Quality Engineering in DevOps

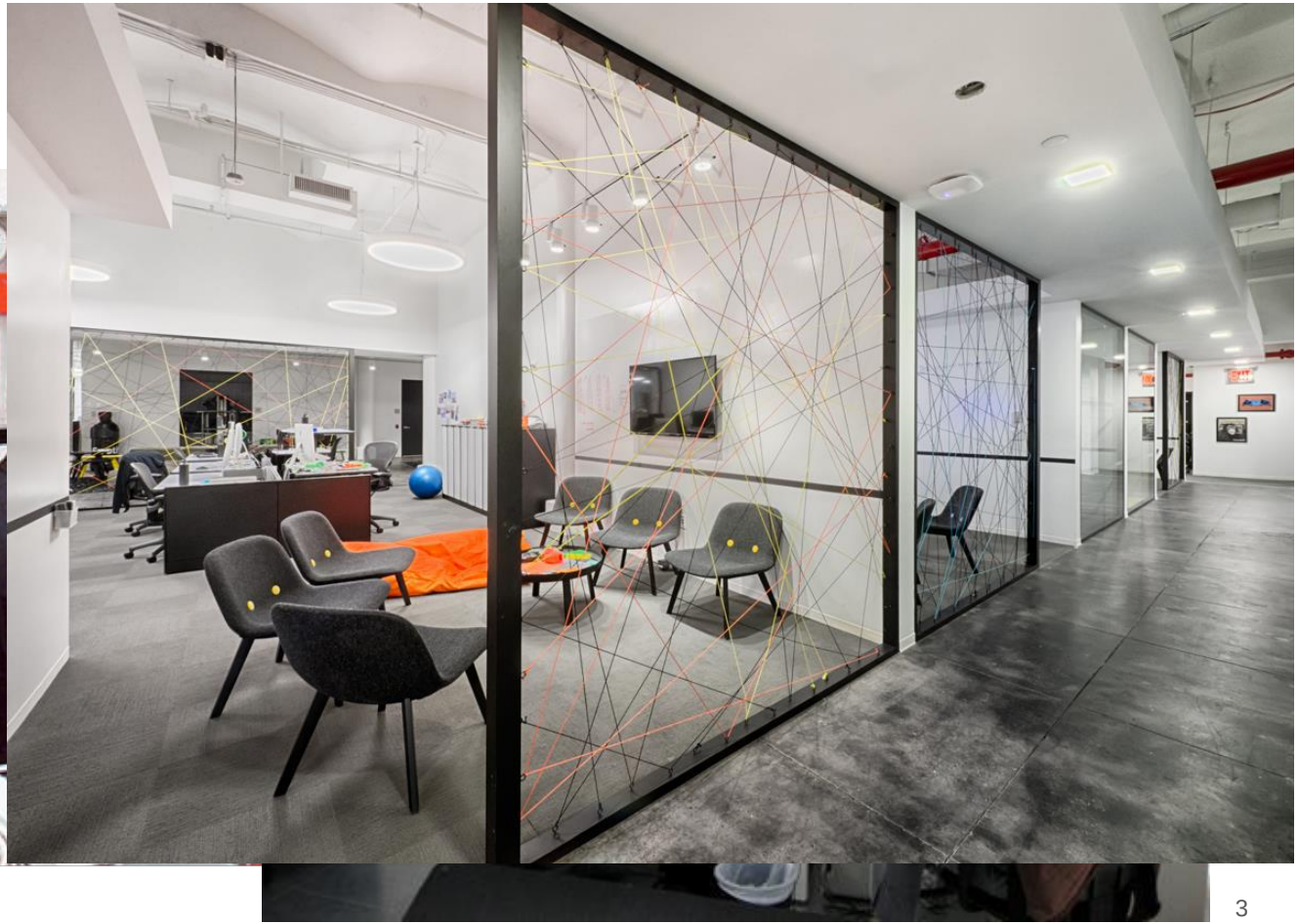
The new way of Testing

Geoffrey van der Tas
@Gavdtas

A long time ago in a galaxy far, far away....

