eficode

TESTING ASSEMBLY

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

...Proactive QA, Detective QA and Reactive QA

Szilard Szell - *DevOps Transformation Lead - 27.11.2024*
www.eficode.com

Szilárd
Széll

- ✓ 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

eficode

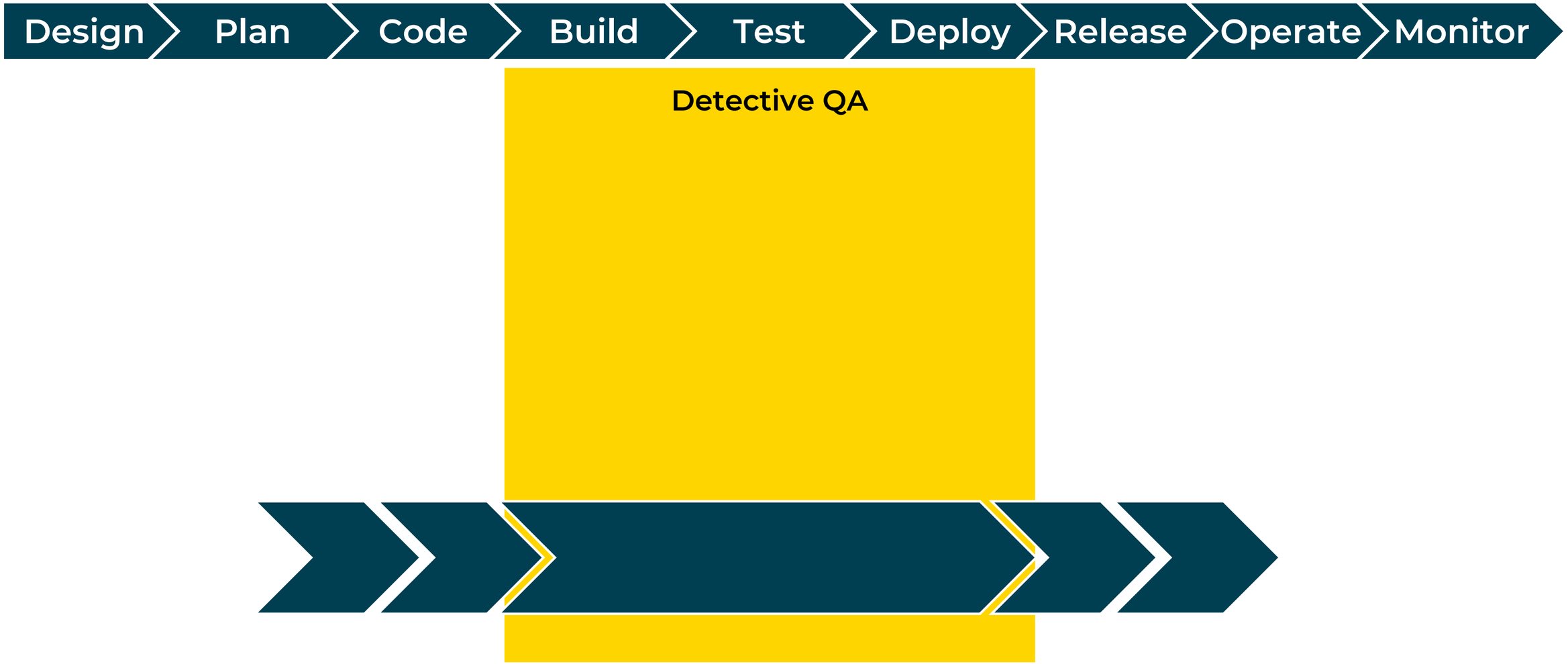
The three ways of DevOps and Quality

1. The First Way: The Principles of Flow

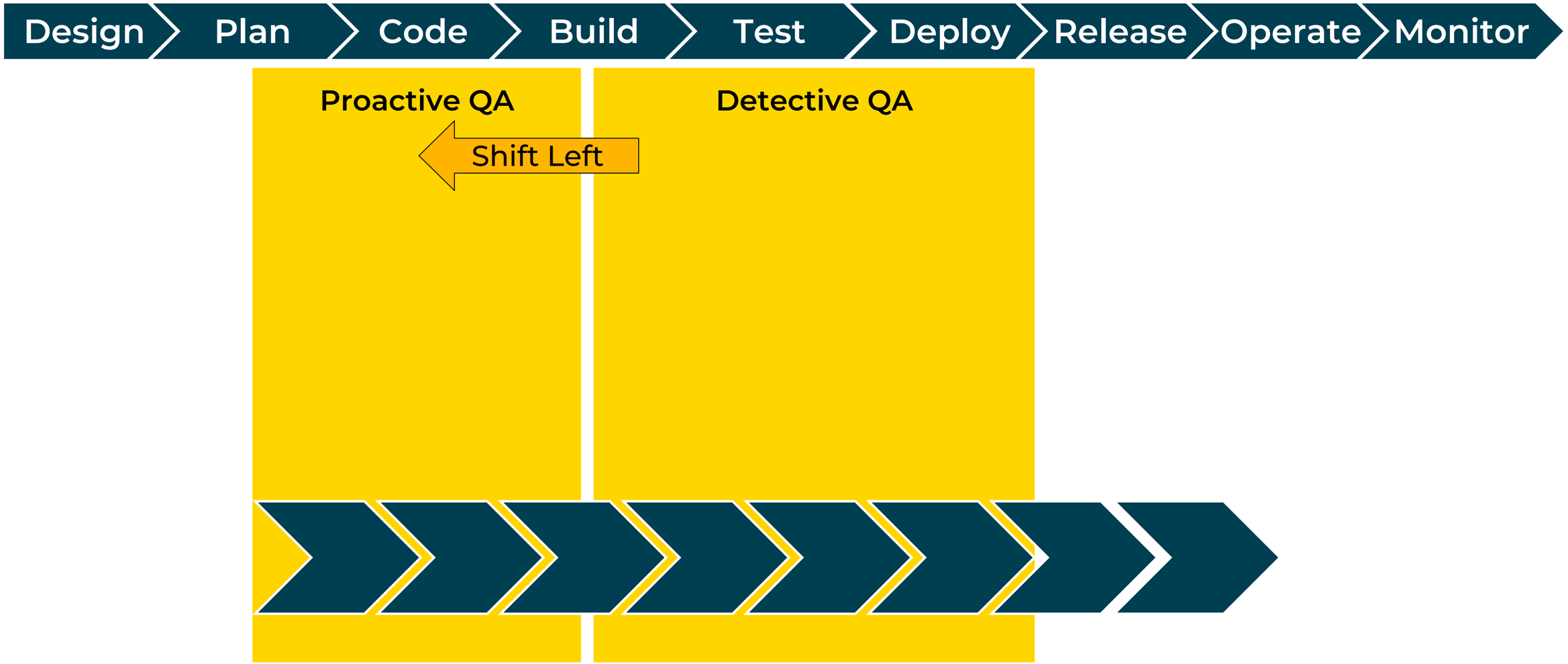
“Being able to take needless work out of the system is more important than being able to put more work into the system.”

