include colorful balloons, streamers, and many colorful hula hoops. The sky is bright blue with scattered white clouds. The crowd is diverse in age and appearance, and many people have their arms raised in excitement. The scene is captured from a low angle, looking up at the falling objects.

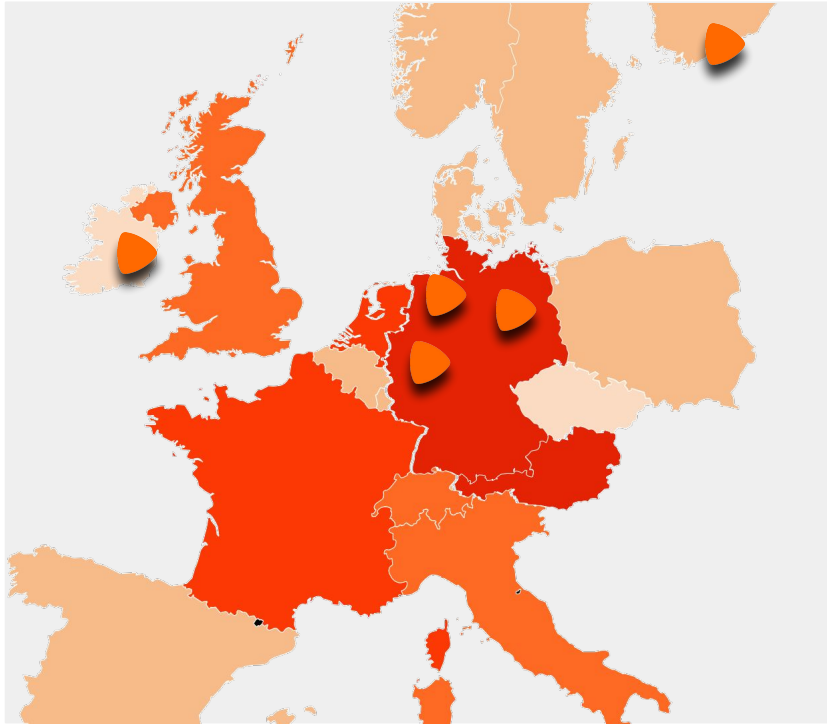
WHAT ABOUT AGILE AT SCALE?



FACTS & FIGURES



SOFTWARE PRODUCT DEVELOPMENT AT ZALANDO



**5 tech
hubs**

Across
Europe

**> 2,000
employees**

In Tech

> 200

Cross-functional,
Agile Delivery
Teams

From **> 100**
Nations

COLLABORATION MAKES HIGH QUALITY IMPERATIVE

Code becomes shared through end-2-end teams or contribution models

In such environments you **instantly need high quality standards**



AUTONOMY NEEDS COMPLIANCE



Besides Team autonomy Zalando ensures a common level of quality and compliance:

- Standardised Docker/Kubernetes images
- Clear responsibility tracking
- Offering of e.g. SonarQube from standardised deployment infrastructure
- Automatic detection of dependencies with known vulnerabilities

