



**HUSTEF**  
HUNGARIAN SOFTWARE TESTING FORUM

# The three-pillar, balanced quality model of...

...Proactive QA, Detective QA and

Reactive QA

**Szilard Szell** - *DevOps Transformation Lead - 10.10.2024*

[www.eficode.com](http://www.eficode.com)



# My Abstract

## About the Presentation

### The 3-pillar, balanced quality model of Proactive QA, Detective QA and Reactive QA

I have been telling my testing and quality stories for 15 years on stage, based on 24 years experience and studying Frameworks, methods, models and practices. Beginning of the year my line manager told me to create a 1 slide Quality Model, that can be used to communicate the advance of the profession, the used practices and tools, and the mindsets needed to drive high quality within the organisations to achieve Business Agility.

Looking into my past presentations, study materials, certifications and heated discussion with my colleagues, I started to work on a combined view.

At HUSTEF, I would like to walk the audience through this model, highlighting the dimensions it cover, the practices it contain, the mindset it needs, and the tools to rely on to reach the holy grail of Business Agility.

I will share the three pillars of the model:

- Proactive Quality Practices - Service Design and Agile practices for built-in Quality
- Detective Quality Practices - the safety of Continuous Testing that shall provide fast feedback
- Reactive Quality Practices - the practices and channels of Observability and IT Service Management to amplify learning

I will challenge the practices of continuous testing as relying only on Test Automation is not an option, but highlighting the opportunities given by Shift Left, and Shift Right practices even on the far edges.

I will challenge leaders to point on their duties to set balanced quality goals and supporting the needed mindset in the organisation. They shape the culture through their behaviour, so they must know what they shall do

I will challenge predefined Quality Strategy documents to highlight the need for a common developer platform that makes quality processes unavoidable, that mandates quality practices and that documents the Quality Strategy as code.

All in all, I will share the practices in all the 3 pillars that helps businesses to build high quality products and services, describe the foundation needed, and the role of leadership to achieve Business Agility.

# Who we are



**280M**

Euros  
Revenue

**650+**

Professionals

**19**

Years of  
Existence

**50+**

Tools  
on Devops  
Platform

**1600+**

Customers


**10**

Countries

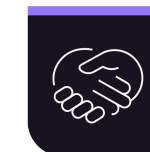
- Eficode is the leading DevOps company in Europe.
- Experts in Cloud, DevOps, Agile, Service Management and Software Development.
- We help customers transform into software-driven organizations.
- Our expertise and passion is to make software development efficient, predictable, and profitable.



Platinum  
Solution Partner

Microsoft Partner  
Azure Expert MSP  


**GitHub** Verified Partner



GitLab  
**Select  
Partner**

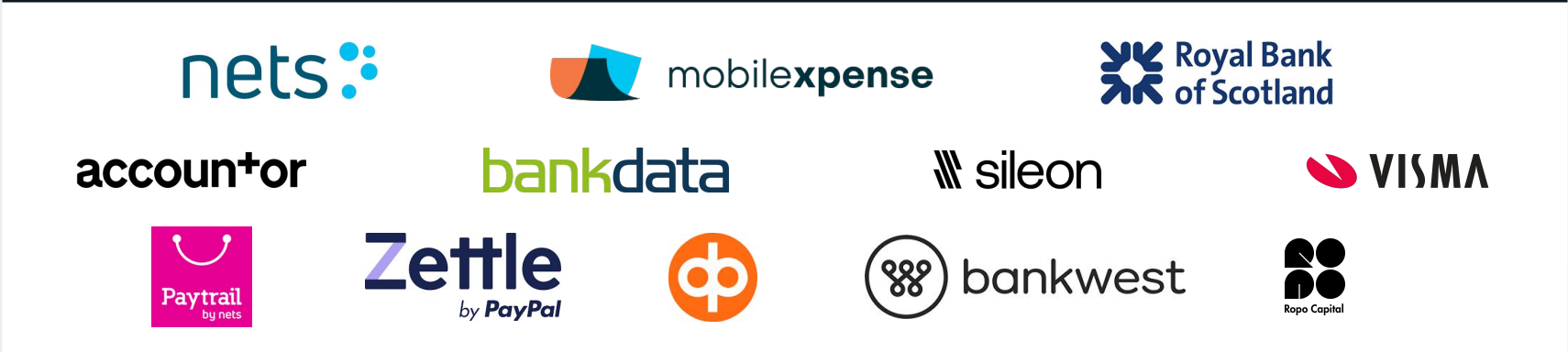
aws partner  
network  
Advanced  
Consulting  
Partner

  
Google Cloud  
Partner

# Helping over 1600 organizations transform



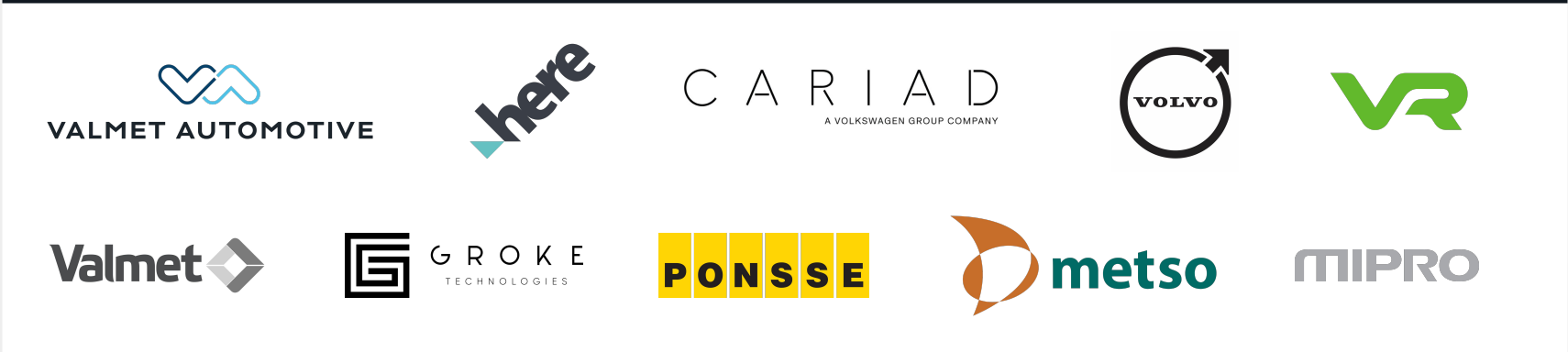
## Finance & Insurance



## Industrial & Energy



## Transportation & Machinery



## Technology, Media & Telecom



## Public Sector



## Retail & Consumer



## Healthcare



# EFICODE

Founded 2005  
Headquarters in Helsinki  
Offices in ten countries  
Over 600 professionals

