



AGILE TESTING @ ZALANDO

AGILE TESTING 2019

JAN HEGEWALD

HEAD OF PRODUCT OFFER PLATFORM

03.07.2019



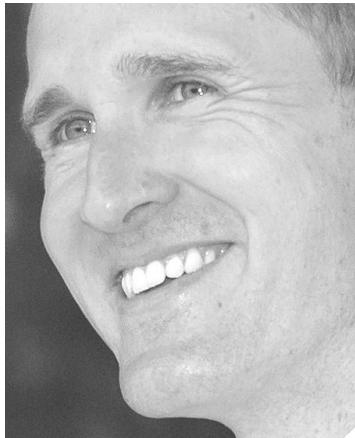
JAN HEGEWALD

**Software
Engineering
since 2002**

ISTQB
Certified Tester
2009

21
Pairs Of Shoes

**~ 7
years**

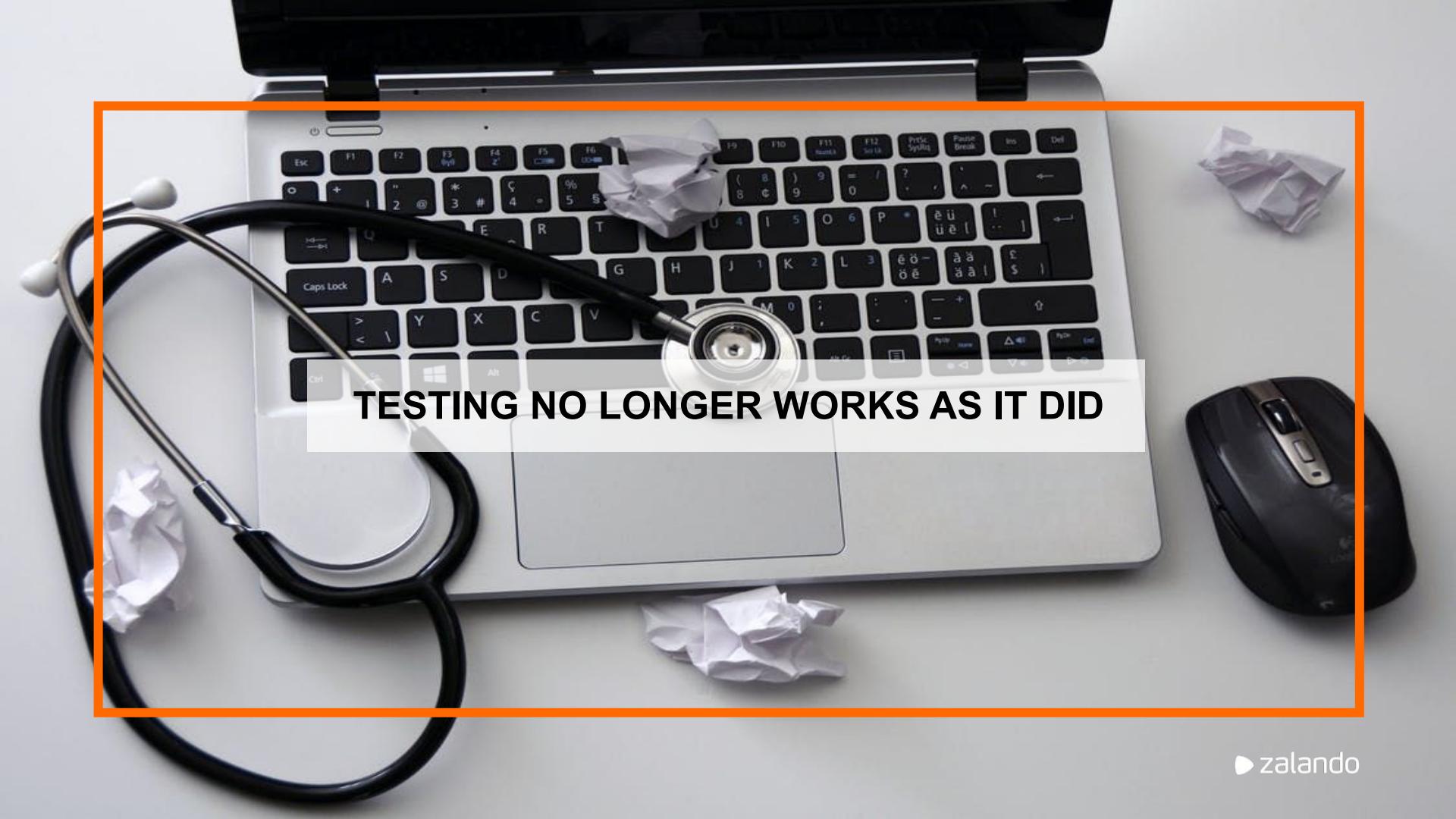


Of
Agile
Experience

6 years
In E-Commerce

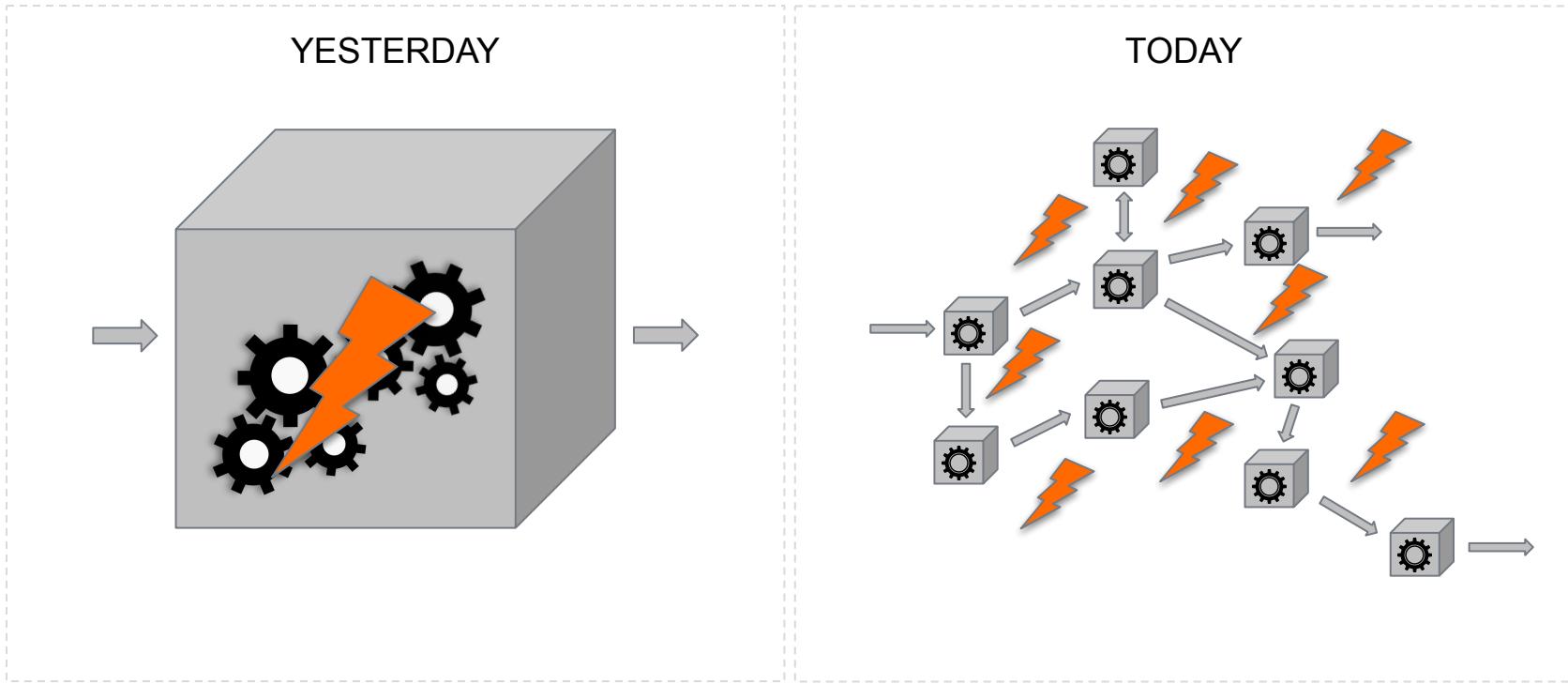
Berlin
Born and
Based

2
Kids



TESTING NO LONGER WORKS AS IT DID

TESTING CHALLENGES



EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO



PRODUCT



PRICE



STOCK



Asics Tiger >
GEL-BND - Sneaker low
63,95 € inkl. MwSt.
25% sparen 44,96 €
AUF DEN WUNSCHZettel
Farbe: white/green
BITTE GRÖSSE WÄHLEN ➤ IN DEN WARENKORB
Premium Lieferung mit **zalando plus**
1-3 Werkstage
Standard-Lieferung kostenlos
3-5 Werkstage
Express 7,90 €
Lieferung verfügbar