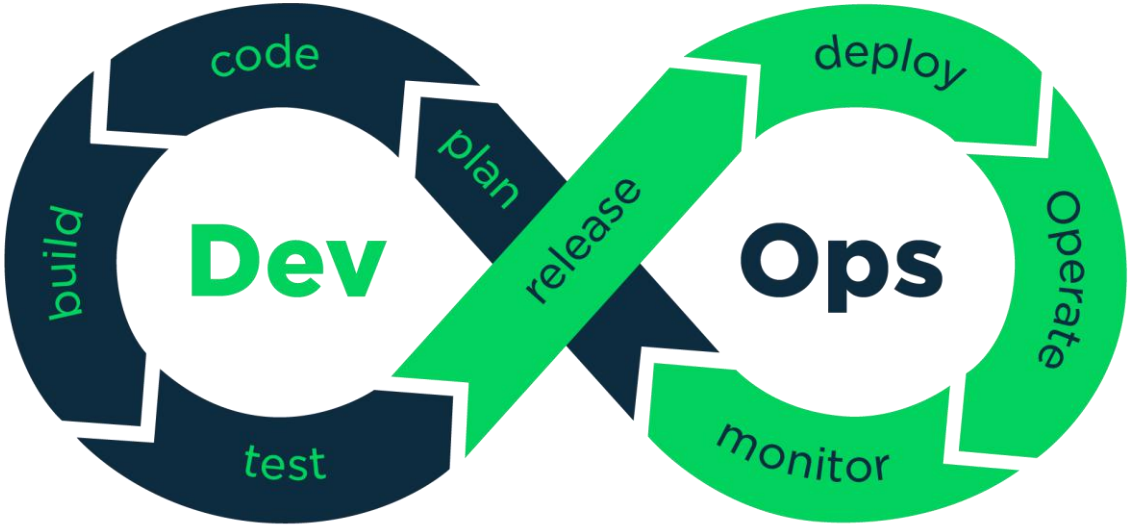
DevOps Time Period

A changing world



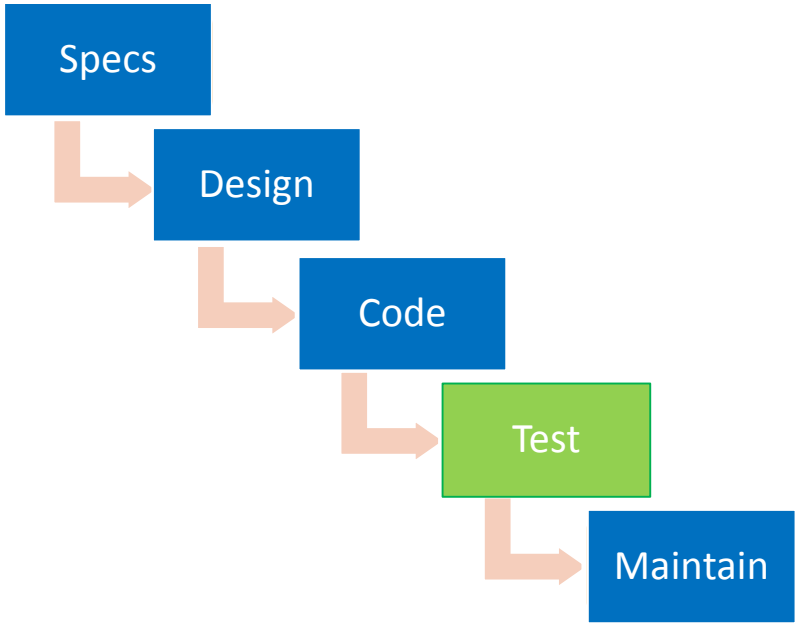
What is DevOps

- Its a mindset
- Multidisciplinair teams
- Build it, Ship it, Test it;

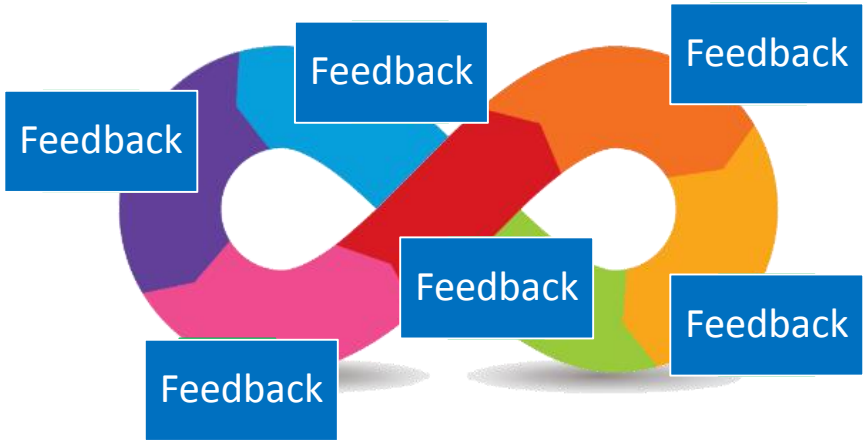


DevOps Time Period

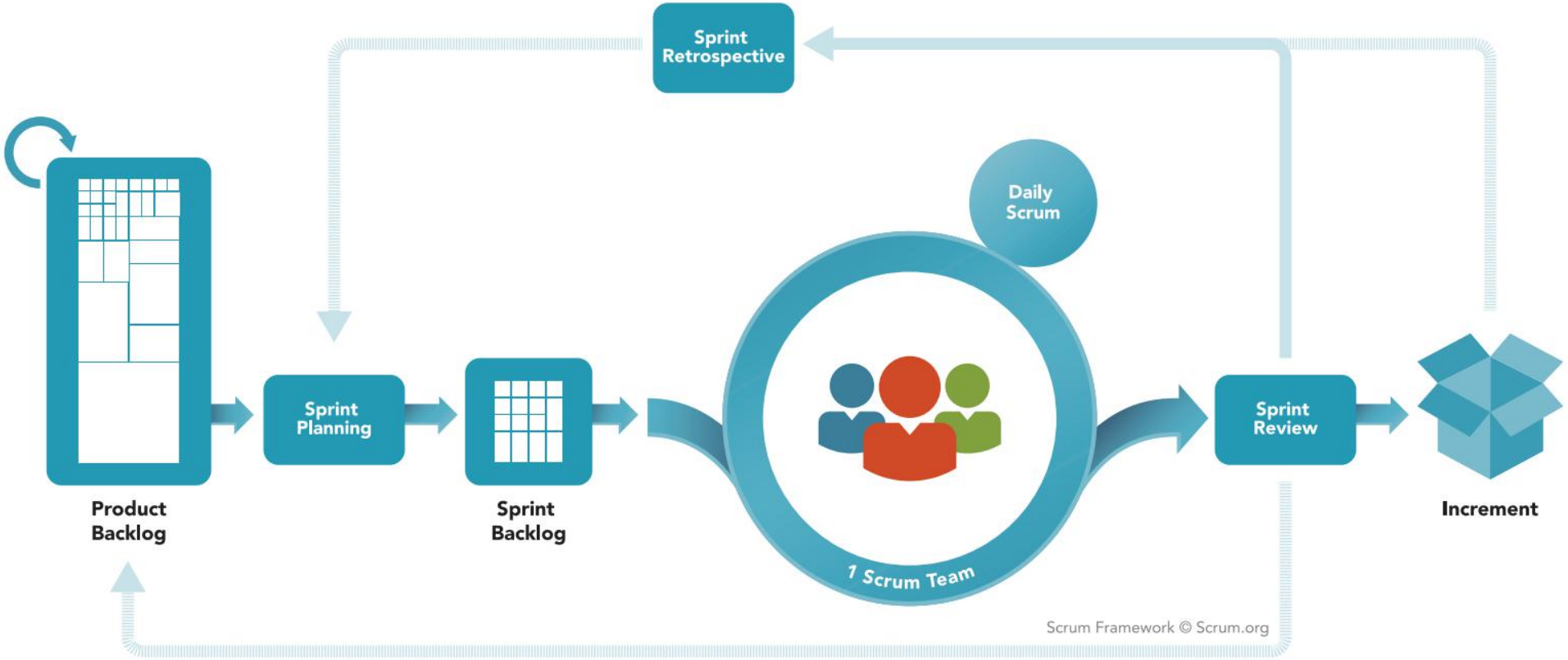
Waterfall



DevOps



DevOps Time Period



Definition of Testing

Old

“Independent judgement about the quality of the testobject”

New

“Means of getting fast feedback on your product”

DevOps Time Period

From Assurance towards Engineering

“Quality Engineering is the management, development, operation and maintenance of IT systems and enterprise architectures with a high quality standard.” - New Perspectives on Software Quality by Ruth Breu; Annie Kuntzmann-Combelles; Michael Felderer (January–February 2014).