Gene Kim

More testing slows down the flow



Automation and Shift Left for faster flow

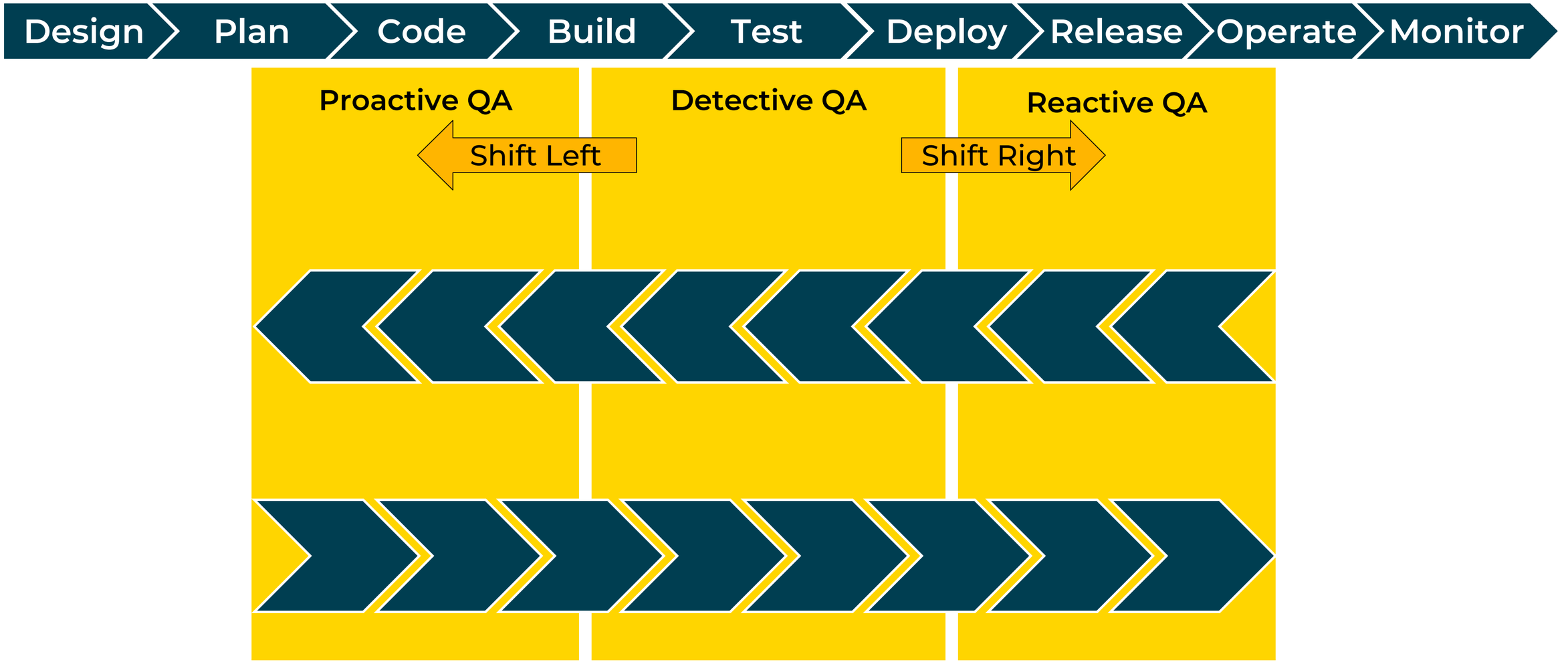


2. The Second Way: The Principles of Feedback

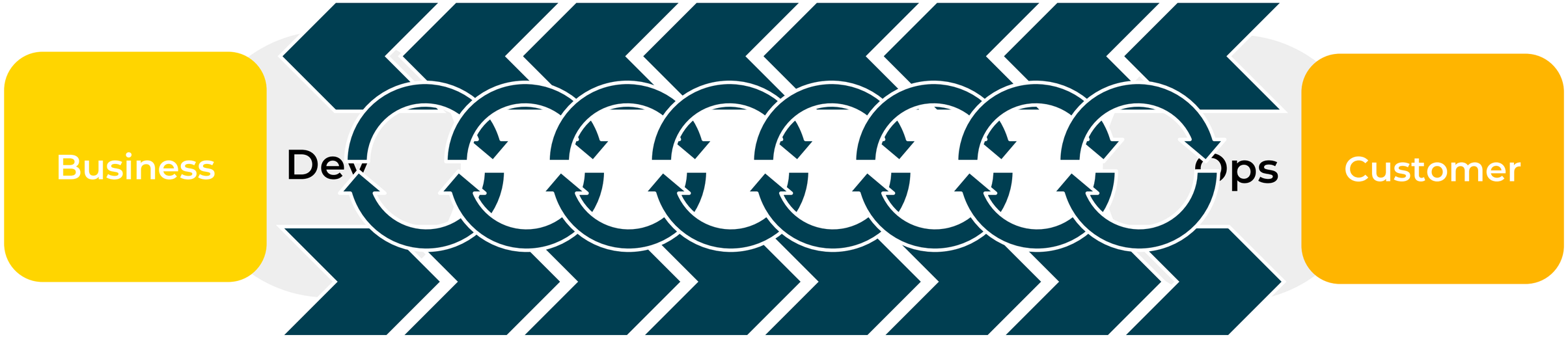