eficode



**Denmark**



**Norway**



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**Finland**



**Poland**



**United Kingdom**



**United States**



**Netherlands**



**Switzerland**



**Germany**

# Szilár

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# Széli

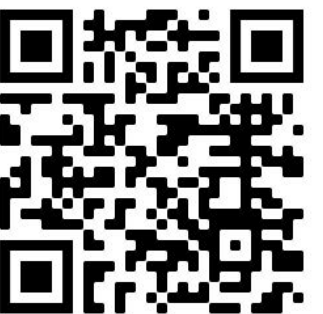
- ✓ DevOps transformation lead
- ✓ Test and Quality Coach
- ✓ Agile coach and SAFe SPC, trainer
- ✓ Volunteer in ISTQB
- ✓ Public speaker

*“Testing is learning about your product and giving feedback. Continuous Testing is amplifying feedback”*



## Experience

- 24 years of experience in QA and DevOps in Telecommunications industry
- 12 years of experience as change agent
- SAFe SPC, Certified Scrum Master, DevOps DASA
- ISTQB CTEL-ITP-Full, CTAL-TM, CTFL-AT, CTFL, IREB CPRE
- ITIL4 Foundation
- Lean Six Sigma Green Belt
- Lean Service Creation - Facilitator
- XRAY Certified Expert



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# The three ways of DevOps and Quality



# 1. The First Way: The Principles of Flow

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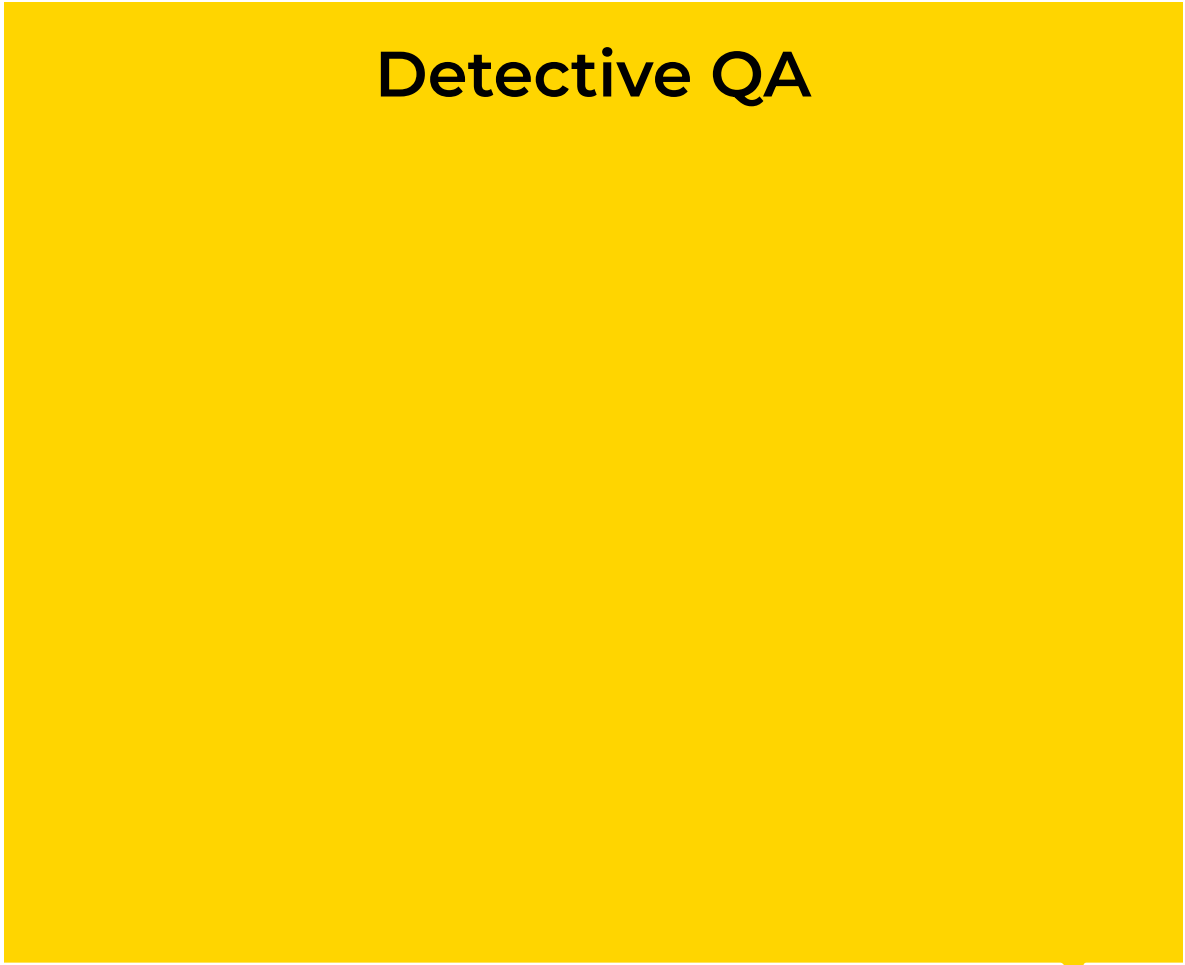


*“Being able to take needless work out of the system is more important than being able to put more work into the system.”*