PRODUCT OFFERS

EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO



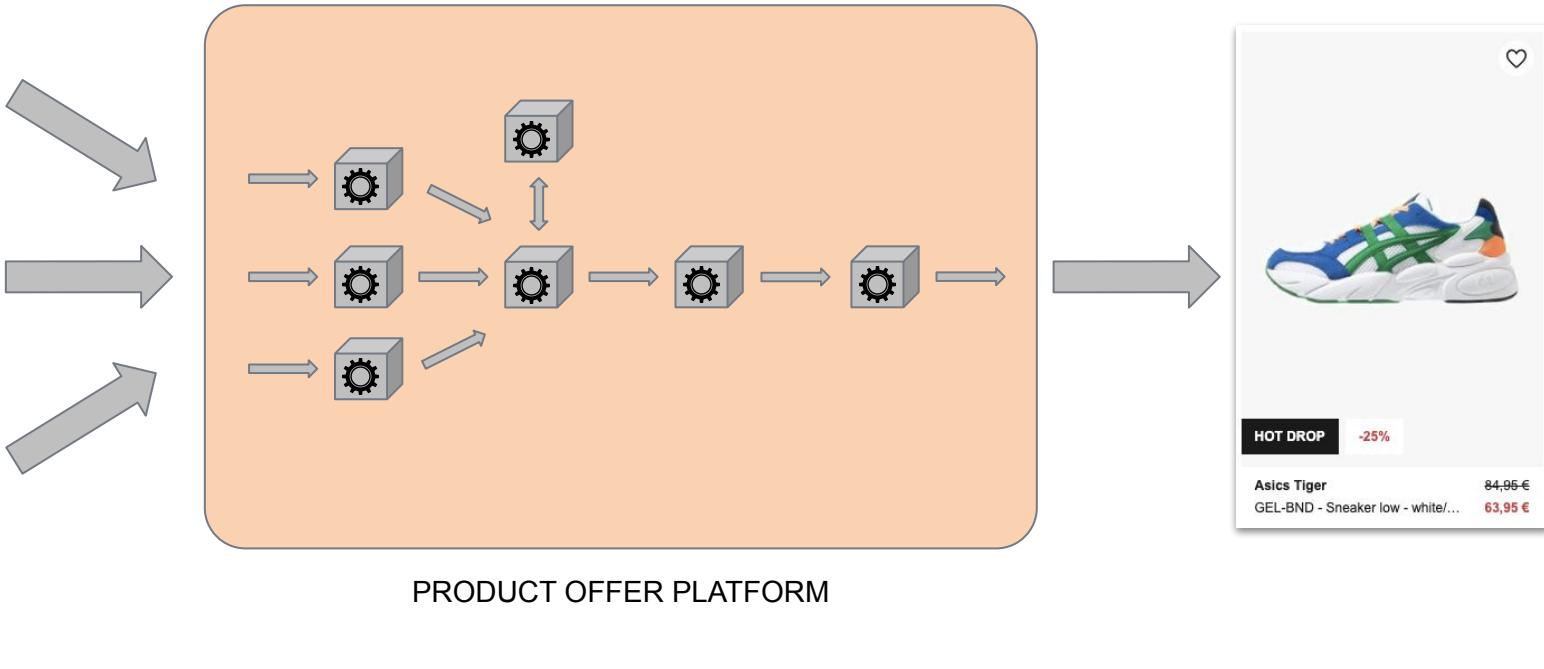
PRODUCT



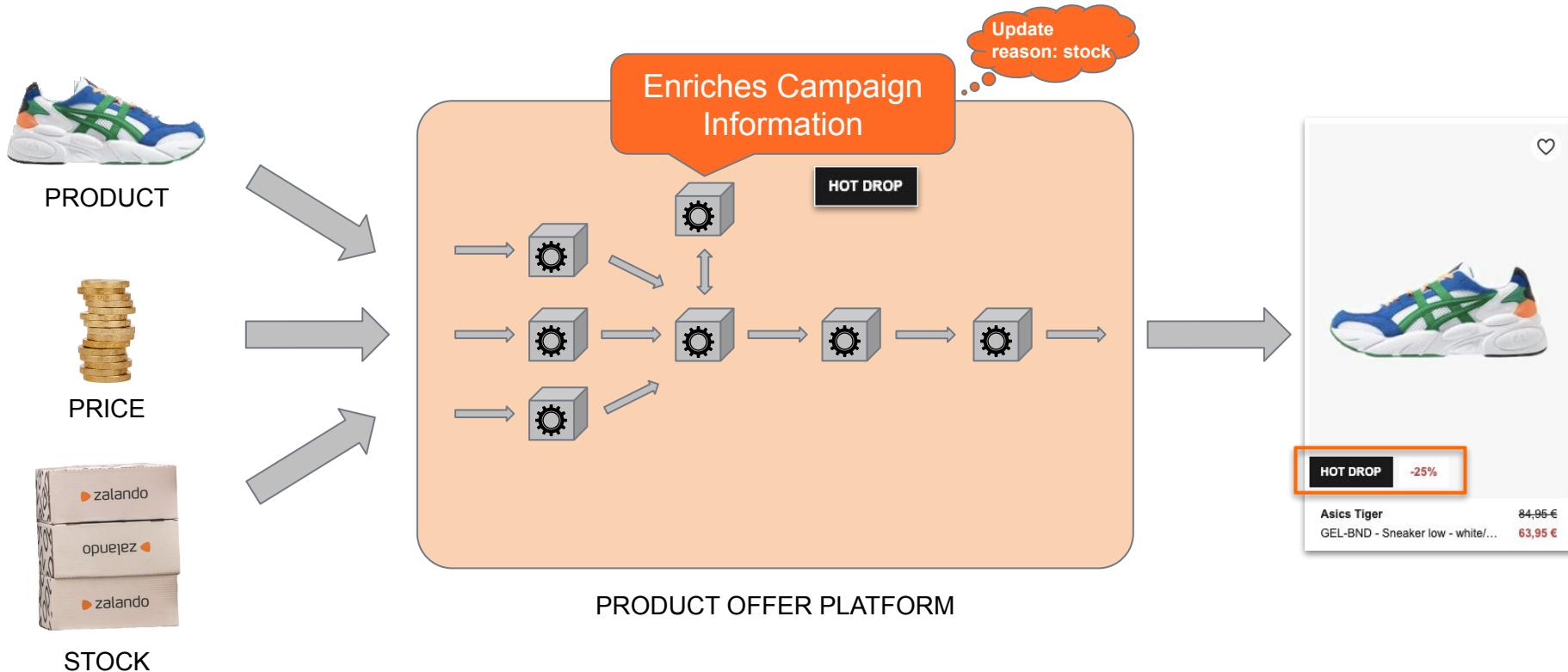
PRICE



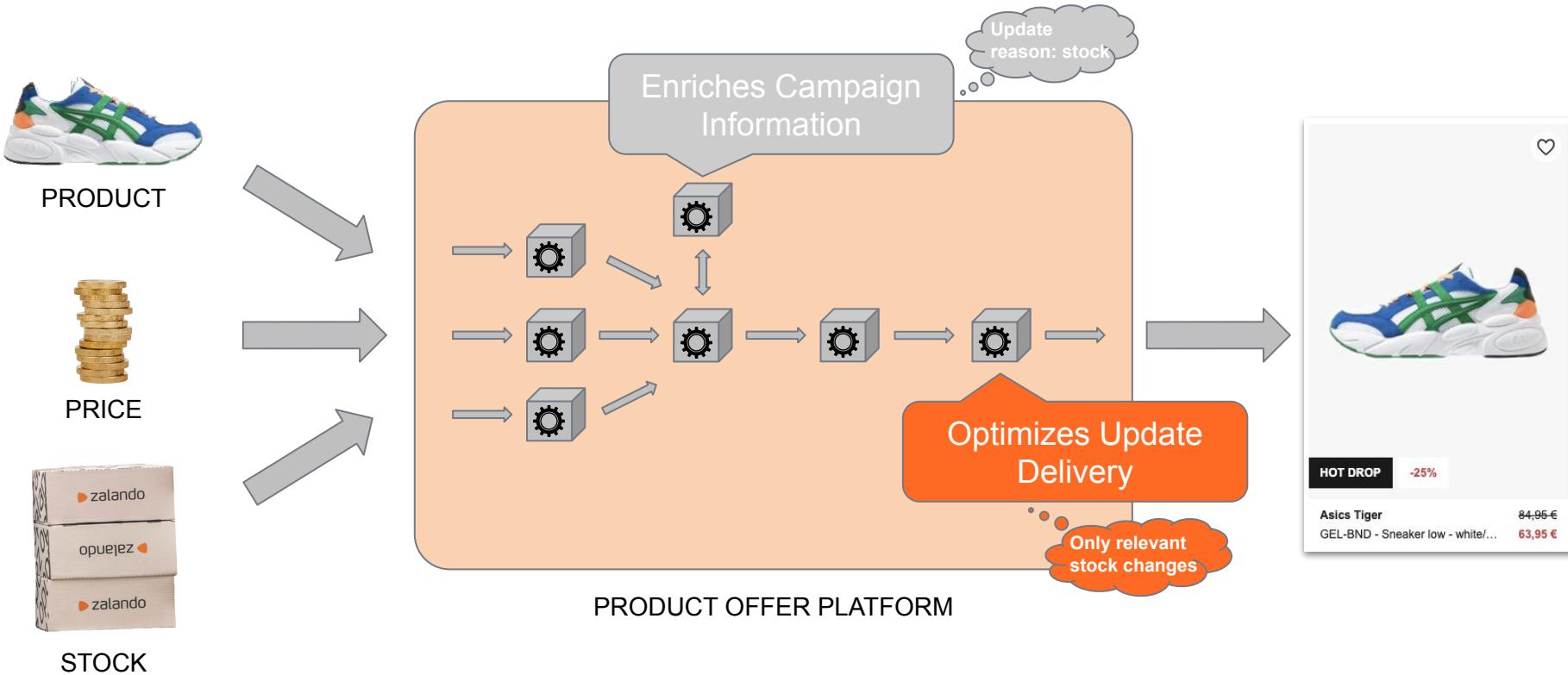
STOCK



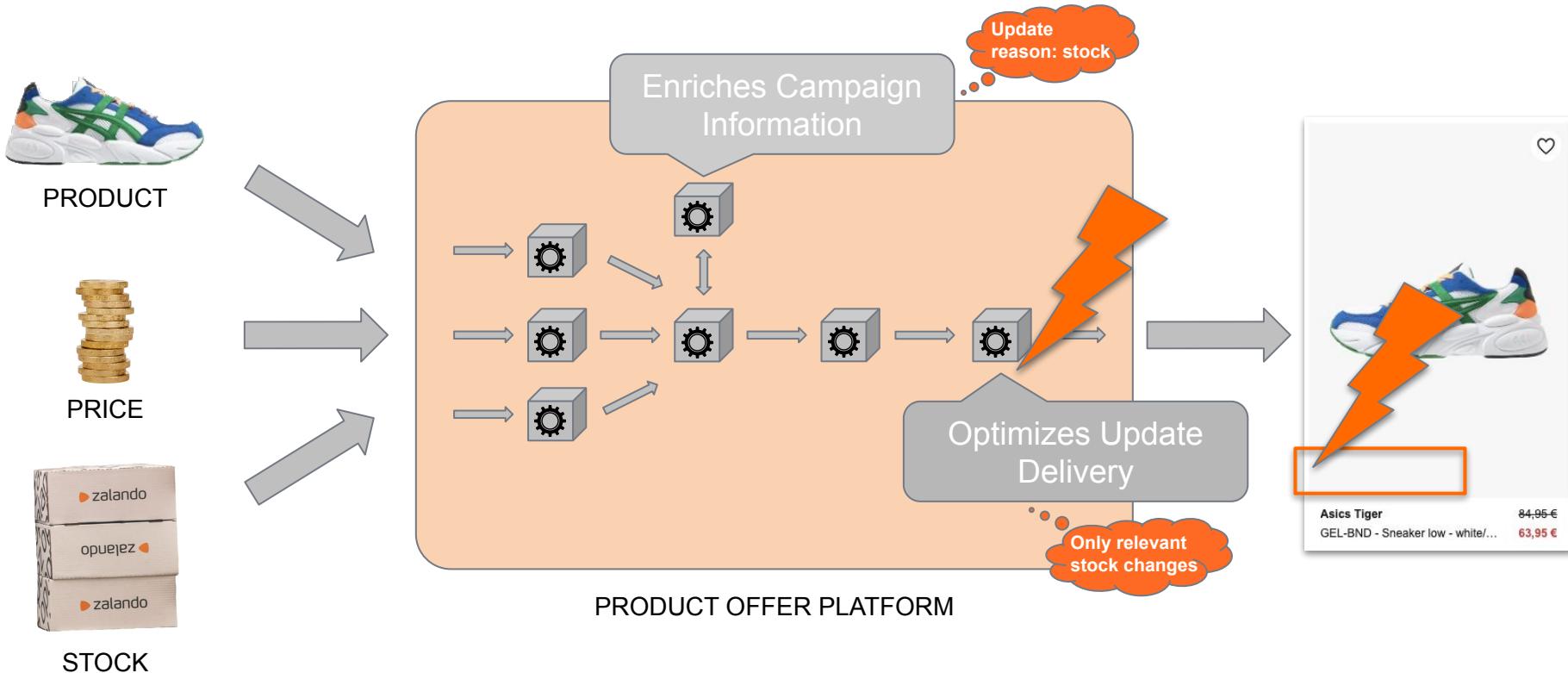
EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO



EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO

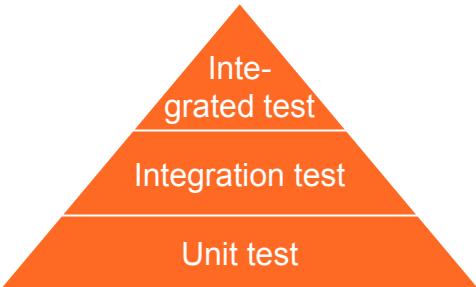
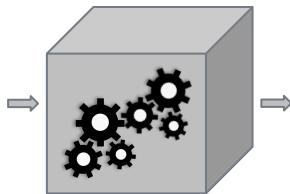


EXAMPLE - PRODUCT OFFER PLATFORM @ ZALANDO

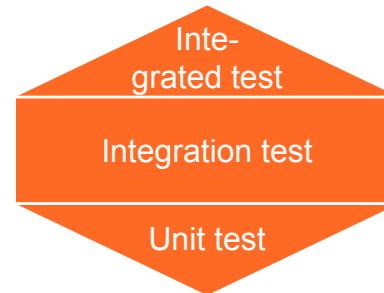
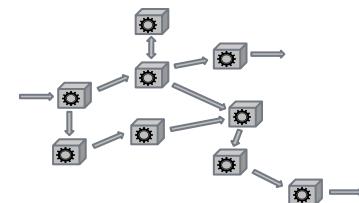


TESTING CHALLENGES

YESTERDAY

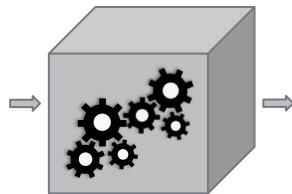


TODAY

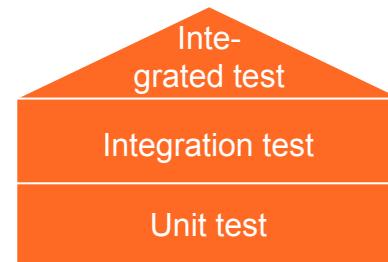
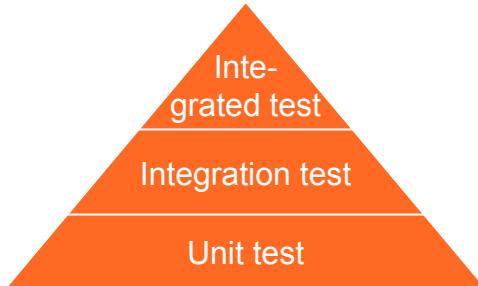
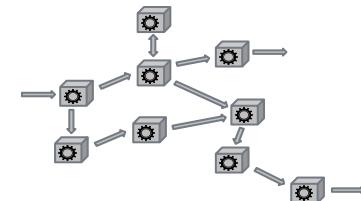