“Improving daily work is even more important than doing daily work.”

Gene Kim

Shift Right to amplify Feedback



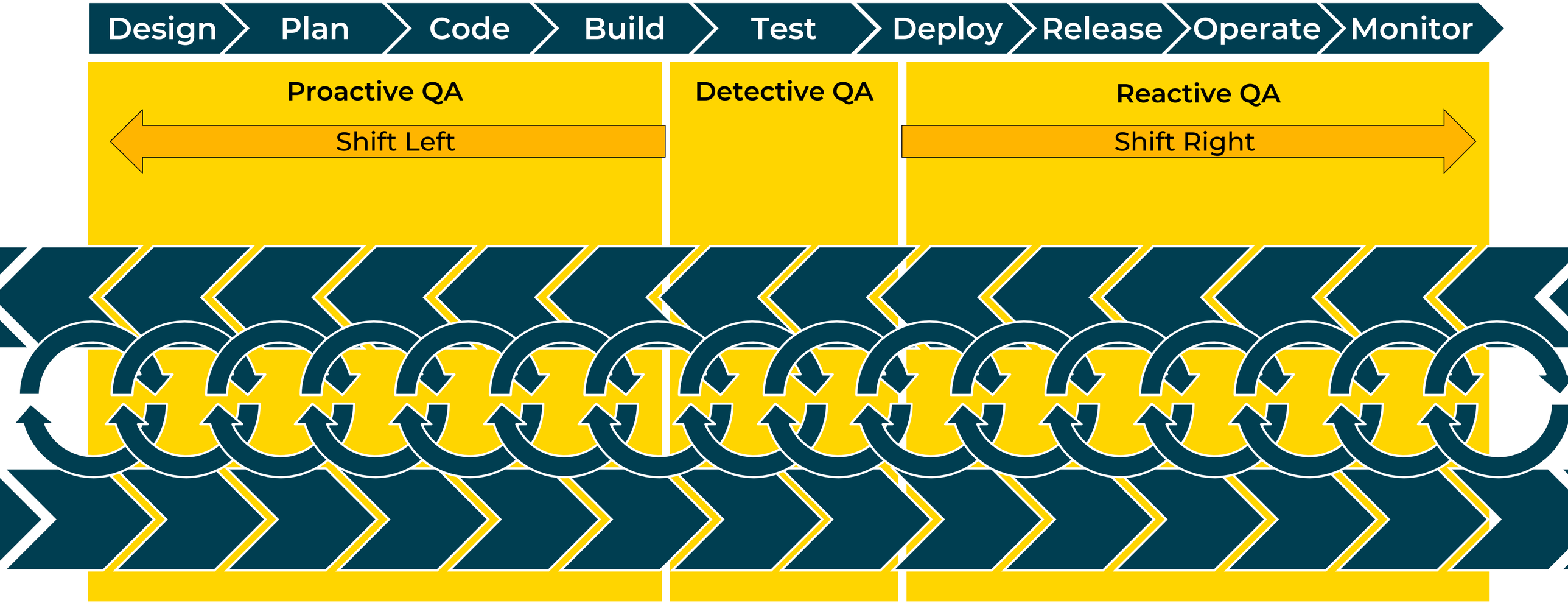
3. The Third Way: The Principles of Continual Learning and Experimentation