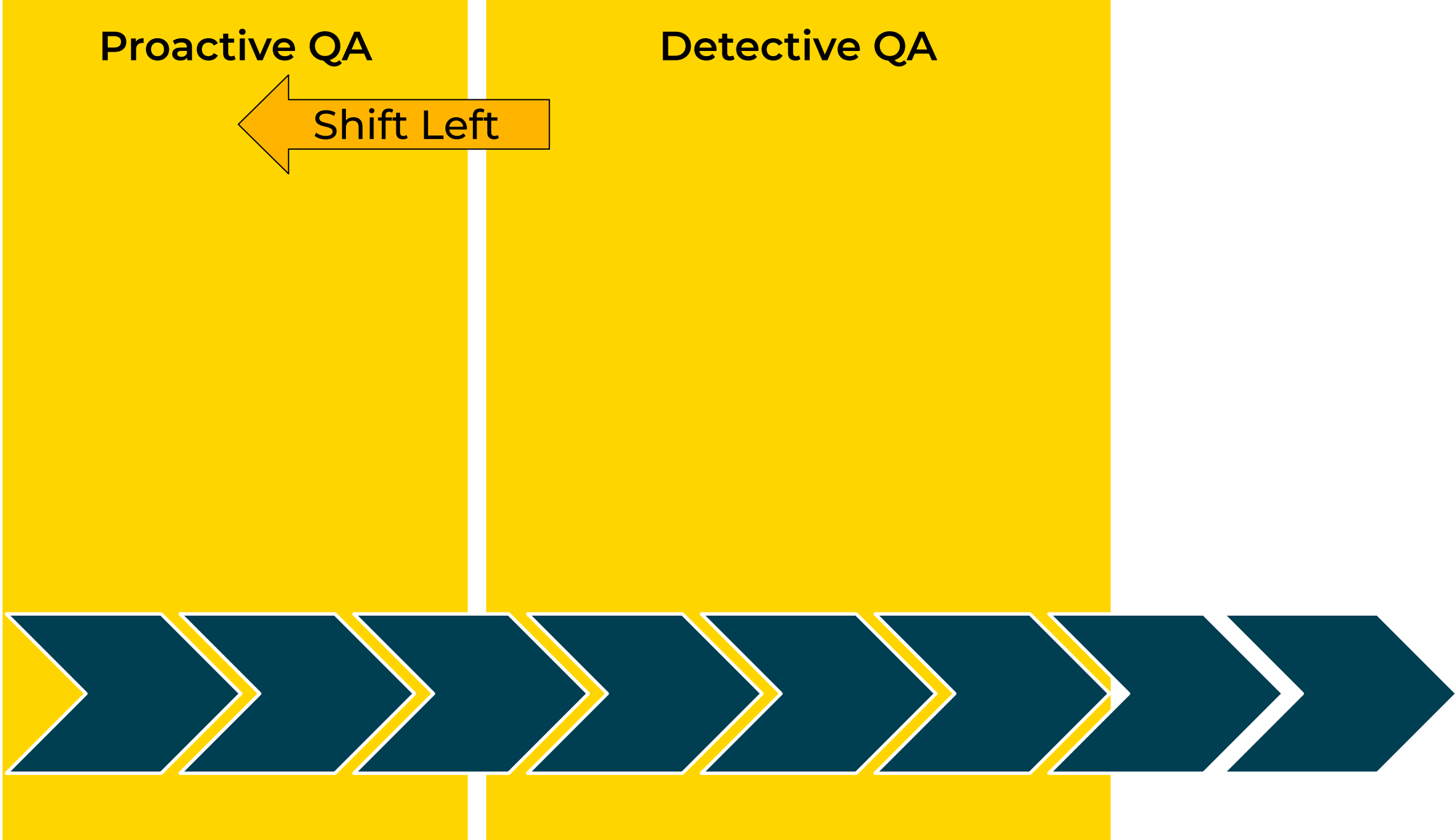
*Gene Kim*



# More testing slows down the flow



# Automation and Shift Left for faster flow

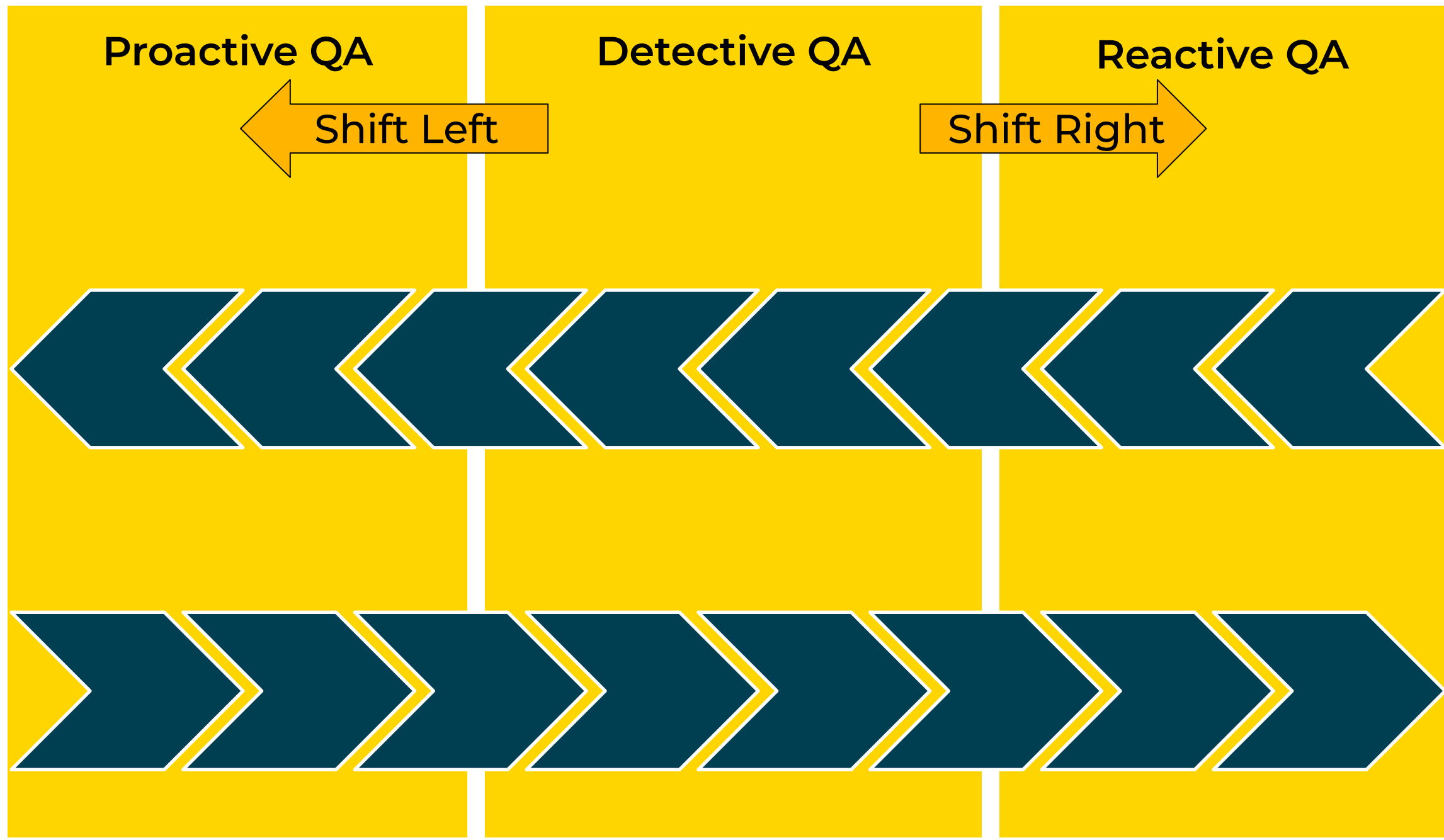


# 2. The Second Way: The Principles of Feedback



*“Improving daily work is even more important than doing daily work.”*