TESTING CHALLENGES

YESTERDAY

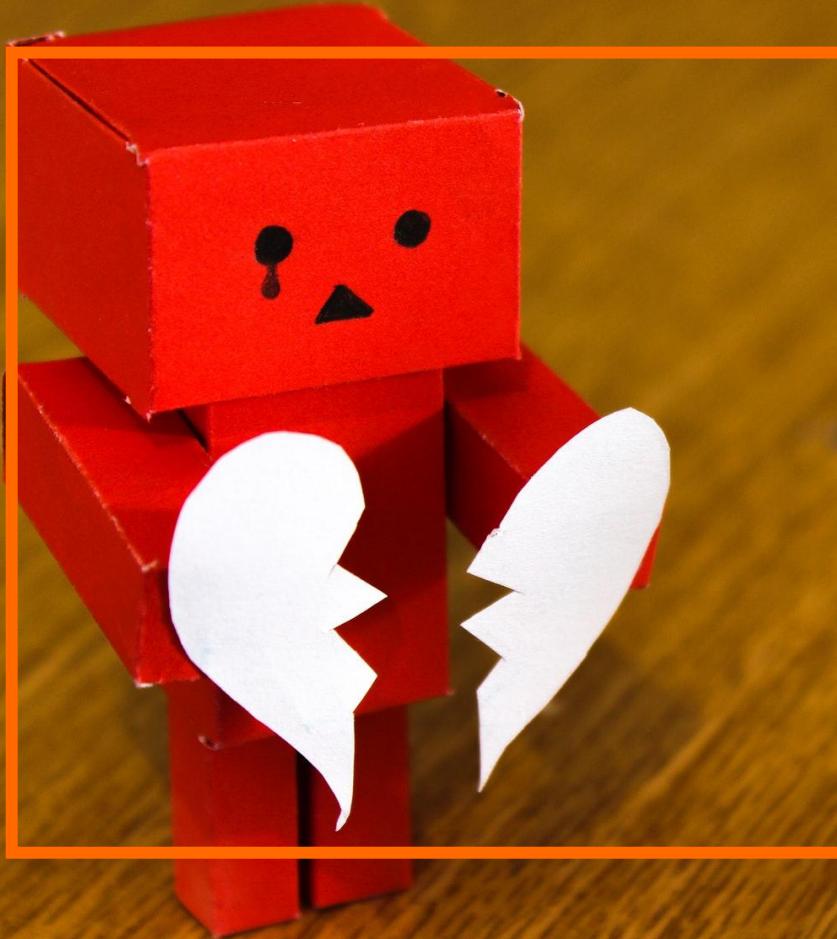


TODAY





LOVE YOUR INTEGRATION TESTS!

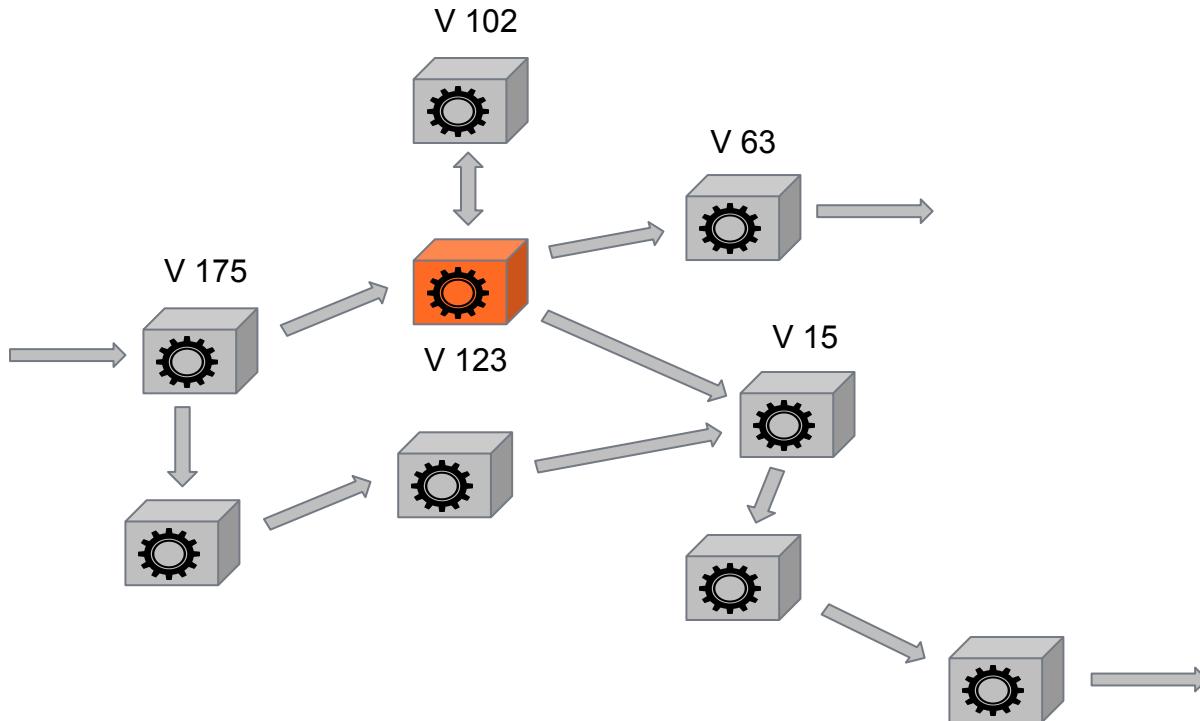


BUT IT'S HARD!