“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



eficode

Quality Transformation

Quality transformation

Where you want to be

Where most companies focus

Where you want to be

Shift Left

Shift Right

Proactive QA

Detective QA

Reactive QA

Design → Plan → Code → Build → Test → Deploy → Release → Operate → Monitor

When designing:

Understanding user needs well.

Writing development requirements based as tests.

When coding:

Using AI-driven development to avoid human error.

Continuous Integration practices to release and test small increments.

When testing:

Using automated tests and best practices like shared test repositories and reporting standards.

When releasing:

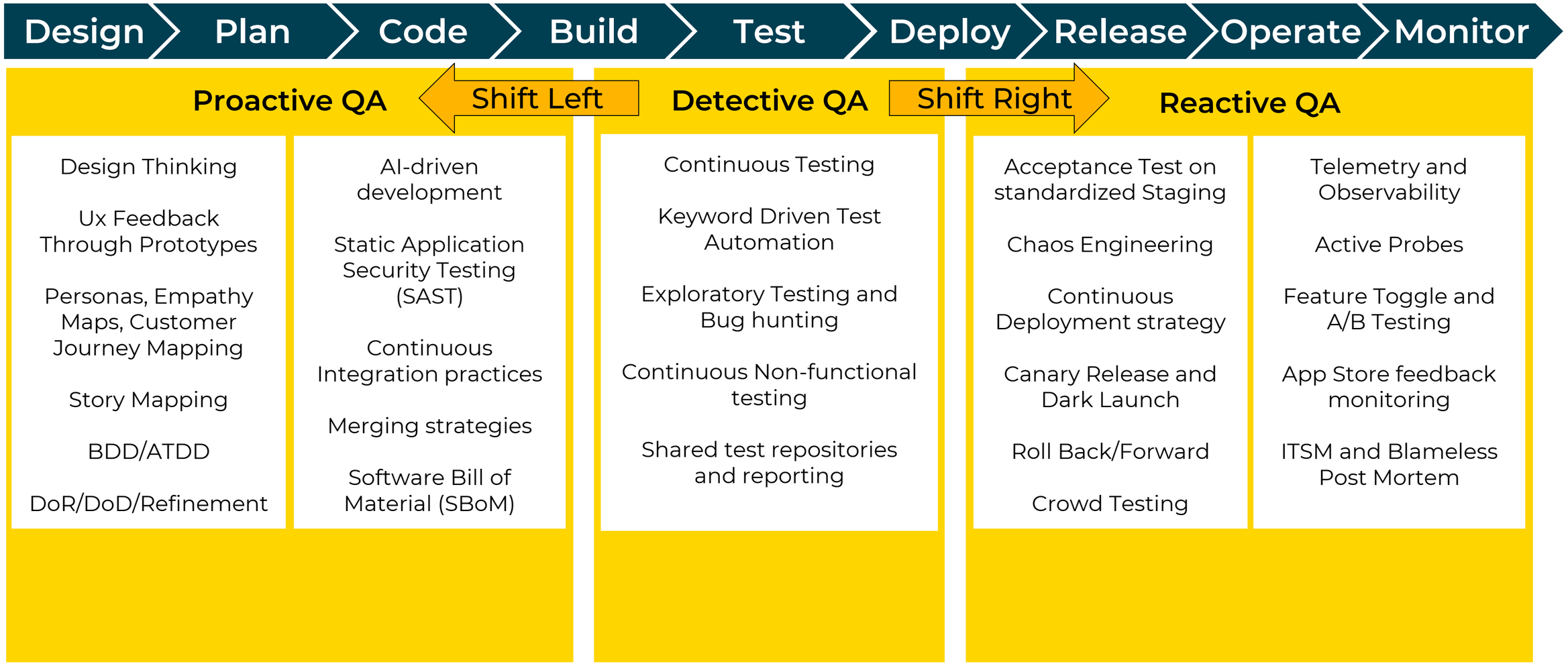
Getting acceptance testing and early user feedback through pilots and crowd testing