ORDINA

Quality Engineering

What needs to happen

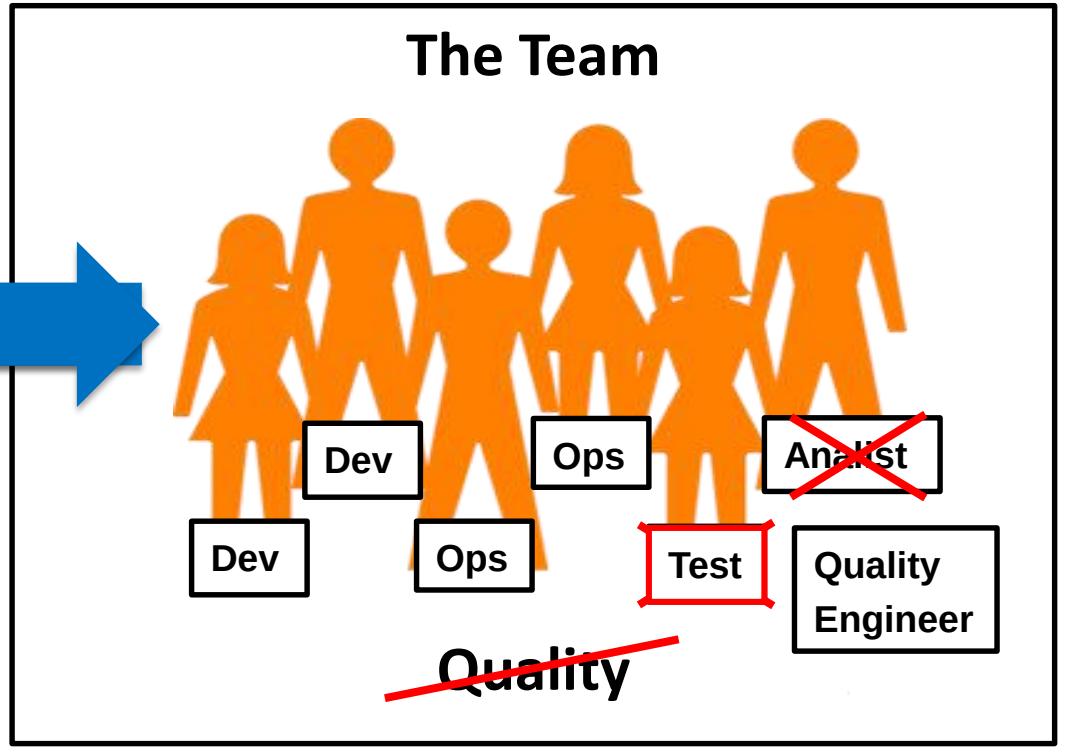
- Testers becoming Quality Engineers
- Quality from the start
- Automation, Automation, Automation
- Explore to test
- The Grand Tour

Testers becoming Quality Engineers

Testers becoming Quality Engineers

What is changing

Quality Assistant
Agile Test Coach



At other companies

Quality Engineering at Spotify

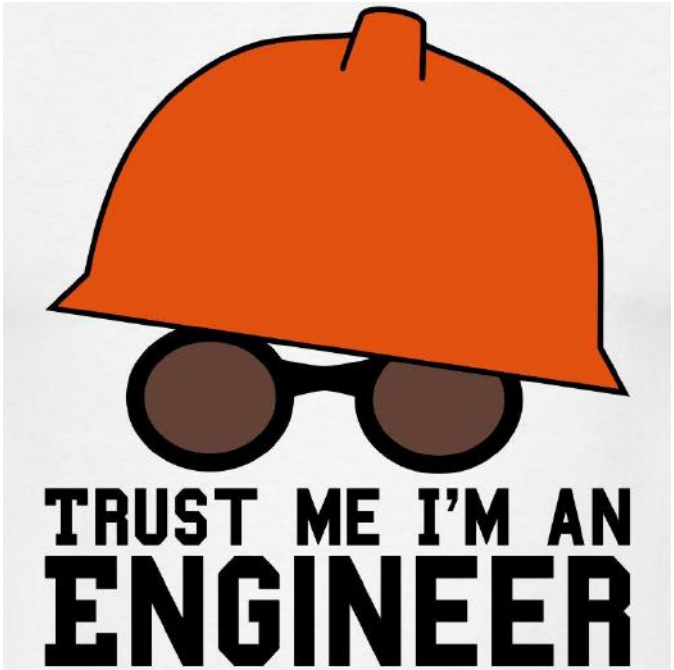
“The Quality Engineer will help developers and teams cultivate a quality mindset, advocating for quality while assisting engineers with software development and test automation best practices.”

Quality Assistance at Atlassian

“They optimised the process by empowering and educating developers to test their own features to production quality standards.”