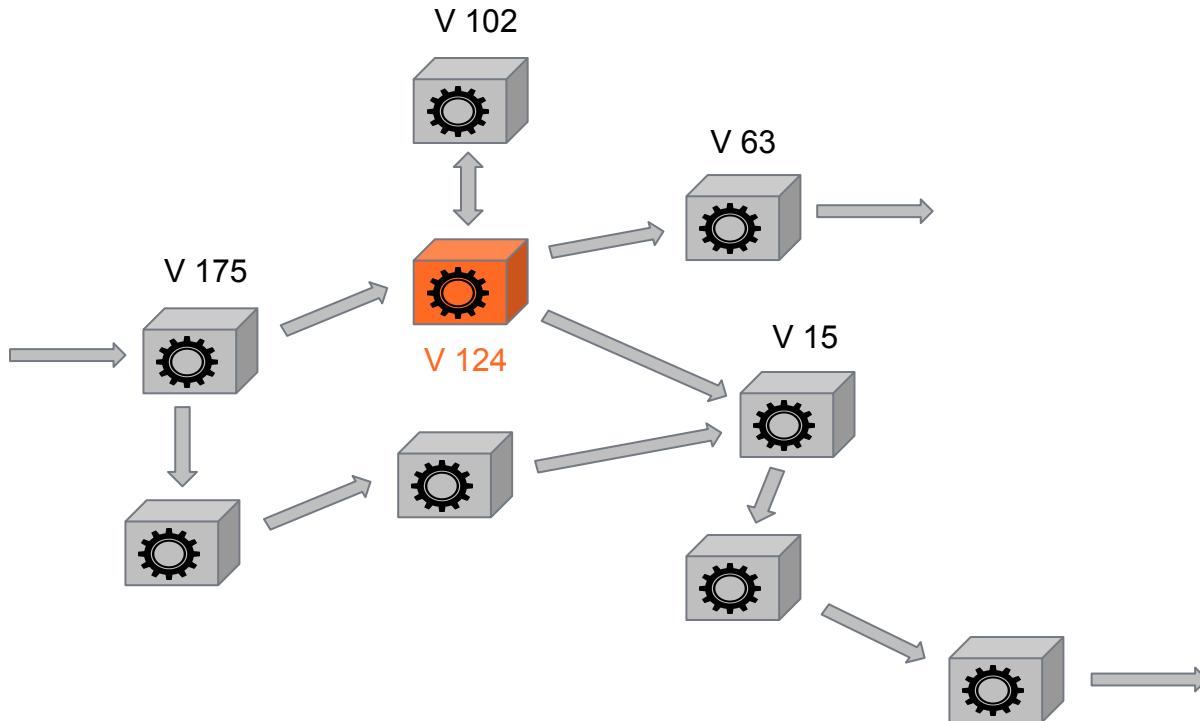
**WITH MICROSERVICES OUR
STAGING ENVIRONMENTS
BECAME USELESS FOR
INTEGRATION**



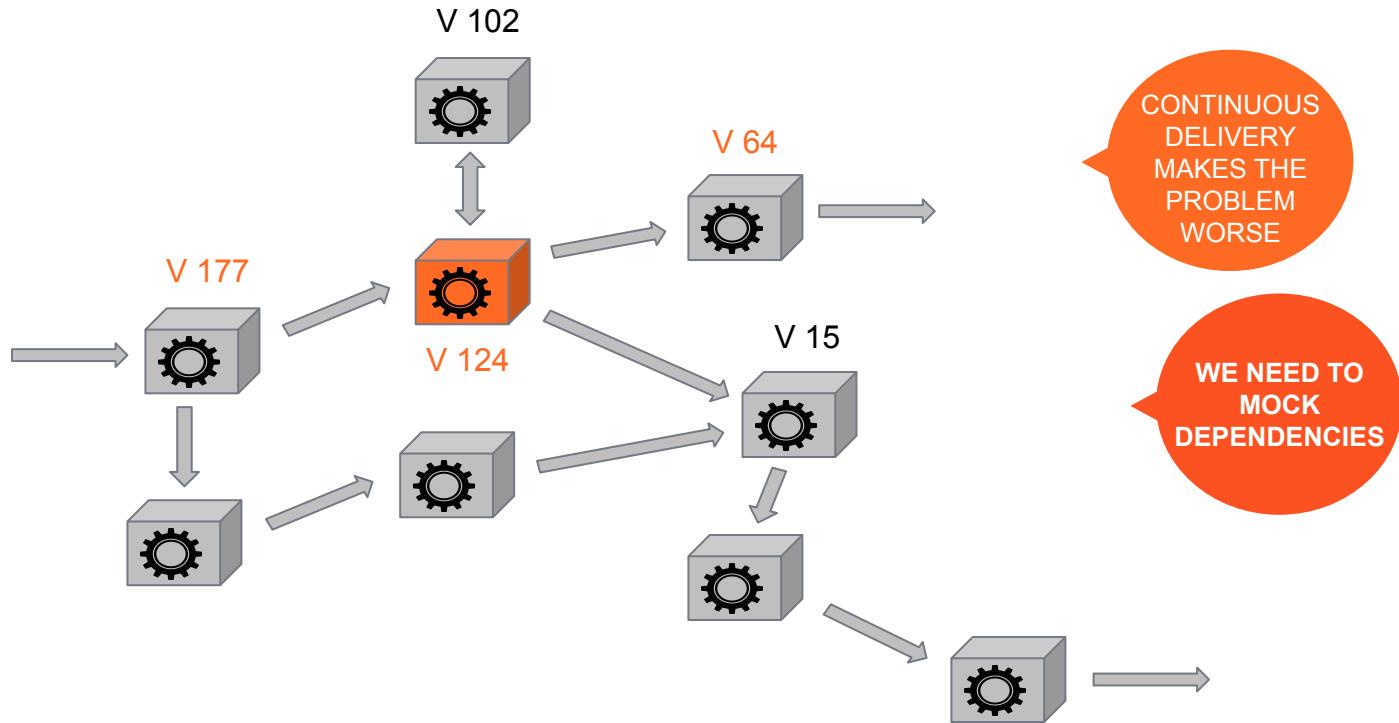
STAGING ENVIRONMENTS BECAME EXPONENTIALLY EXPENSIVE



STAGING ENVIRONMENTS BECAME EXPONENTIALLY EXPENSIVE



STAGING ENVIRONMENTS BECAME EXPONENTIALLY EXPENSIVE

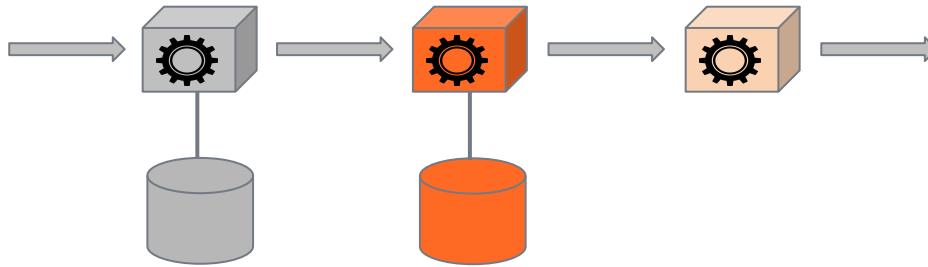


BLUE IS MY DENIM,
BLUE IS THE COLOR

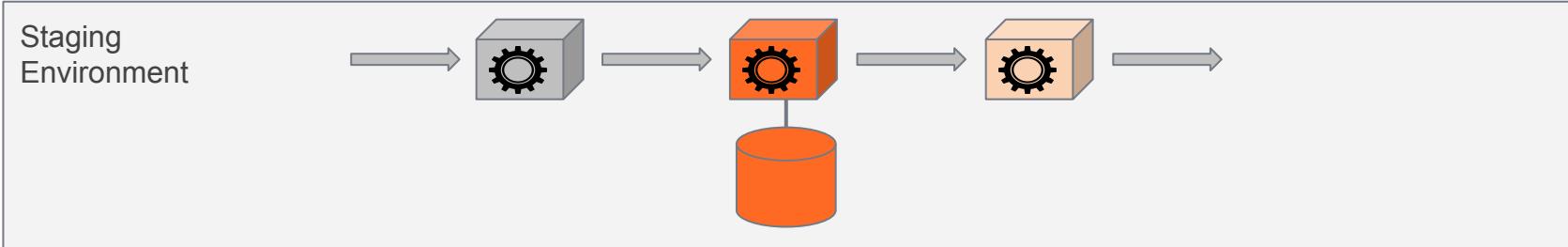
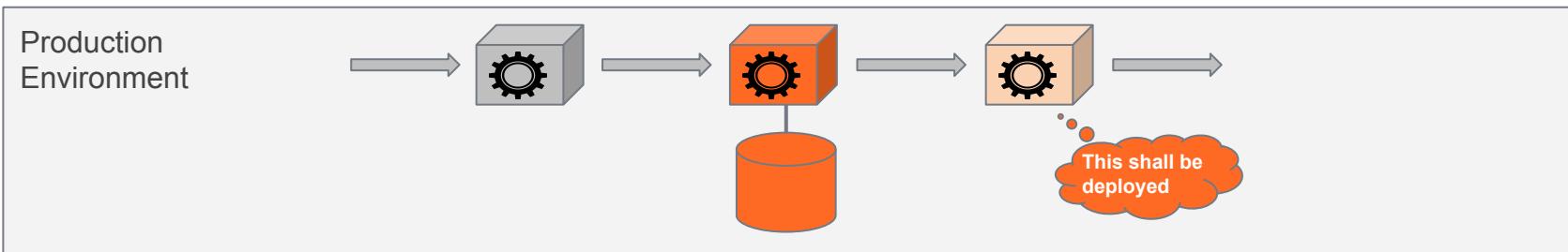
RUNNIN' THROUGH
MY VEINS!

AND WHAT ABOUT DATA?

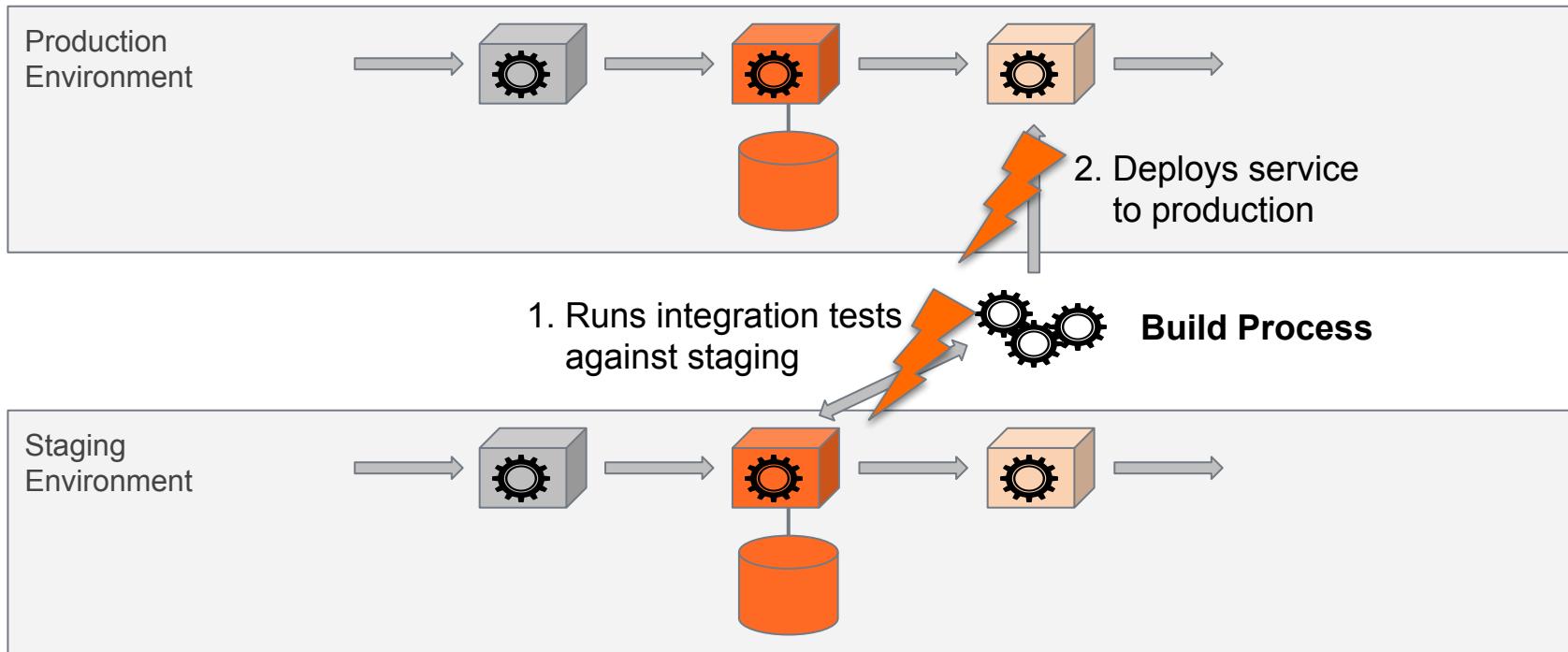
MICROSERVICES: SHARED NOTHING



IT IS TRICKY TO RELY ON OTHERS' TEST DATA



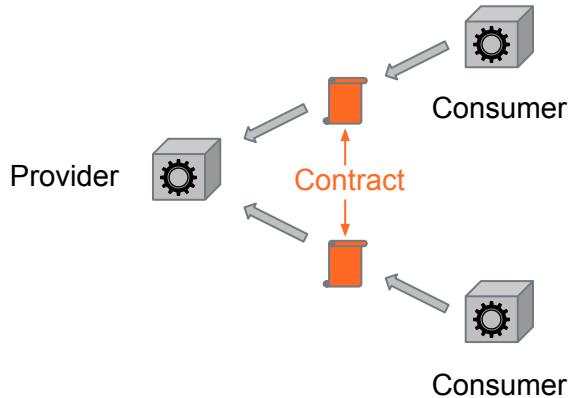
IT IS TRICKY TO RELY ON OTHERS' TEST DATA