Prepared for plan A/B/C

When operating:

Monitoring the data, getting feedback, and finding improvement possibilities.

Adding all practices. Are we there yet?



Agile Practices = Built in Quality

Automation = Fast Feedback

Transparency = Trust

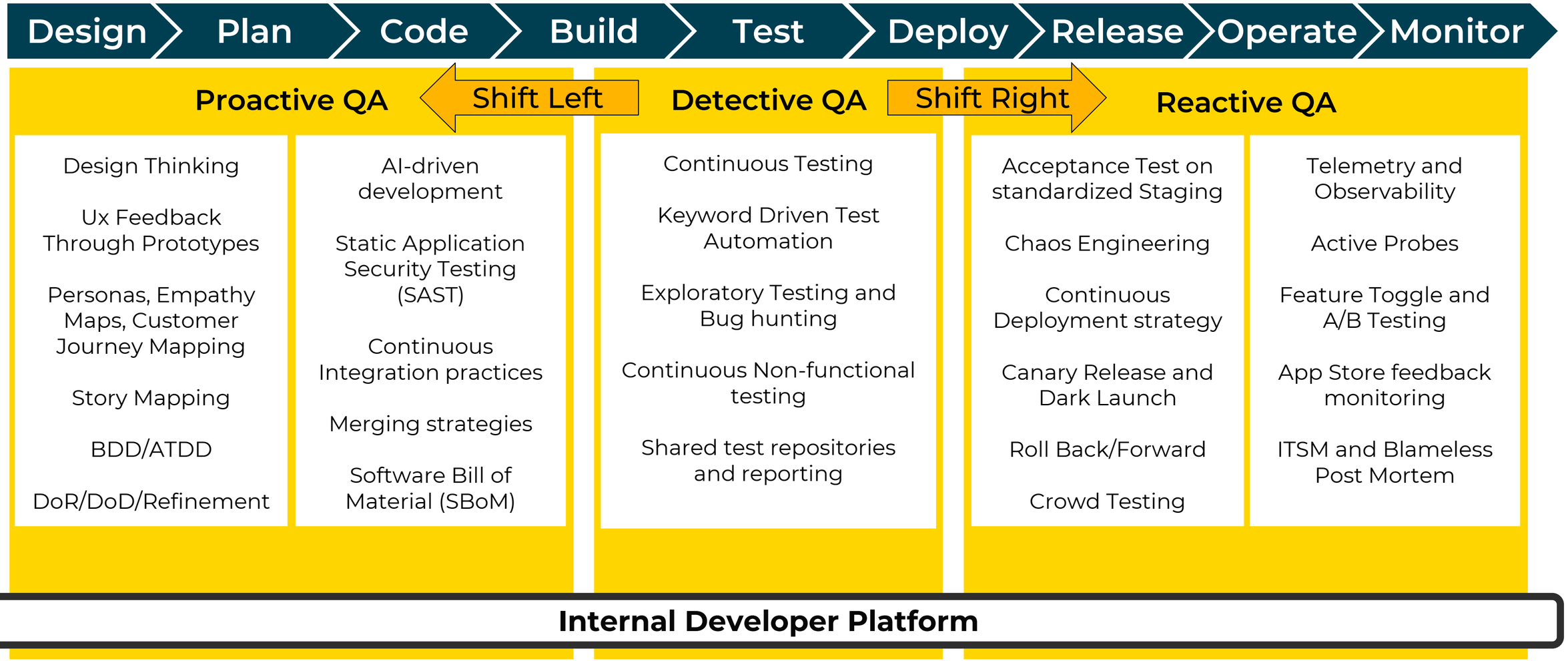
Internal Developer Platform

eficode

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

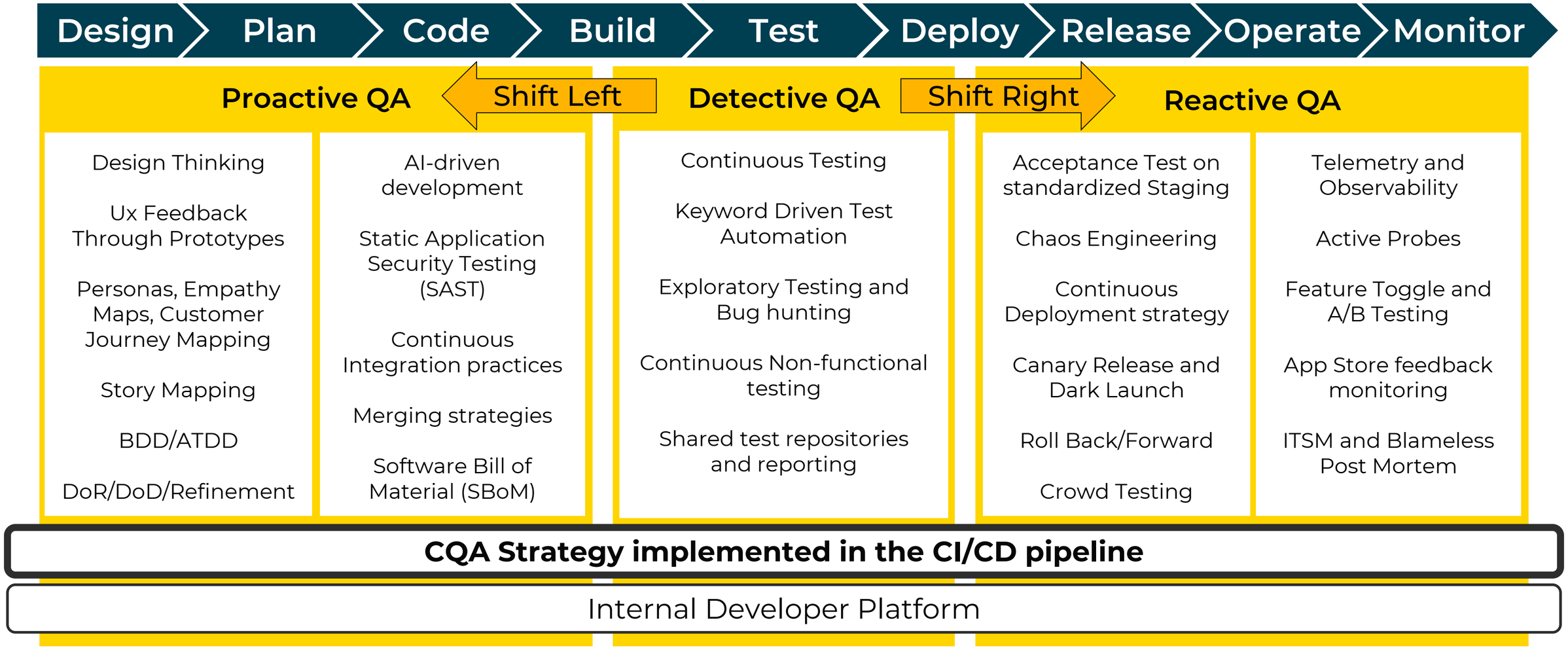
Evan Bottcher
Head of Engineering at Thoughtworks