# Shift Right to amplify Feedback



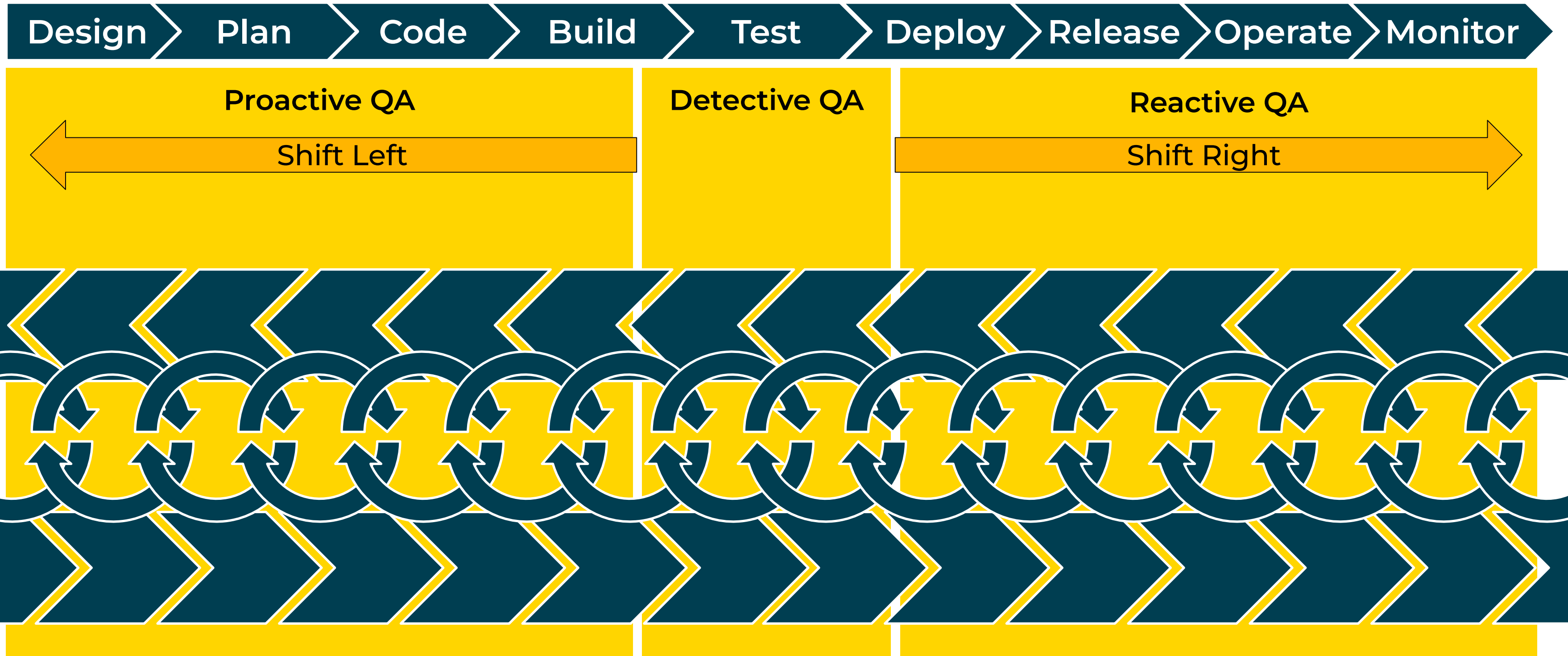
# 3. The Third Way: The Principles of Continual Learning and Experimentation



*“If you can’t out-experiment and beat your competitors in time to market and agility, you are sunk.”*