**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



**DETECT INSTEAD OF
PREVENT**

(BUSINESS) MONITORING



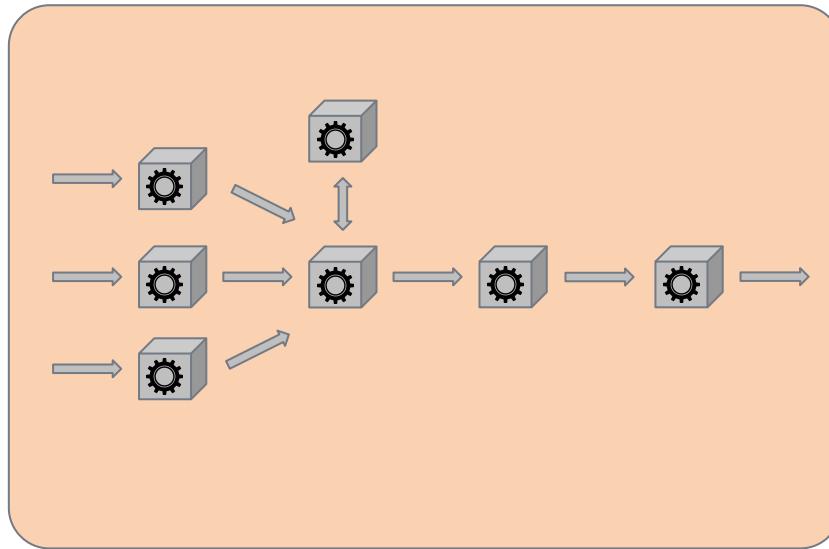
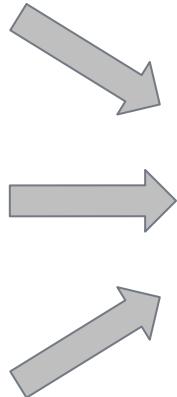
PRODUCT