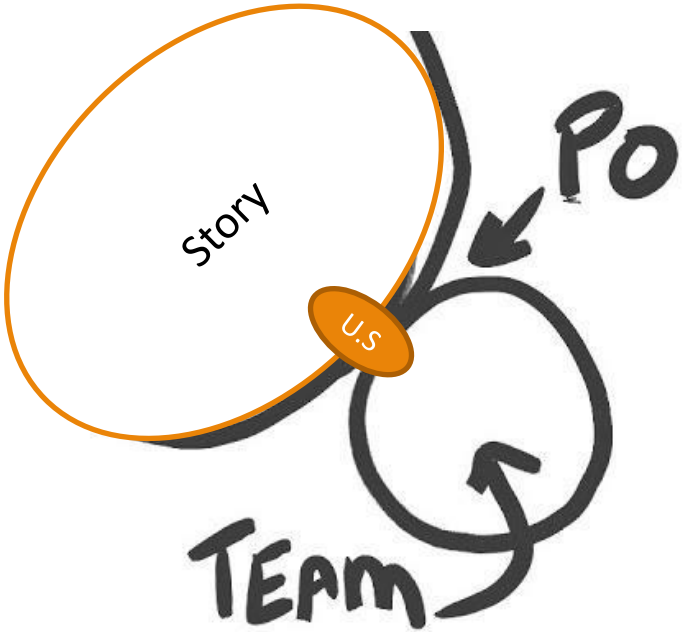
Quality Engineer

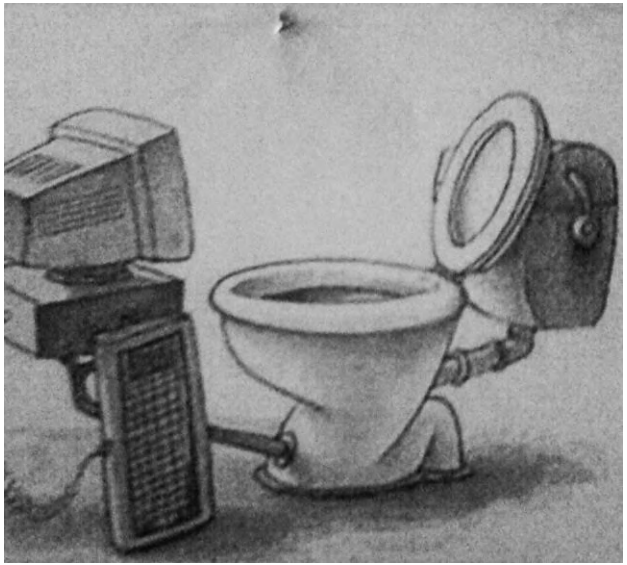
- Advocate for quality
- Actively coach developers/business
- Make testing part of Development Process
- Coordinate testing efforts
- Maintain test reporting and visualization
- Spot opportunities for (Test) Automation