*Gene Kim*

# All to the Left and Right to amplify Learning





# Quality Transformation n



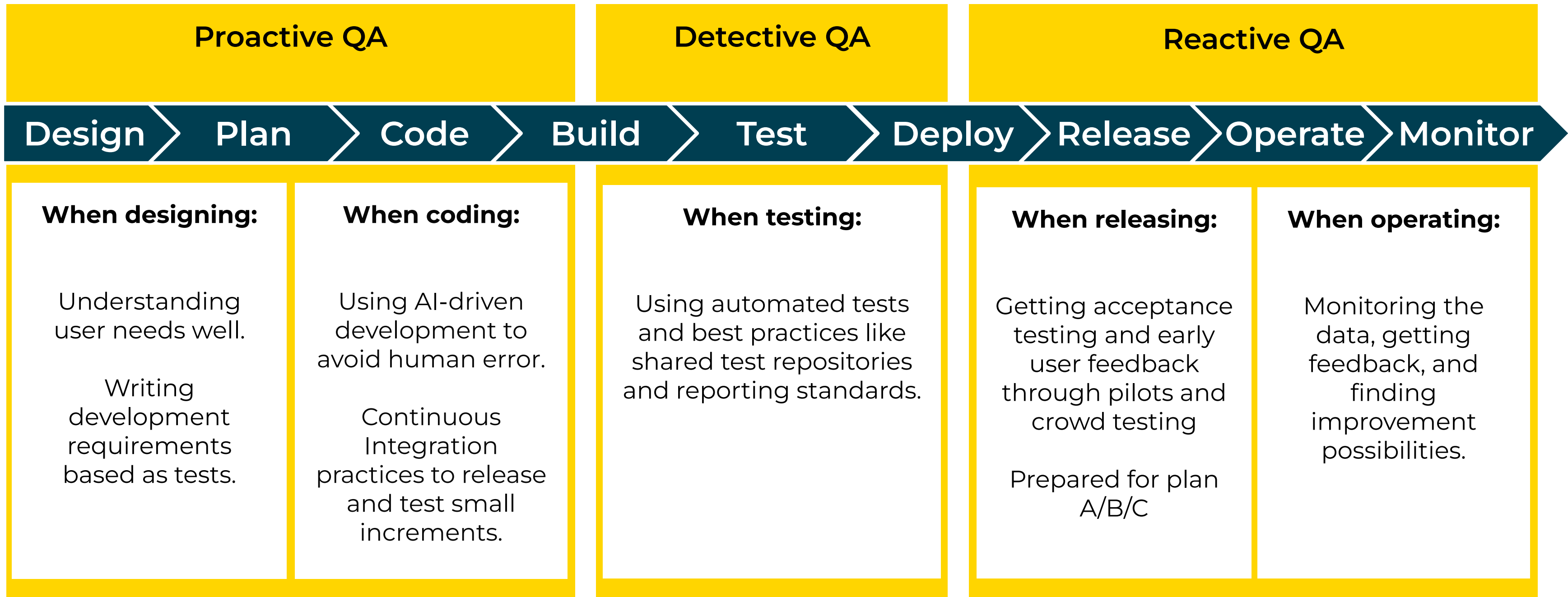
# Quality transformation



Where you want to be

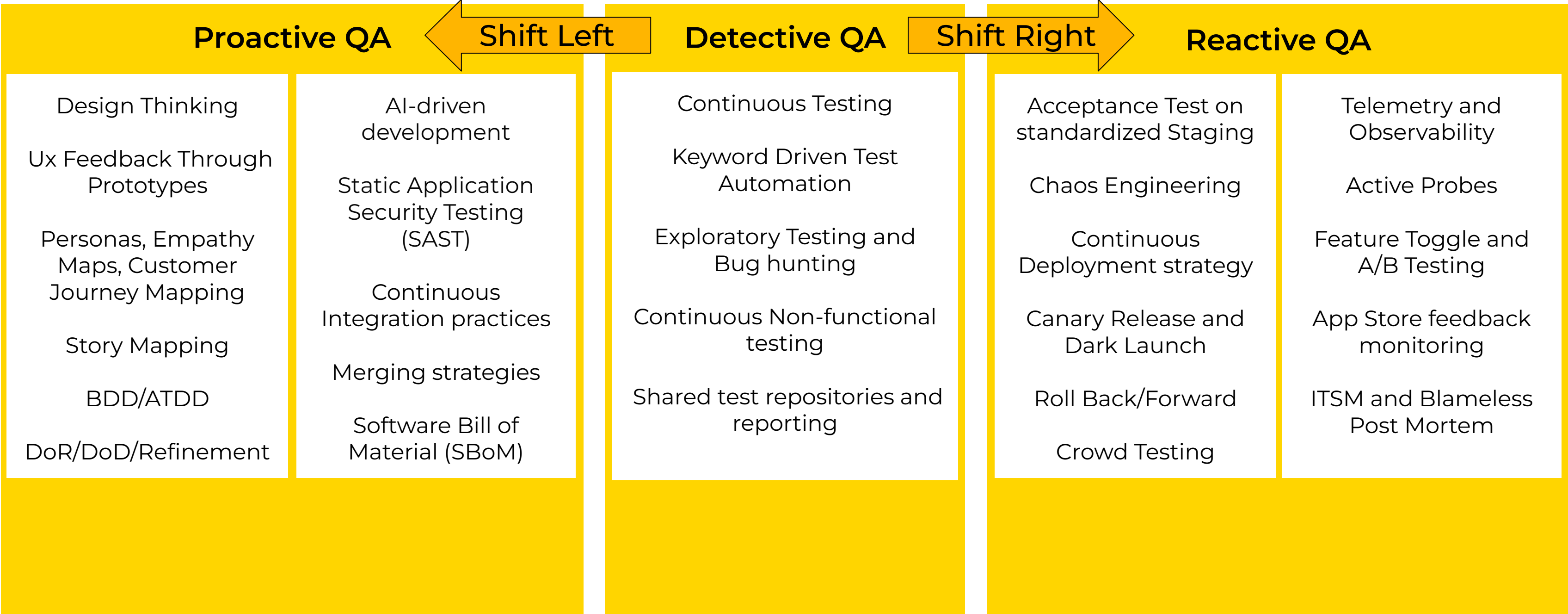
Where most companies focus

Where you want to be





# Adding all practices. Are we there yet?



Agile Practices = Built in Quality

Automation = Fast Feedback

Transparency = Trust

# Internal Developer Platform

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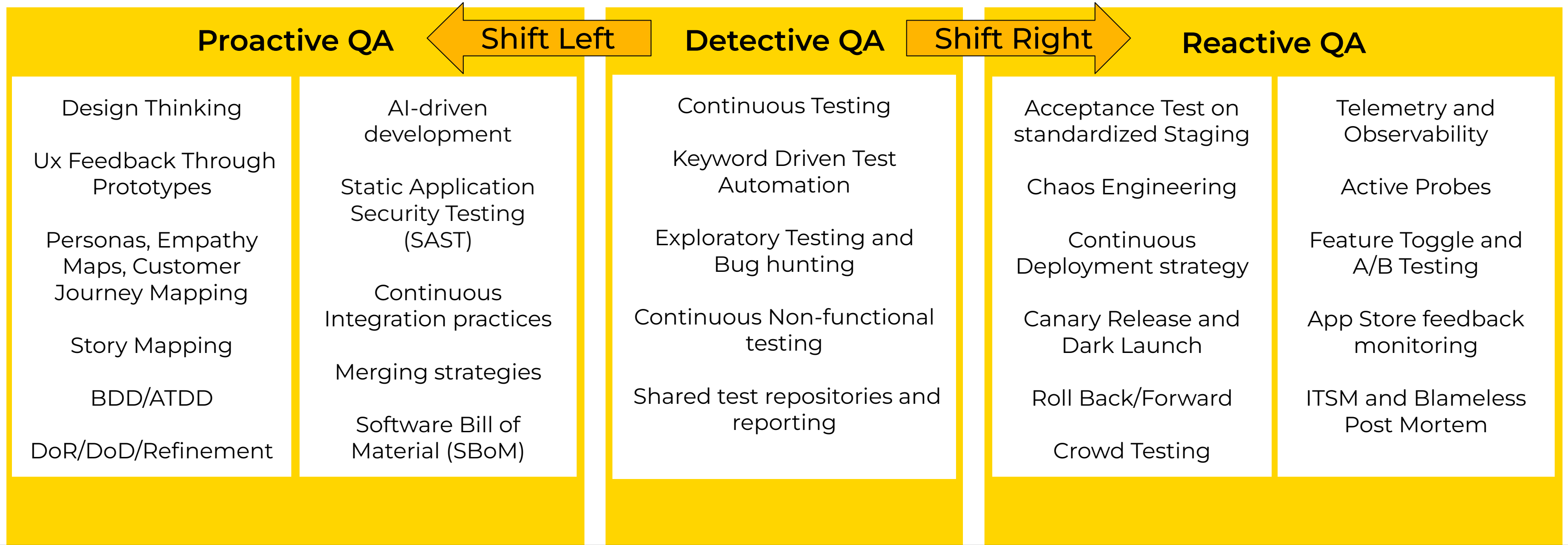


**A foundation of self-service APIs, tools, services, knowledge and support which are arranged as a compelling internal product**