PRICE

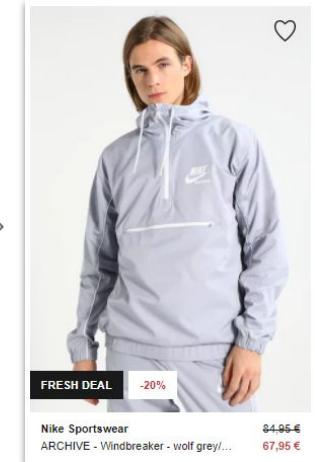


STOCK



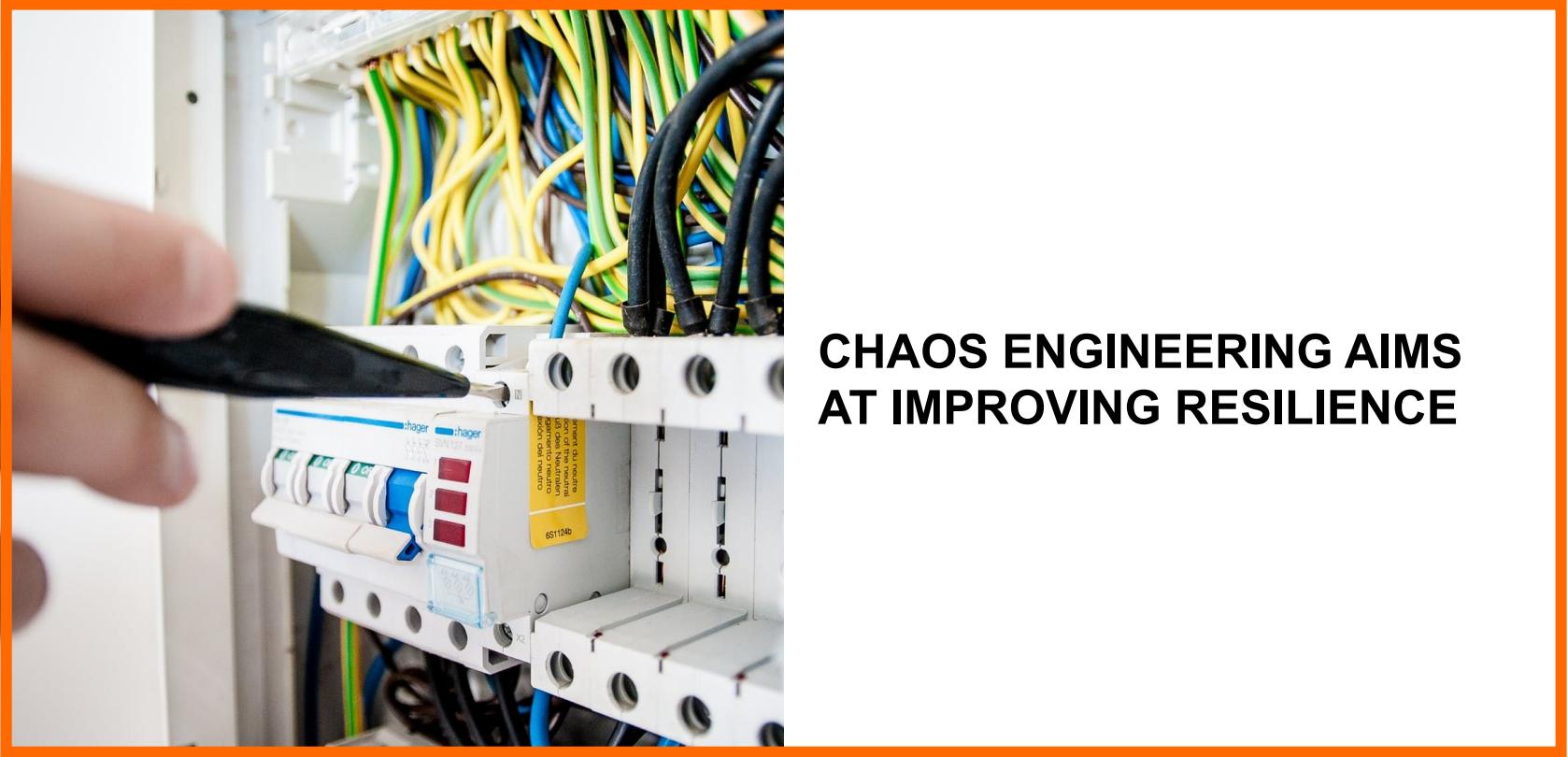
PRODUCT OFFER PLATFORM

End-2-End Business Monitoring



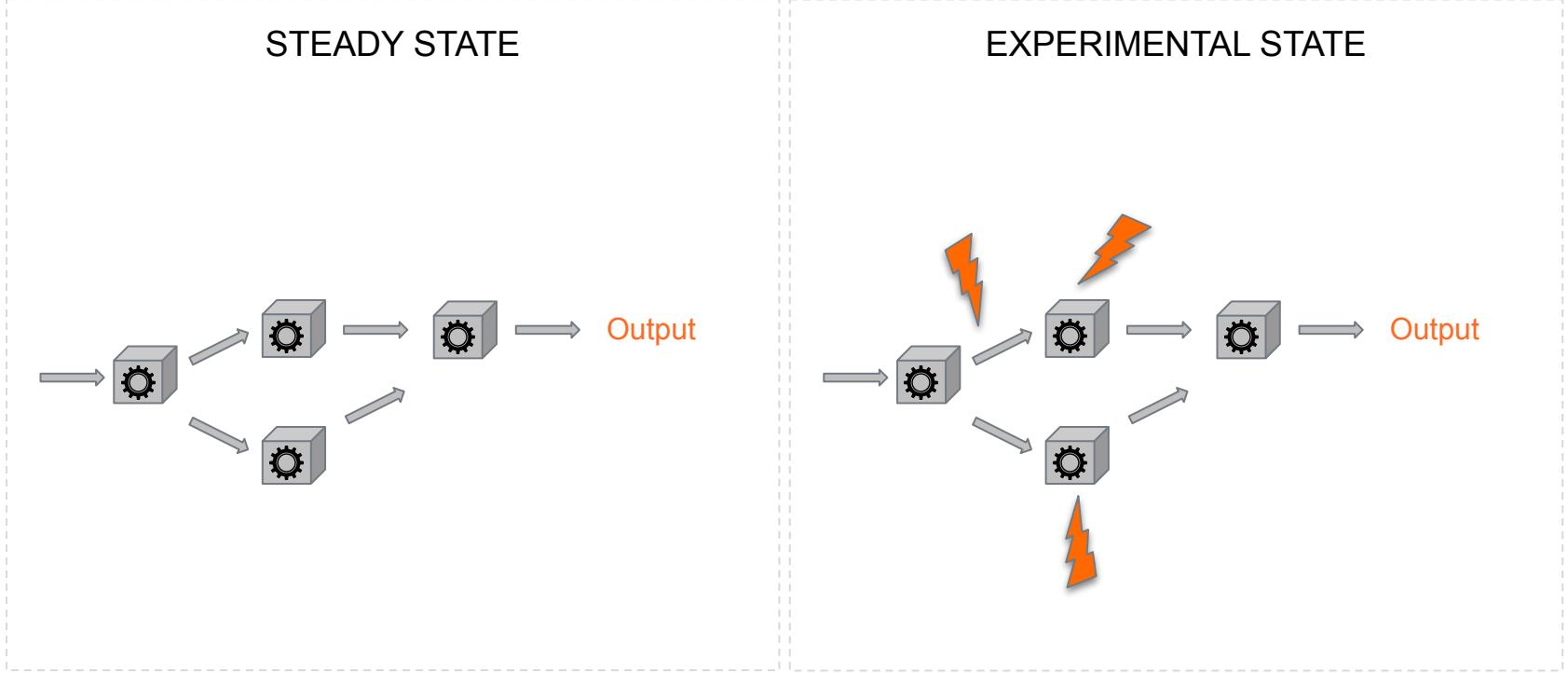


NEXT STEP: CHAOS ENGINEERING

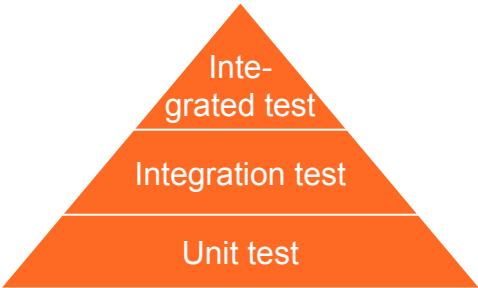


**CHAOS ENGINEERING AIMS
AT IMPROVING RESILIENCE**

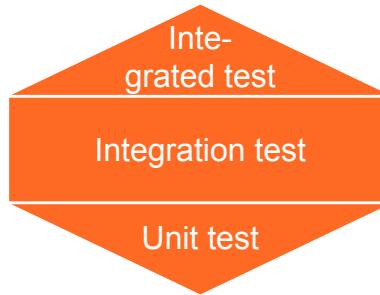
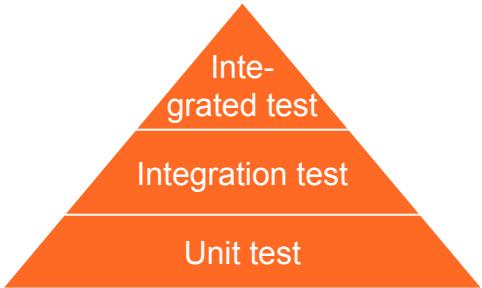
CHAOS ENGINEERING



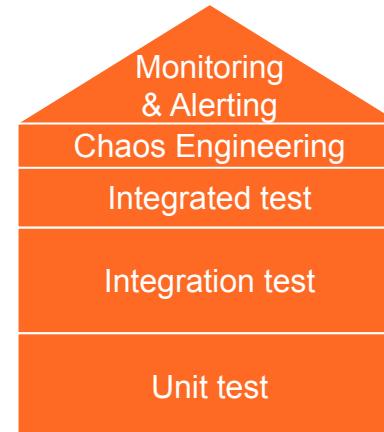
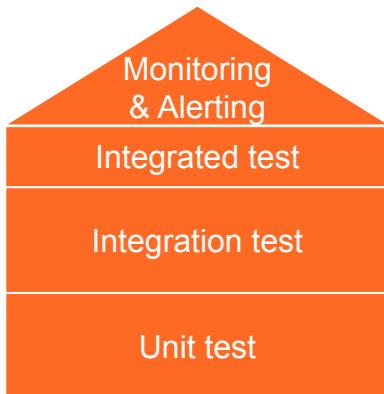
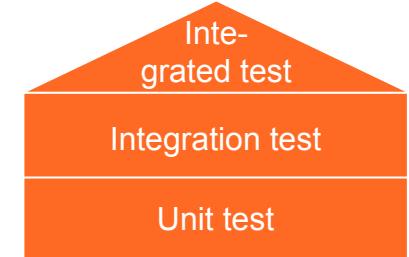
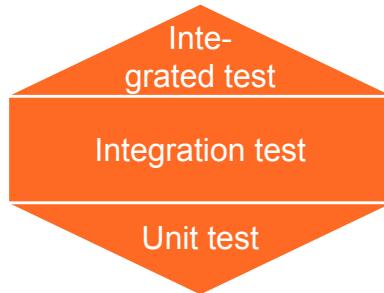
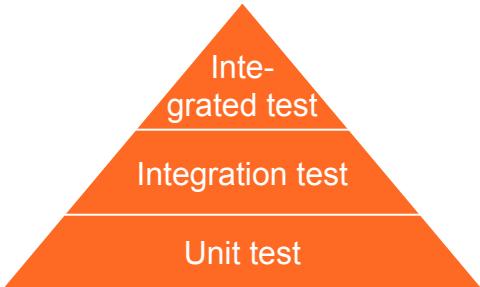
FROM THE TESTING PYRAMID



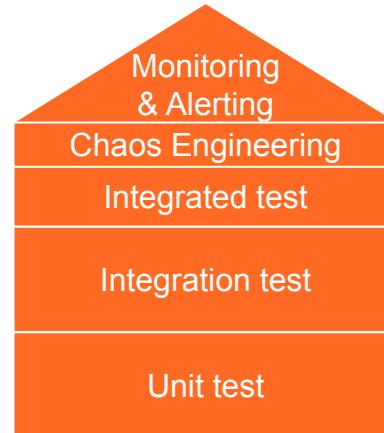
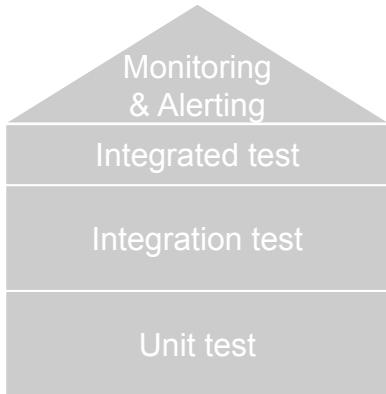
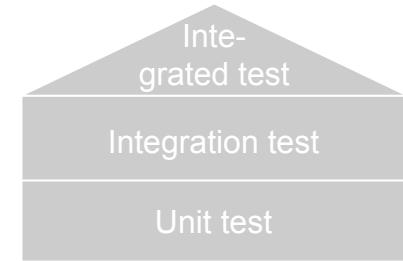
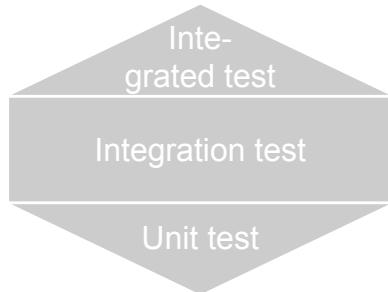
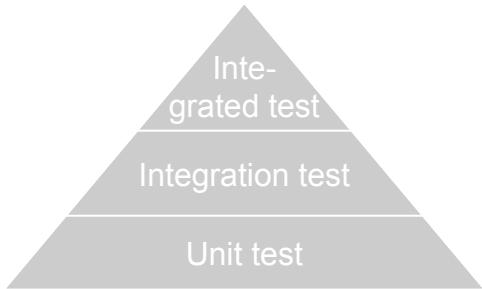
... TO THE TESTING DIAMOND



...TO THE TESTING HOUSE



...TO THE TESTING HOUSE





WHAT ABOUT AGILE?