Quality from the start

Backlog Items – Sprint Backlog Items

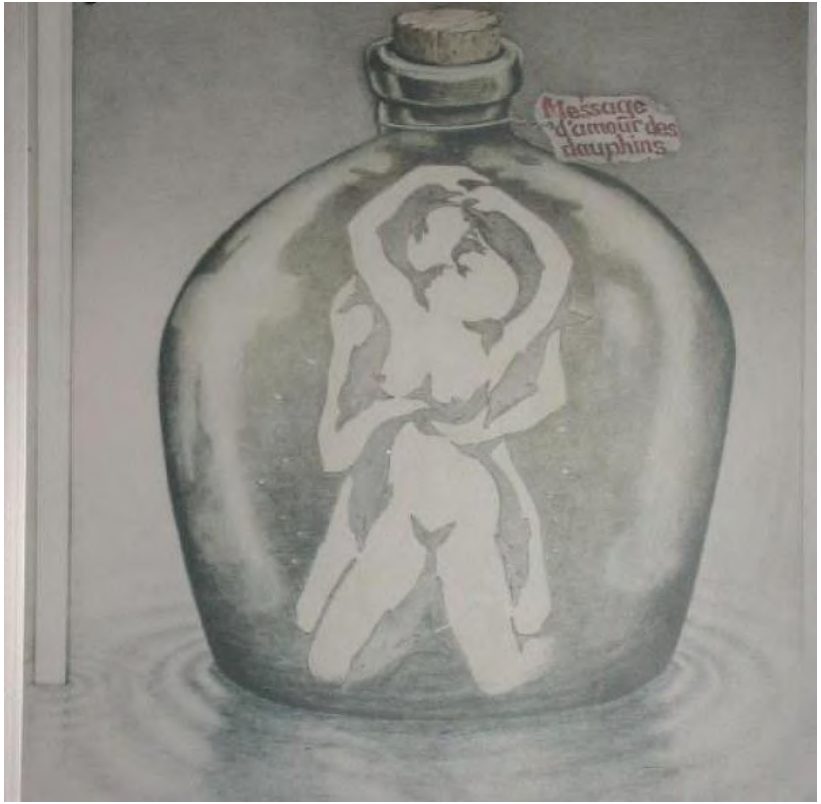




Crap in, Crap out

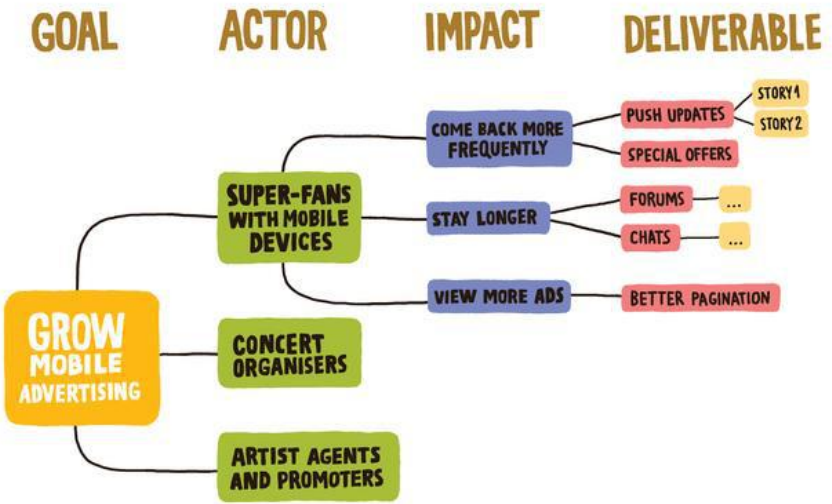
Tell the story

Quality from the start



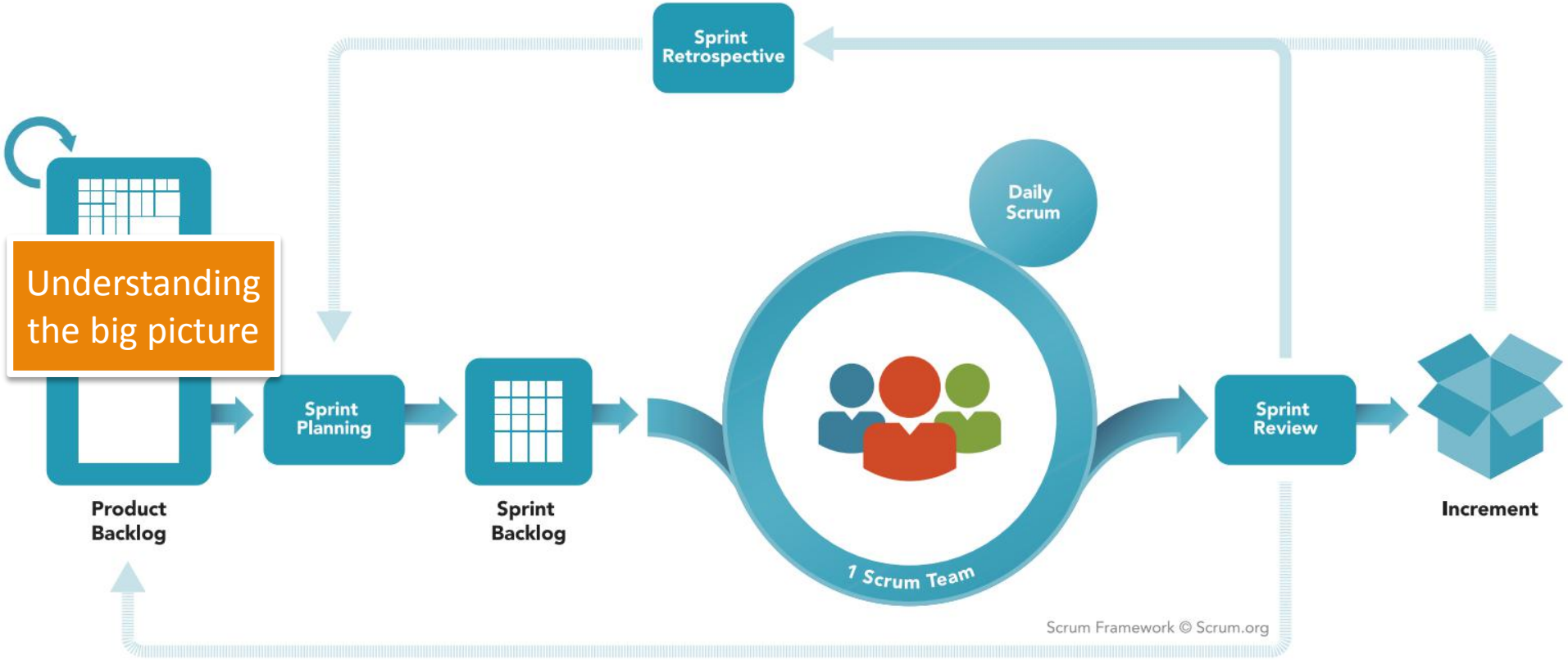
Techniques

Impact Mapping