**Evan Bottcher**

Head of Engineering at Thoughtworks

# Platform engineering for efficiency



**Internal Developer Platform**

Agile Practices = Built in Quality

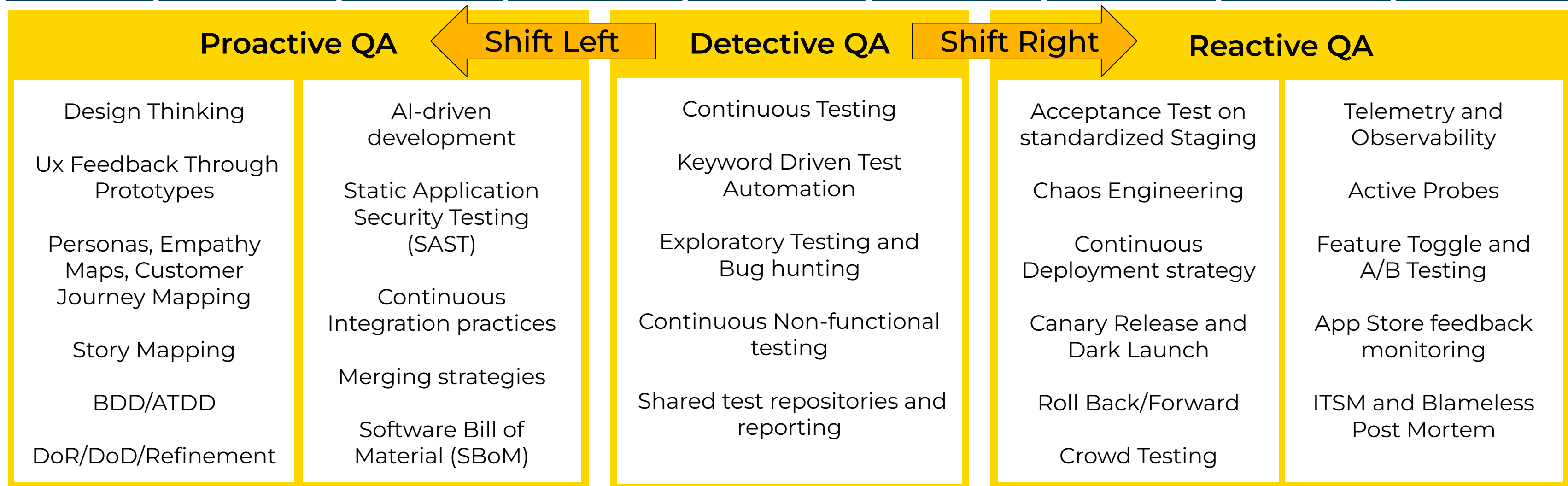
Automation = Fast Feedback

Transparency = Trust

# Collaborate on CQA Strategy as pipeline



# Continuous QA Strategy as pipeline



**CQA Strategy implemented in the CI/CD pipeline**

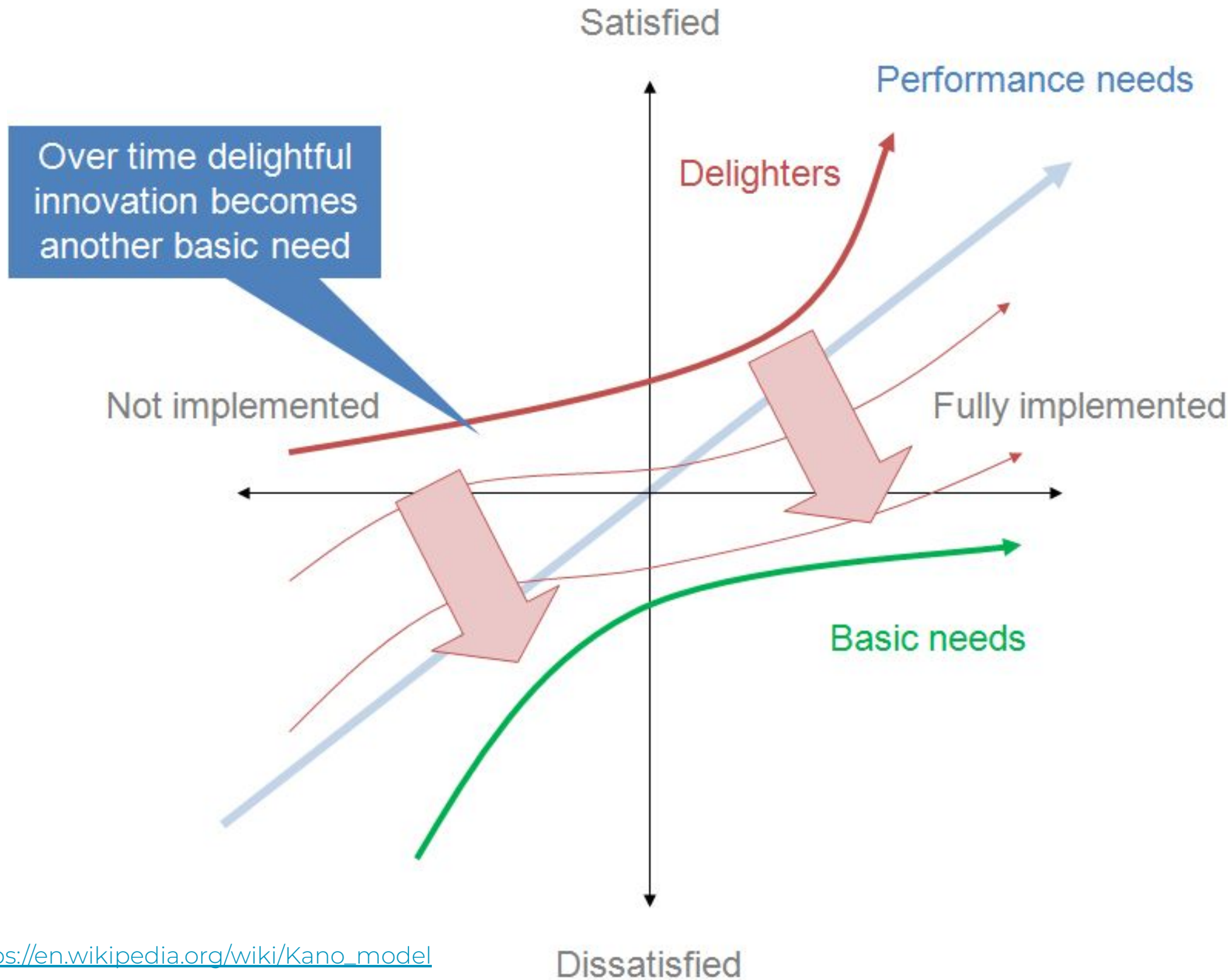