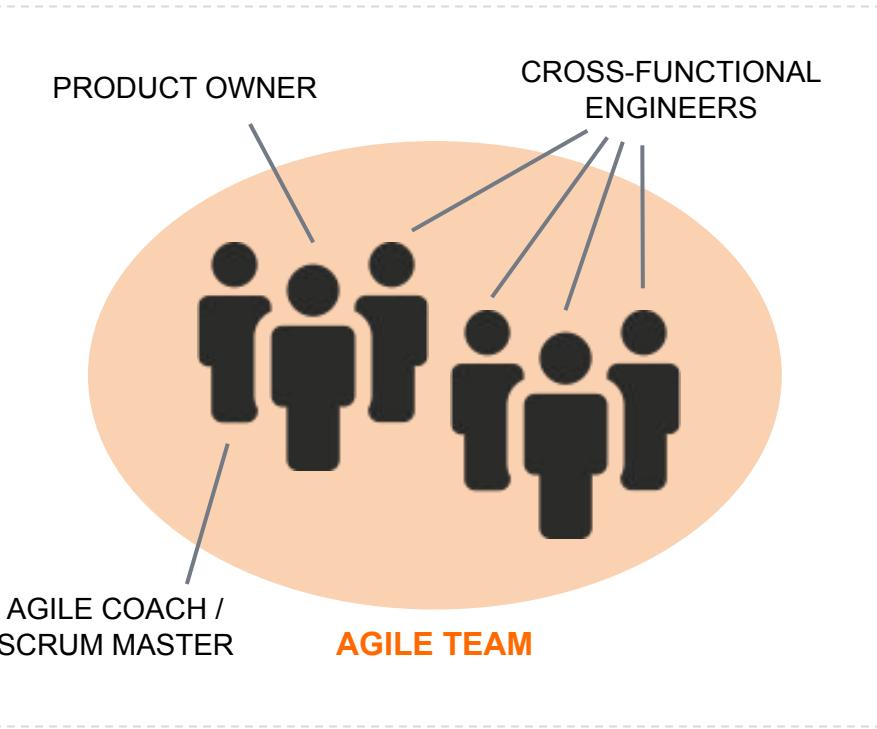
WATERFALL.



**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!



A photograph of a glowing neon sign against a dark background. The sign features the words "Everything" and "is Connected" in a stylized, flowing font. The letters are illuminated with a bright yellow-orange glow, and the internal wiring and structure of the sign are visible through the translucent plastic or glass panels.



**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**





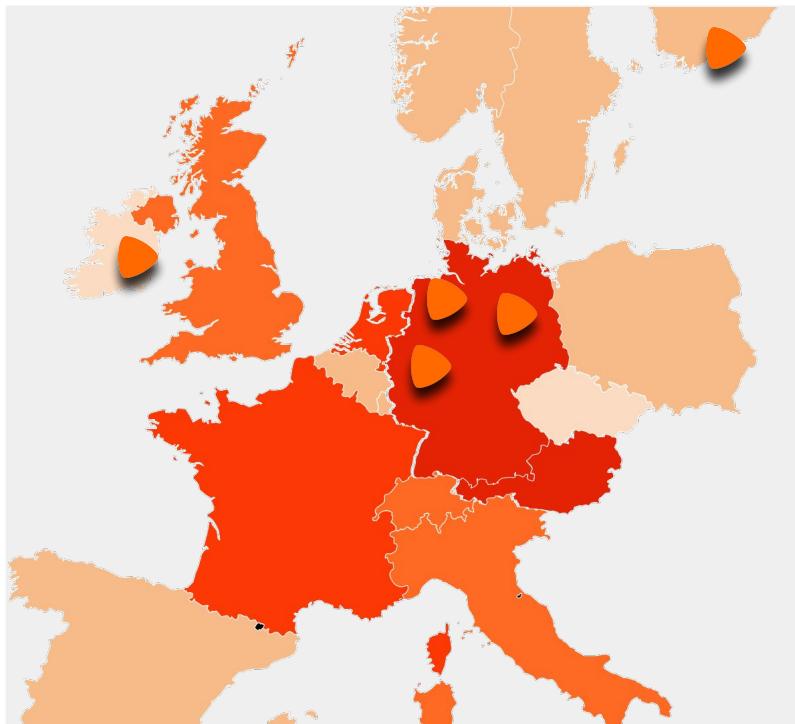
WHAT ABOUT AGILE AT SCALE?



FACTS & FIGURES

zalando

SOFTWARE PRODUCT DEVELOPMENT AT ZALANDO



**5 tech
hubs**

**> 2,000
employees**

In Tech

From **> 100**
Nations

Across
Europe

> 200

Cross-functional,
Agile Delivery
Teams

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**



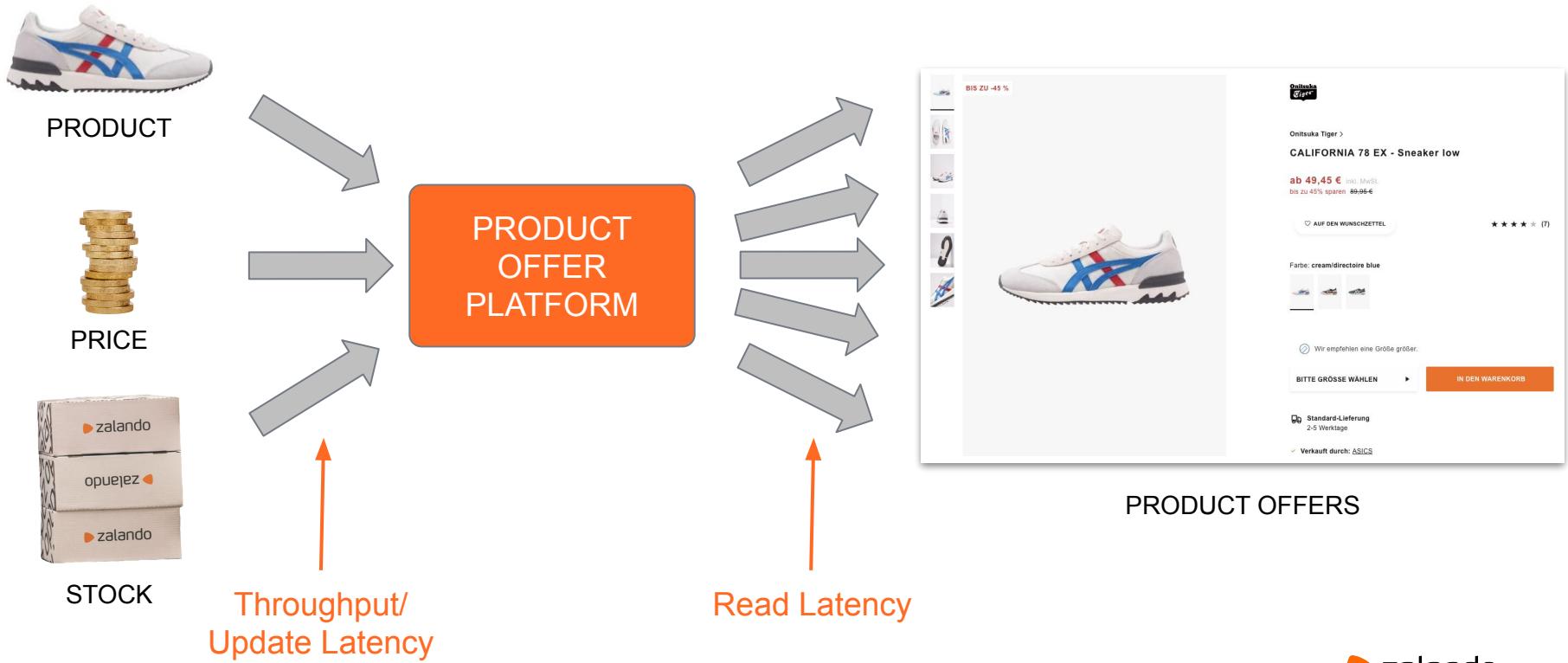
AUTONOMY NEEDS COMPLIANCE



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



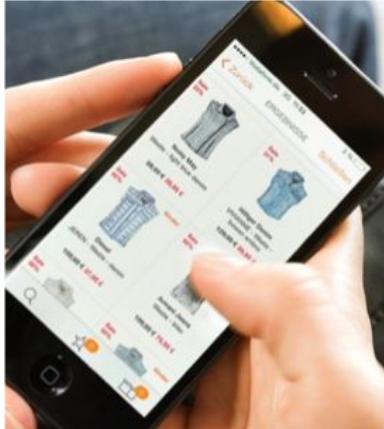
A close-up photograph of a person's hands holding a magnifying glass. The lens is focused on a vibrant night scene of a coastal city with illuminated buildings and palm trees along a beach. The background is dark, making the lights stand out. An orange rectangular border frames the entire image.

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

> 20

payment
methods



**FULFILLMENT
CENTERS**
and logistics



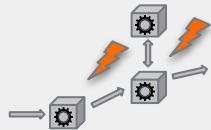
ADAPTED
content creation

customer
care in
NEW
languages

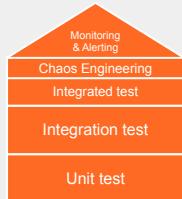
AGILE TESTING @ ZALANDO - AT A GLANCE

Microservice Architecture

Complexity moves from the services to the integration



Focus in Testing changed



- Mocked Integration Tests
- Contract Testing

Detect

Rather than Prevent

- Business Monitoring
- Chaos Engineering

Agile

Testing integral part of delivery



PO
Accountable
Engineers
Responsible
For Quality: DevSecQualOps

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!



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HEAD OF
PRODUCT OFFER PLATFORM

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03.07.2019



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