Platform engineering for efficiency

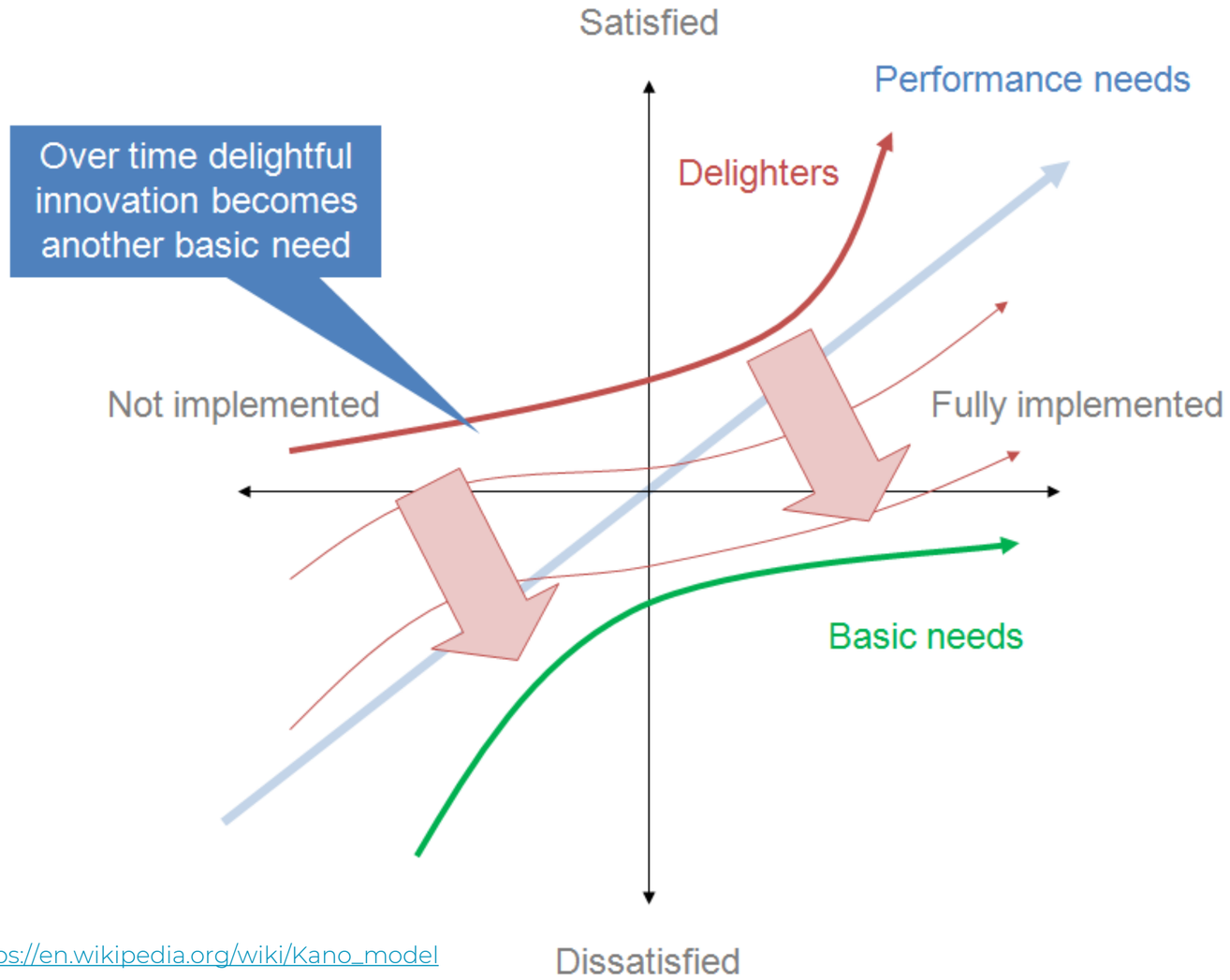


Collaborate on CQA Strategy as pipeline

Continuous QA Strategy as pipeline



Product development and customer satisfaction - the KANO model



Must-be Quality

One-dimensional Quality

Attractive Quality

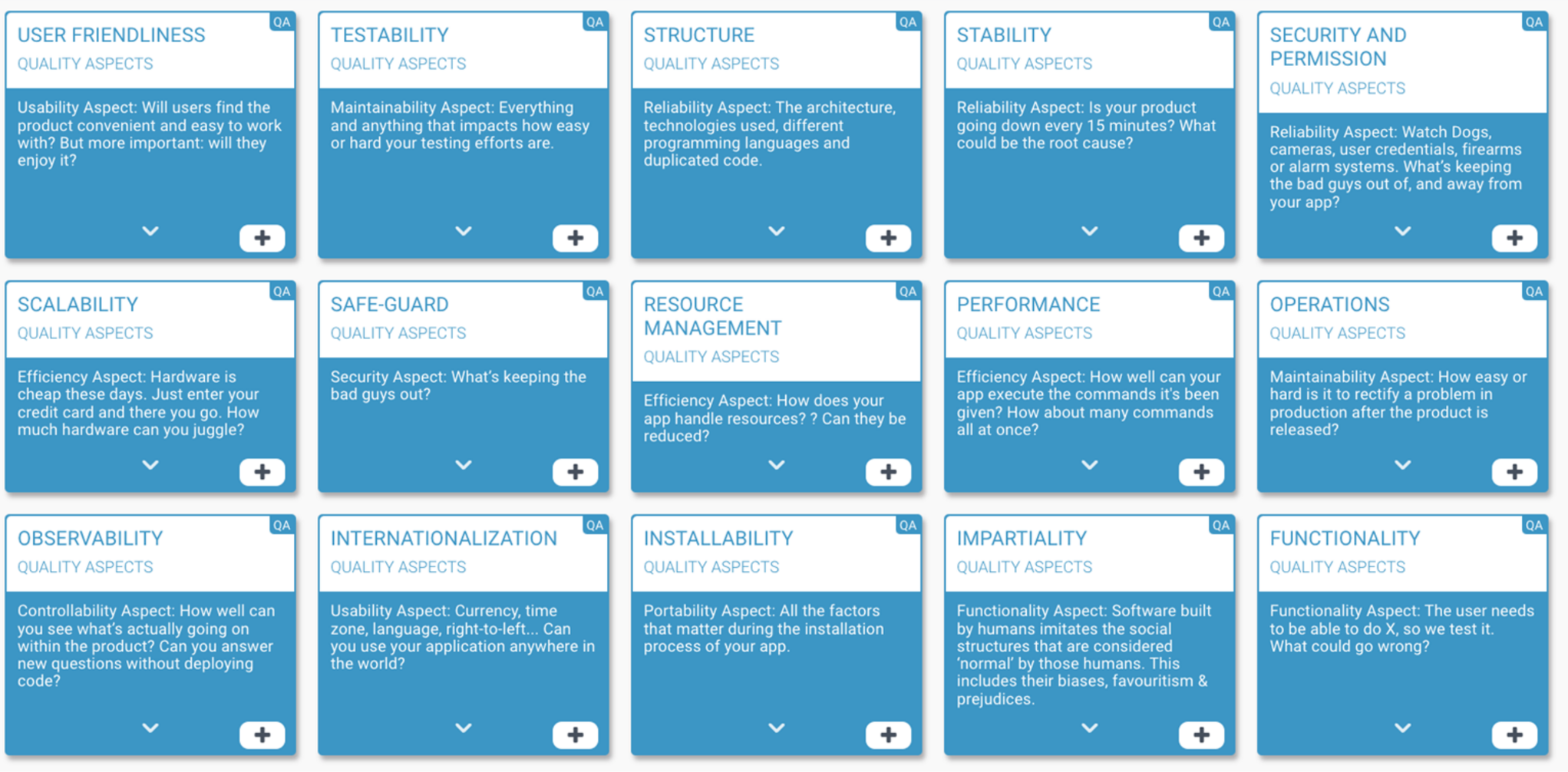
Indifferent Quality

Reverse Quality

https://en.wikipedia.org/wiki/Kano_model

developed in the 1980s by Noriaki Kano,

Balanced Quality Goals



https://app.riskstormingonline.com/

Add Quality goals by Product Management

eficode

NFRs — **Balanced Quality Goals** — **SLIs**

Design → Plan → Code → Build → Test → Deploy → Release → Operate → Monitor

Shift Left ← | → Shift Right

Proactive QA

- Design Thinking
- Ux Feedback Through Prototypes
- Personas, Empathy Maps, Customer Journey Mapping
- Story Mapping
- BDD/ATDD
- DoR/DoD/Refinement
- AI-driven development
- Static Application Security Testing (SAST)
- Continuous Integration practices
- Merging strategies
- Software Bill of Material (SBoM)

Detective QA

- Continuous Testing
- Keyword Driven Test Automation
- Exploratory Testing and Bug hunting
- Continuous Non-functional testing
- Shared test repositories and reporting

Reactive QA

- Acceptance Test on standardized Staging
- Chaos Engineering
- Continuous Deployment strategy
- Canary Release and Dark Launch
- Roll Back/Forward
- Crowd Testing
- Telemetry and Observability
- Active Probes
- Feature Toggle and A/B Testing