Internal Developer Platform

Agile Practices = Built in Quality

Automation = Fast Feedback

Transparency = Trust

# Product development and customer satisfaction - the KANO model



- Must-be Quality
- One-dimensional Quality
- Attractive Quality
- Indifferent Quality
- Reverse Quality

[https://en.wikipedia.org/wiki/Kano\\_model](https://en.wikipedia.org/wiki/Kano_model)

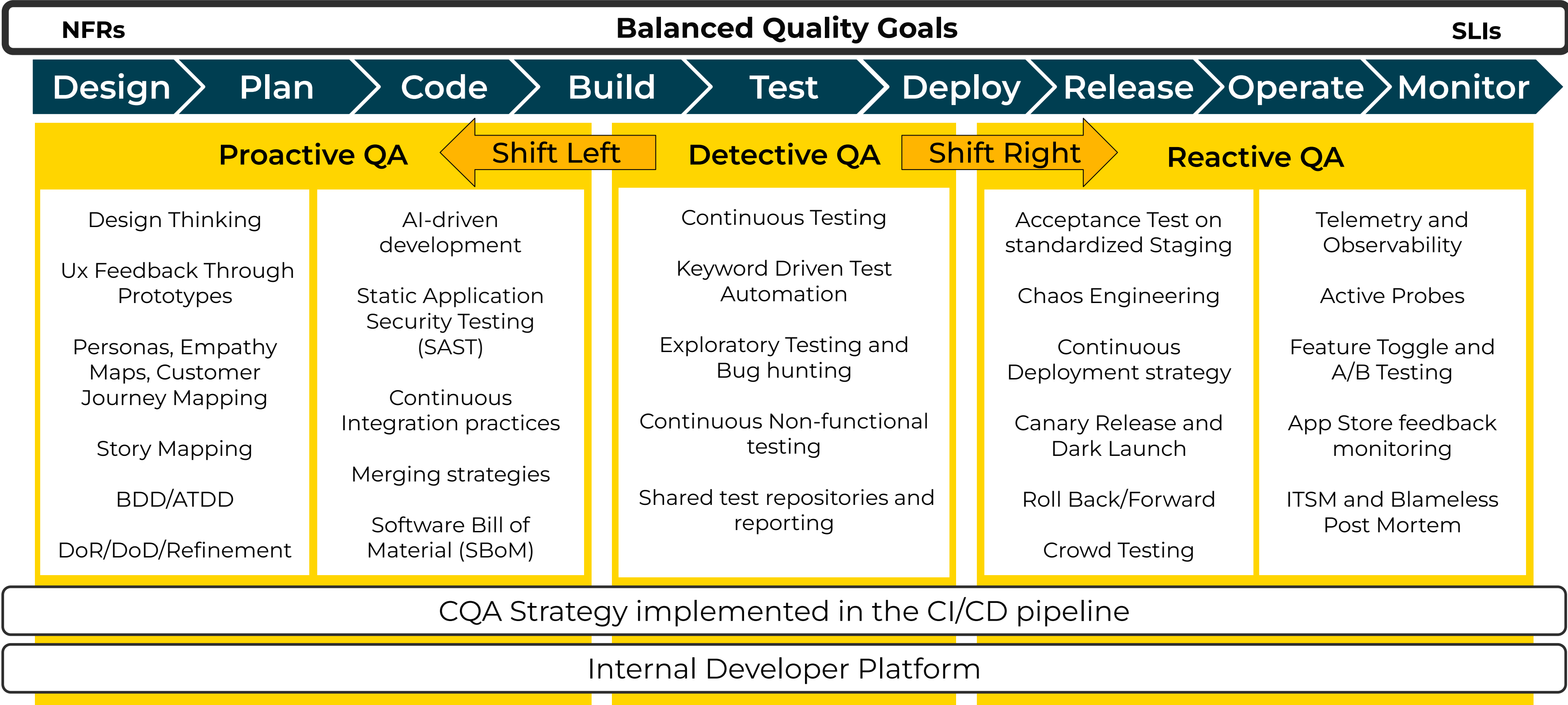
developed in the 1980s by [Noriaki Kano](#),