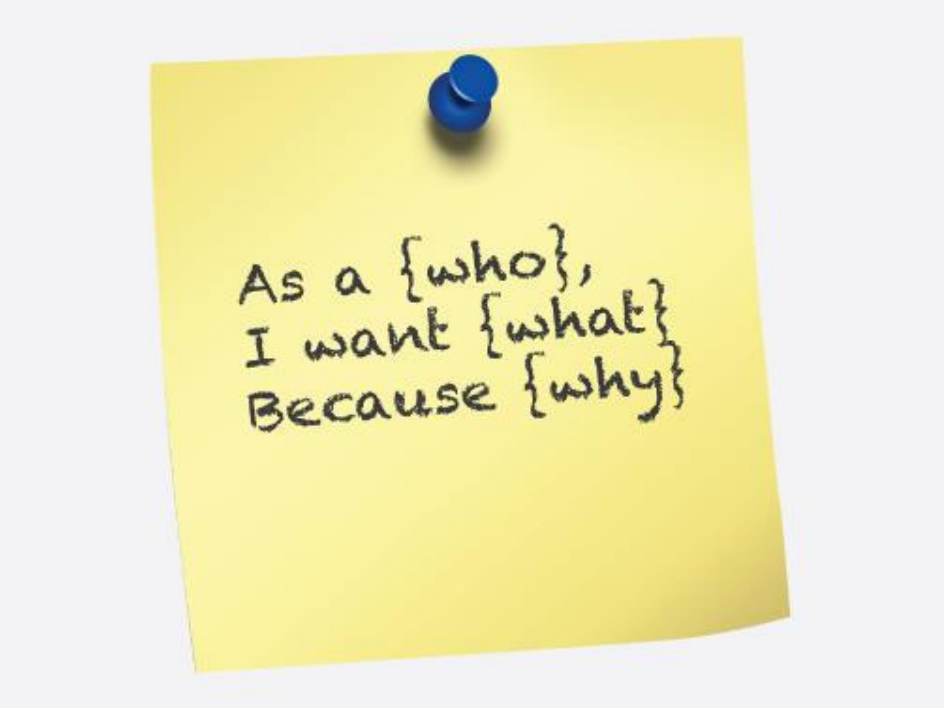


User Story Mapping

Quality Engineering in Scrum



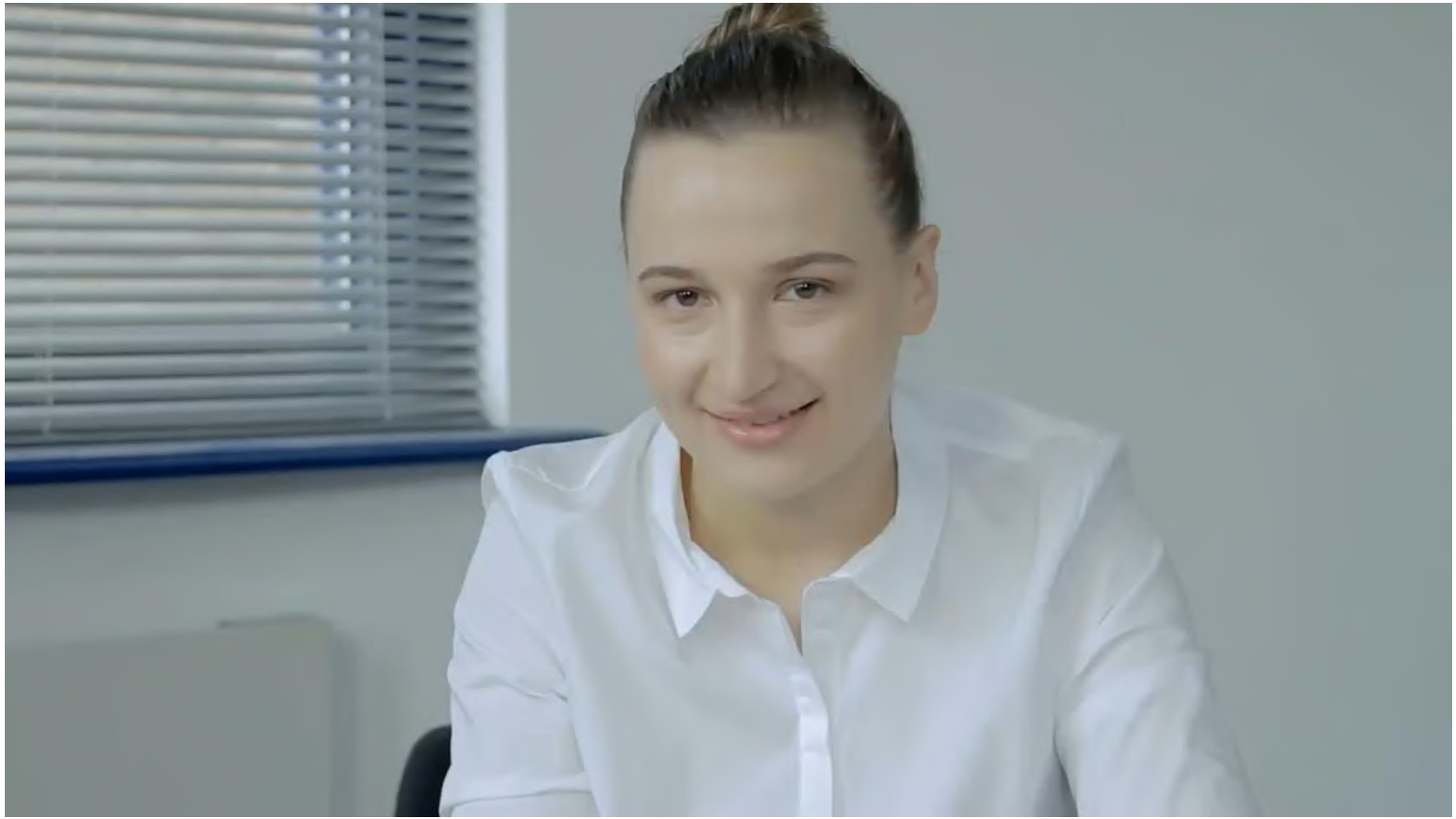
Big Picture to User Stories



Specifications:
Spec one
Spec two
…
Acceptance Criteria:
Criteria one
Criteria two
Criteria three
…..