SERVICE LEVEL OBJECTIVES (SLOs) MAKE OPERATIONAL QUALITY MANAGEABLE



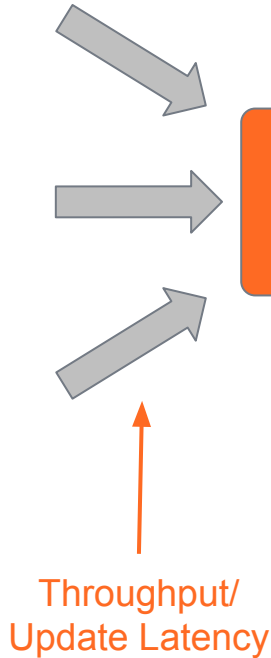
PRODUCT



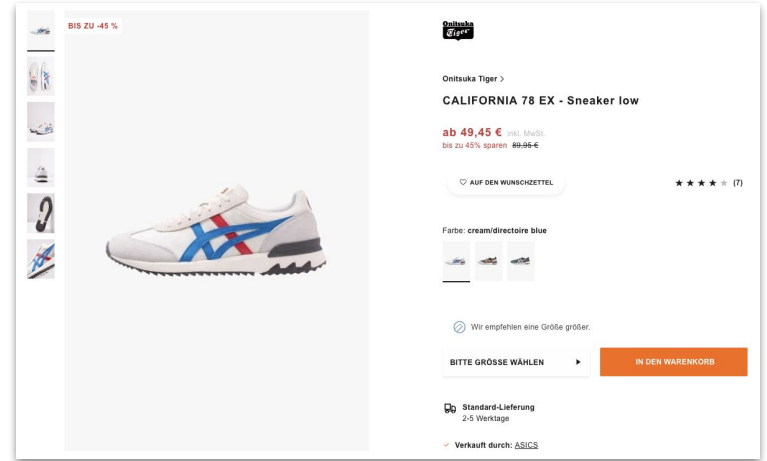
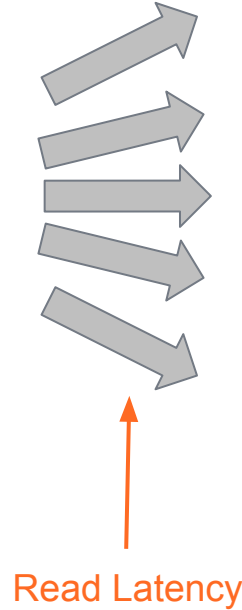
PRICE