# Balanced Quality Goals

<p><b>USER FRIENDLINESS</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Usability Aspect: Will users find the product convenient and easy to work with? But more important: will they enjoy it?</p> <p>▼ +</p>	<p><b>TESTABILITY</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Maintainability Aspect: Everything and anything that impacts how easy or hard your testing efforts are.</p> <p>▼ +</p>	<p><b>STRUCTURE</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Reliability Aspect: The architecture, technologies used, different programming languages and duplicated code.</p> <p>▼ +</p>	<p><b>STABILITY</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Reliability Aspect: Is your product going down every 15 minutes? What could be the root cause?</p> <p>▼ +</p>	<p><b>SECURITY AND PERMISSION</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Reliability Aspect: Watch Dogs, cameras, user credentials, firearms or alarm systems. What's keeping the bad guys out of, and away from your app?</p> <p>▼ +</p>
<p><b>SCALABILITY</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Efficiency Aspect: Hardware is cheap these days. Just enter your credit card and there you go. How much hardware can you juggle?</p> <p>▼ +</p>	<p><b>SAFE-GUARD</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Security Aspect: What's keeping the bad guys out?</p> <p>▼ +</p>	<p><b>RESOURCE MANAGEMENT</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Efficiency Aspect: How does your app handle resources? ? Can they be reduced?</p> <p>▼ +</p>	<p><b>PERFORMANCE</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Efficiency Aspect: How well can your app execute the commands it's been given? How about many commands all at once?</p> <p>▼ +</p>	<p><b>OPERATIONS</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Maintainability Aspect: How easy or hard is it to rectify a problem in production after the product is released?</p> <p>▼ +</p>
<p><b>OBSERVABILITY</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Controllability Aspect: How well can you see what's actually going on within the product? Can you answer new questions without deploying code?</p> <p>▼ +</p>	<p><b>INTERNATIONALIZATION</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Usability Aspect: Currency, time zone, language, right-to-left... Can you use your application anywhere in the world?</p> <p>▼ +</p>	<p><b>INSTALLABILITY</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Portability Aspect: All the factors that matter during the installation process of your app.</p> <p>▼ +</p>	<p><b>IMPARTIALITY</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Functionality Aspect: Software built by humans imitates the social structures that are considered 'normal' by those humans. This includes their biases, favouritism &amp; prejudices.</p> <p>▼ +</p>	<p><b>FUNCTIONALITY</b> <span>QA</span></p> <p>QUALITY ASPECTS</p> <p>Functionality Aspect: The user needs to be able to do X, so we test it. What could go wrong?</p> <p>▼ +</p>



# Add Quality goals by Product Management



Agile Practices = Built in Quality

Automation = Fast Feedback

Transparency = Trust



# Three pillar Balanced Quality model

NFRs Balanced Quality Goals SLIs



Proactive QA		Shift Left	Detective QA	Shift Right	Reactive QA
Design Thinking	AI-driven development		Continuous Testing	Acceptance Test on standardized Staging	Telemetry and Observability
Ux Feedback Through Prototypes	Static Application Security Testing (SAST)		Keyword Driven Test Automation	Chaos Engineering	Active Probes
Personas, Empathy Maps, Customer Journey Mapping	Continuous Integration practices		Exploratory Testing and Bug hunting	Continuous Deployment strategy	Feature Toggle and A/B Testing
Story Mapping	Merging strategies		Continuous Non-functional testing	Canary Release and Dark Launch	App Store feedback monitoring
BDD/ATDD	Software Bill of Material (SBoM)		Shared test repositories and reporting	Roll Back/Forward	ITSM and Blameless Post Mortem
DoR/DoD/Refinement				Crowd Testing	

CQA Strategy implemented in the CI/CD pipeline

Internal Developer Platform

Agile Practices = Built in Quality

Automation = Fast Feedback

Transparency = Trust

# Summary

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**Continuous Testing is important however...**

**...Quality shall be handled on the Left and Right, with a balance**

**Internal Development Platform is your foundation to build on**

**Leadership to set Balanced Quality goals and follow it up**

**DevOps needs even more Quality**





# Questions?

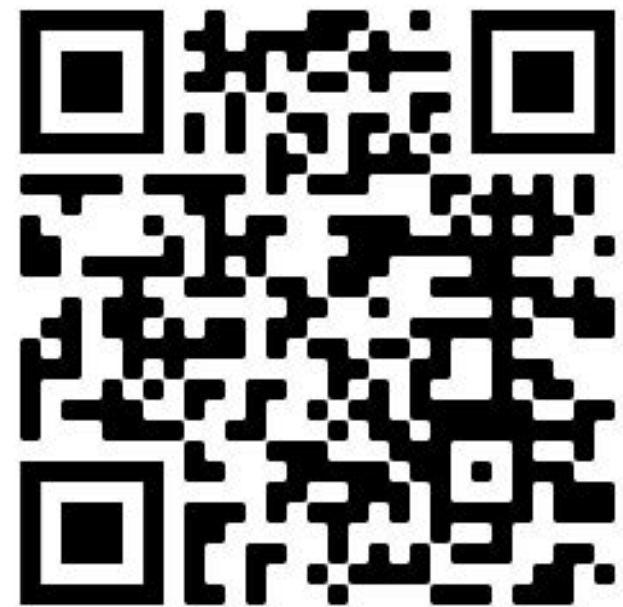


# Thank you

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