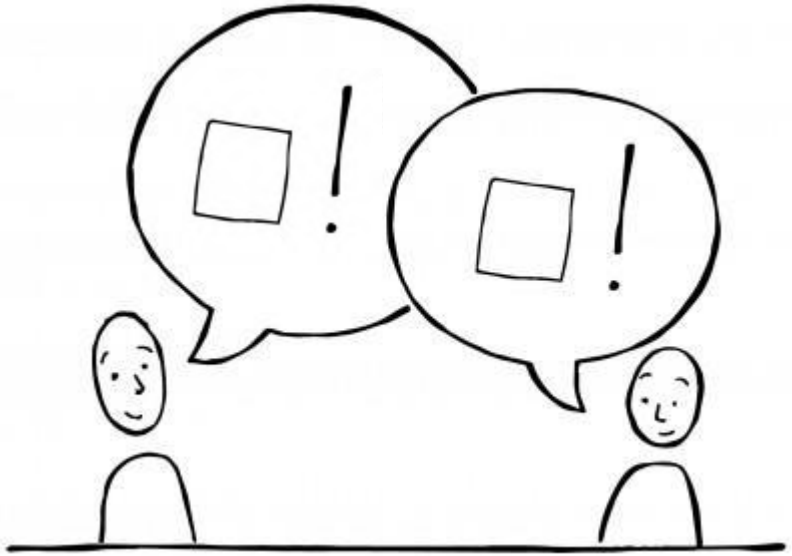
Communication

Quality from the start

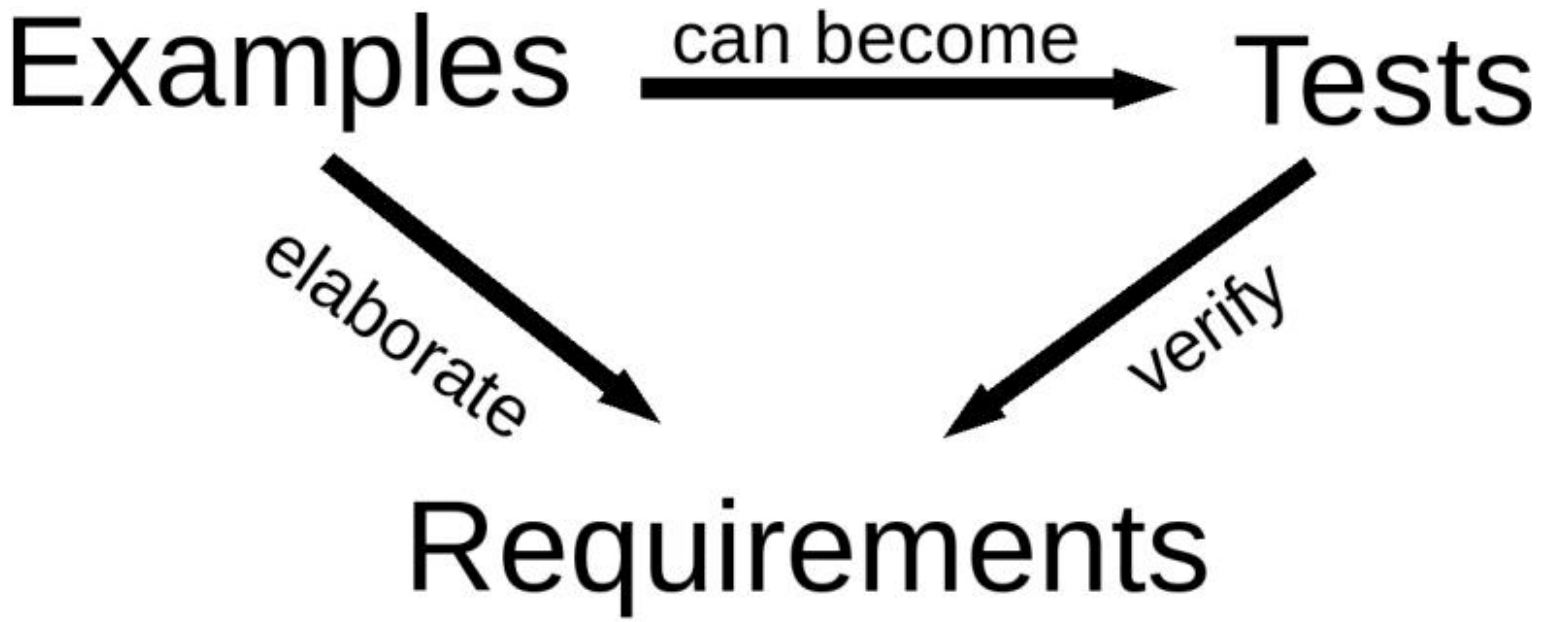


Shared understanding

- Shared vision, idea’s and alignment on what was discussed;



Refinements by examples



Specification By Example

User story: As an employee I want to find other employees so I can find more information about employees.

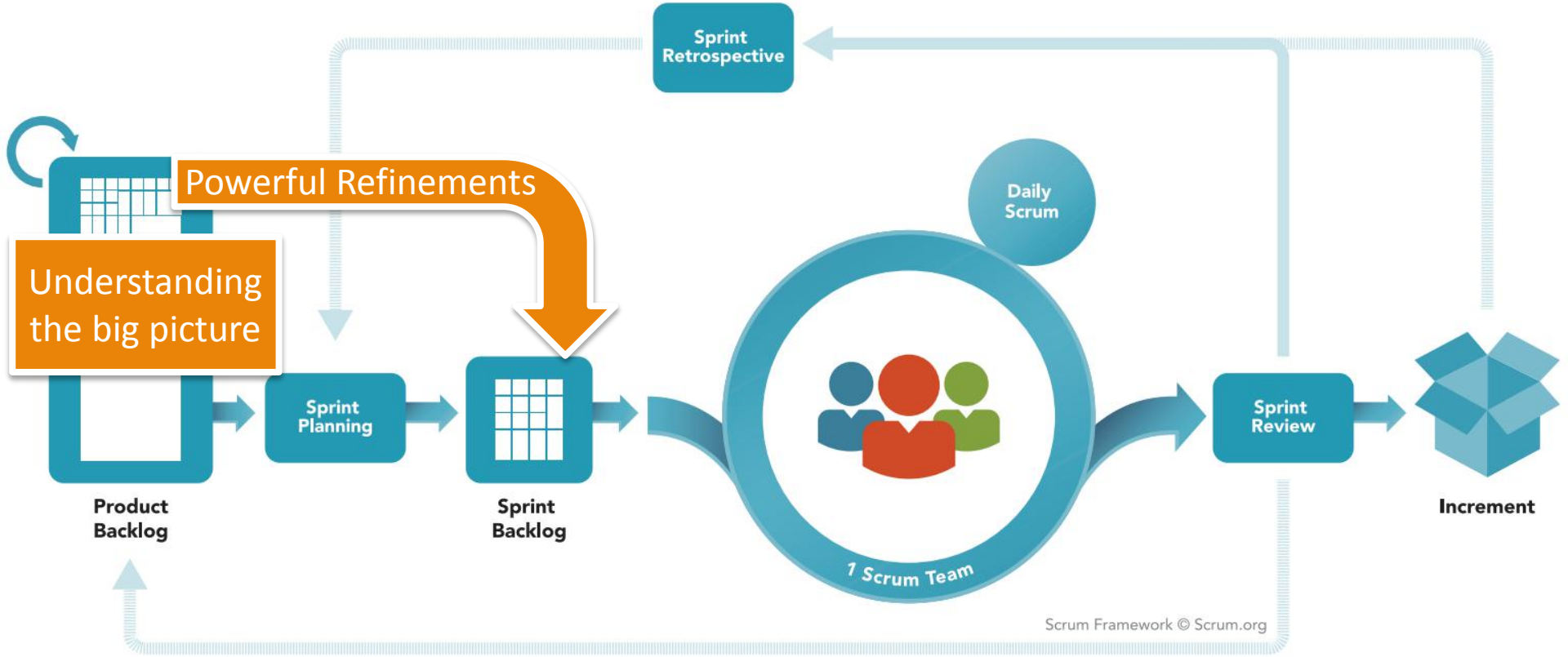
Example ATDD:

Search parameter	Result
Peter	Peter Janssen
Jan	Annie Jansen Jan van Buren Peter Janssen
Jans	Annie Jansen Peter Janssen
Bakkr	(geen)

Techniques

Story
Rule
Rule
Rule
Example
The one where...
Example
The one where...
Example
The one where...
Example
The one where...
Question
Question
Question