STOCK



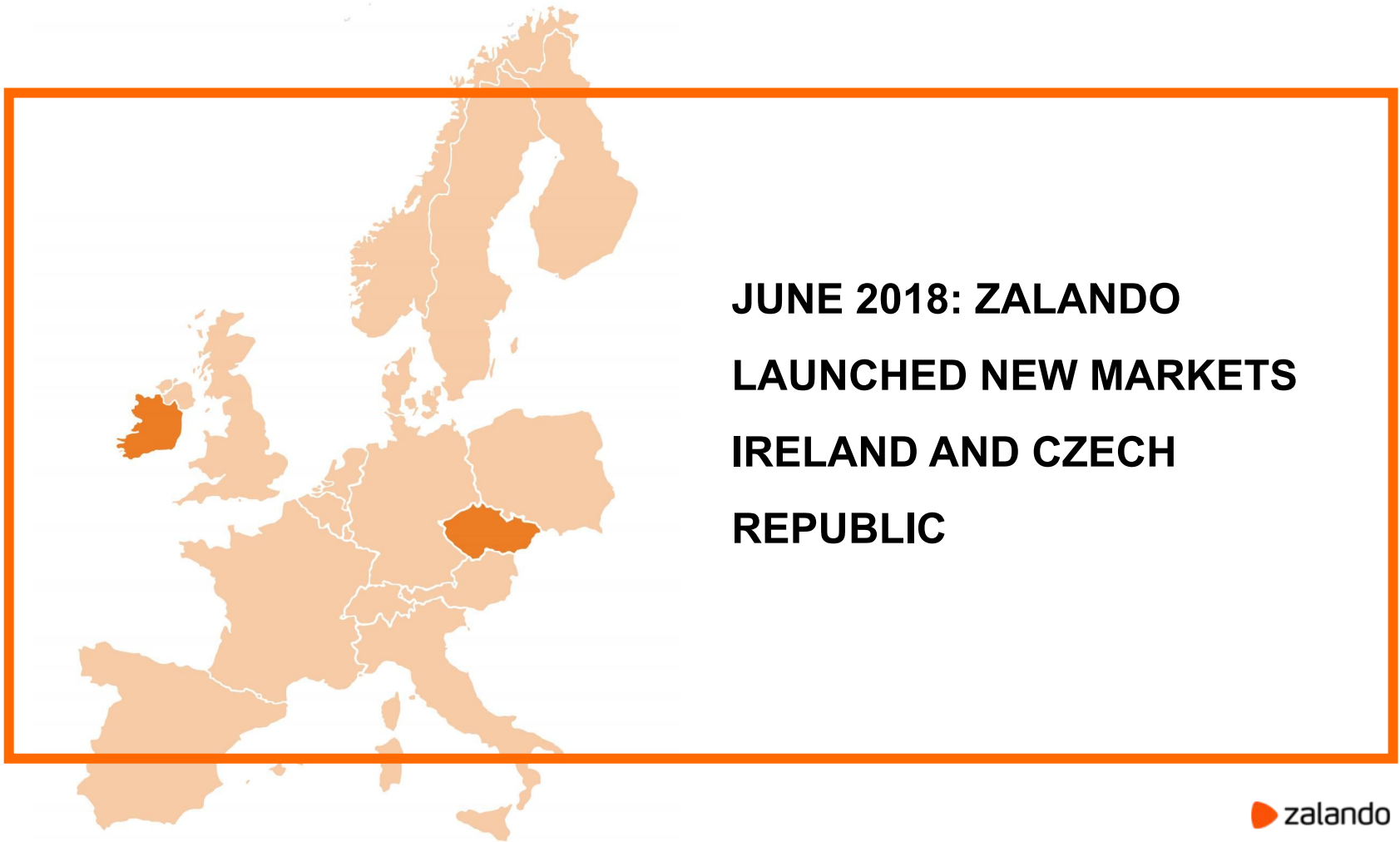
PRODUCT
OFFER
PLATFORM



PRODUCT OFFERS

A hand is shown holding a magnifying glass, focusing on a cityscape at night. The city lights are reflected in a body of water in the foreground. The scene is framed by a bright orange border. A semi-transparent grey box is overlaid on the center of the image, containing the text.

TESTING IN AGILE AT SCALE IS COMPLEX

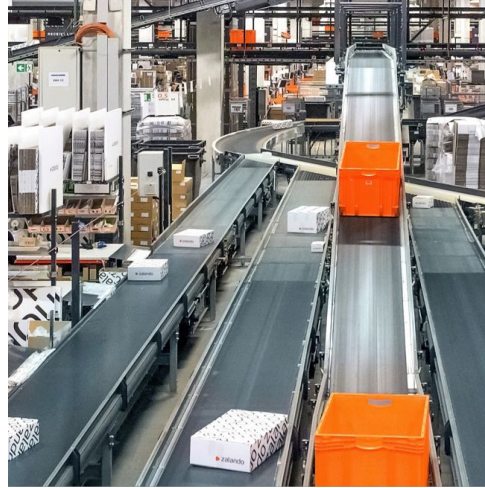


**JUNE 2018: ZALANDO
LAUNCHED NEW MARKETS
IRELAND AND CZECH
REPUBLIC**

COMPLEXITY REQUIRES DIFFERENT TESTING APPROACHES



APP
and web channels



ADAPTED
content creation



> 20
payment
methods



**FULFILLMENT
CENTERS**
and logistics

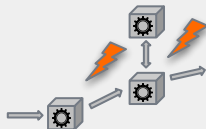


customer
care in
NEW
languages

AGILE TESTING @ ZALANDO - AT A GLANCE

Microservice Architecture

Complexity moves from the services to the integration



Agile

Testing integral part of delivery

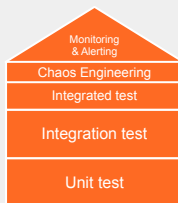
PO

Accountable
Engineers
Responsible

For Quality: DevSecQualOps



Focus in Testing changed



- Mocked Integration Tests
- Contract Testing

Detect

Rather than Prevent

- Business Monitoring
- Chaos Engineering

Testers

Bring Engineering Expert Knowledge on Testing

Agile at Scale

- High quality imperative
- Standards required

SLOs

Define NF Product Qualities



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www.agil-gefuehrt.de



@janhegewald



THANK YOU!



 zalando



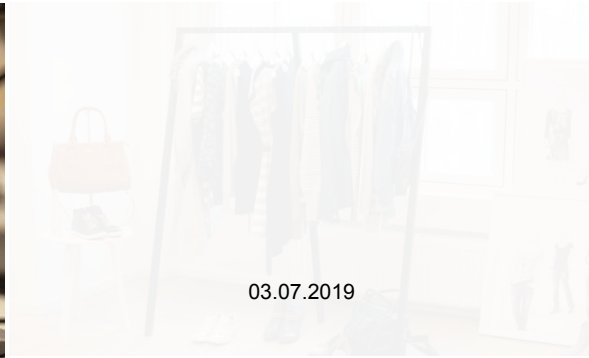
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03.07.2019



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