- App Store feedback monitoring
- ITSM and Blameless Post Mortem

CQA Strategy implemented in the CI/CD pipeline

Internal Developer Platform

Agile Practices = Built in Quality

Automation = Fast Feedback

Transparency = Trust

Three pillar Balanced Quality model

eficode

NFRs — Balanced Quality Goals — SLIs

Design → Plan → Code → Build → Test → Deploy → Release → Operate → Monitor

Shift Left ← Shift Right

Proactive QA		Detective QA	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

eficode

Nice, but how to apply?

Example – User Friendliness

NFRs — Balanced Quality Goals — SLIs

Design → Plan → Code → Build → Test → Deploy → Release → Operate → Monitor

Shift Left ← | → Shift Right

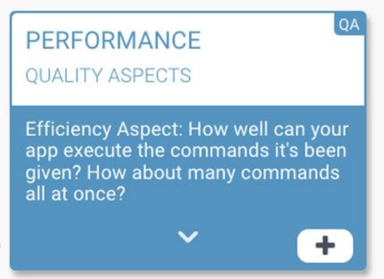
Proactive QA		Detective QA	Reactive QA	
Design Thinking	AI-driven development	Continuous Testing	Acceptance Test on standardized Staging	Telemetry and Observability
Ux Feedback Through Prototypes	Static Application Security Testing (SAST)	Keyword Driven Test Automation	Chaos Engineering	Active Probes
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

Example – performance



NFRs Balanced Quality Goals **SLIs**

Design → Plan → Code → Build → Test → Deploy → Release → Operate → Monitor

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

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

eficode

Questions?

Thank you

www.linkedin.com/in/szellszilard/

https://www.eficode.com/szilard-szell

For more info, visit www.eficode.com