Quality Engineering in Scrum

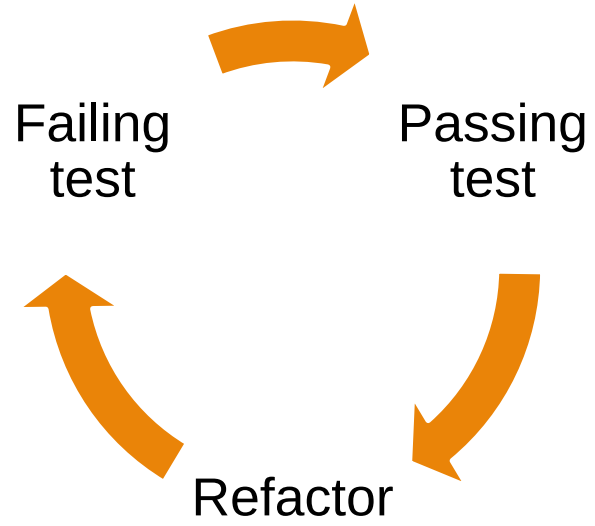


ATDD

Failing
Acceptance Test

Passing
Acceptance Test

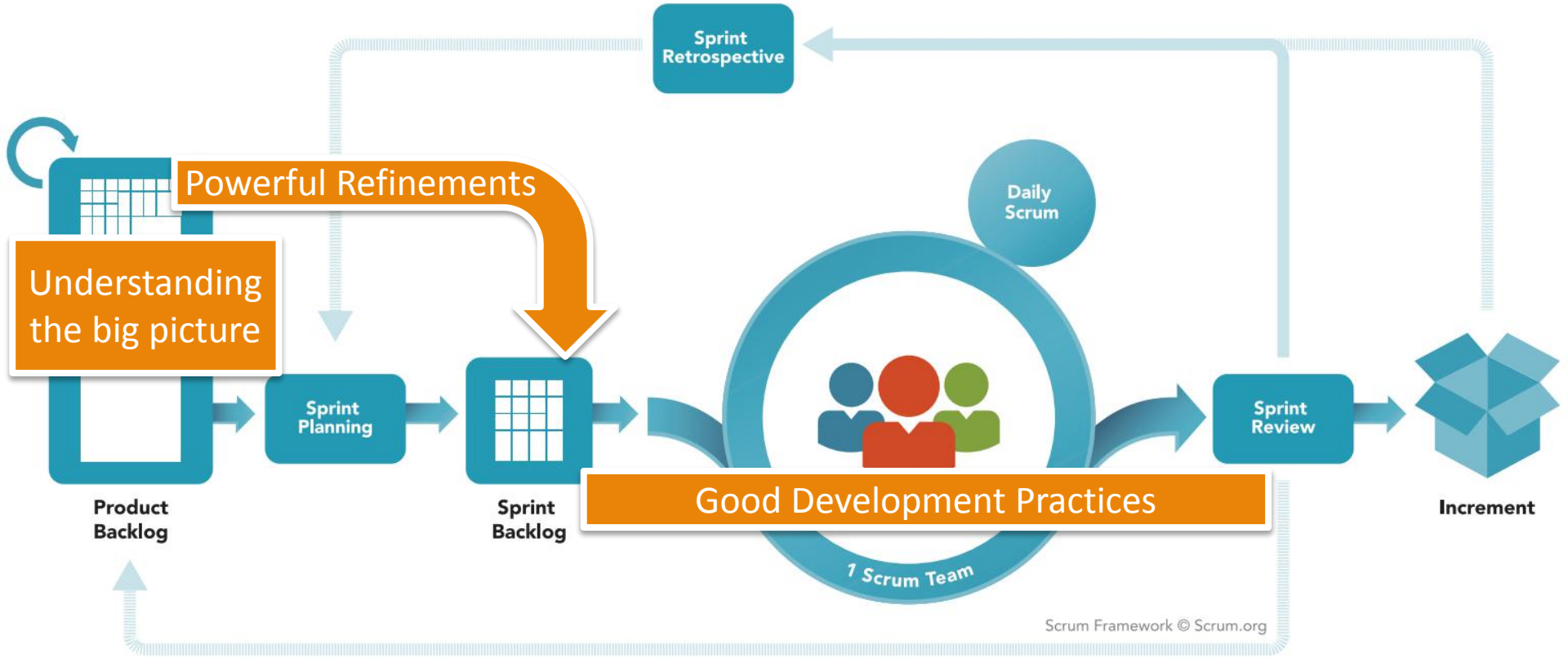
TDD



Quality First at ING

	Date/time	Result
Current features		
Advisor makes appointment	2017/10/05 *12:13:54*	
- Appointment mailed to customer	2017/10/05 *12:14:06*	
Summary of advice is mailed to customer	2017/10/05 *12:14:46*	
This sprint		
Make appointment with Specialist	2017/10/05 *12:14:48*	
Customer details are shared with Specialist	2017/10/05 *12:14:49*	

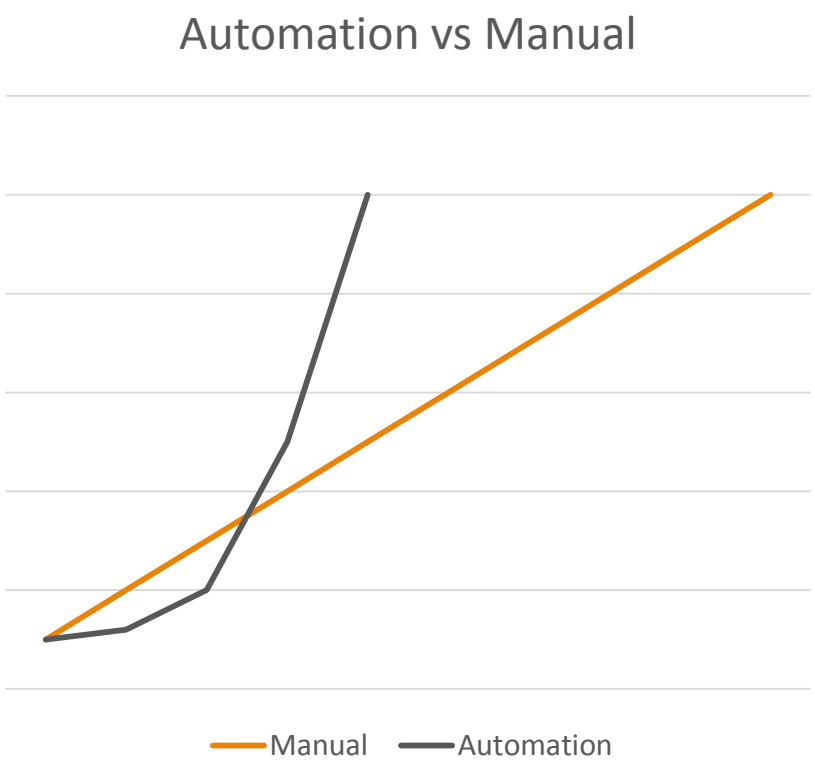
Quality Engineering in Scrum



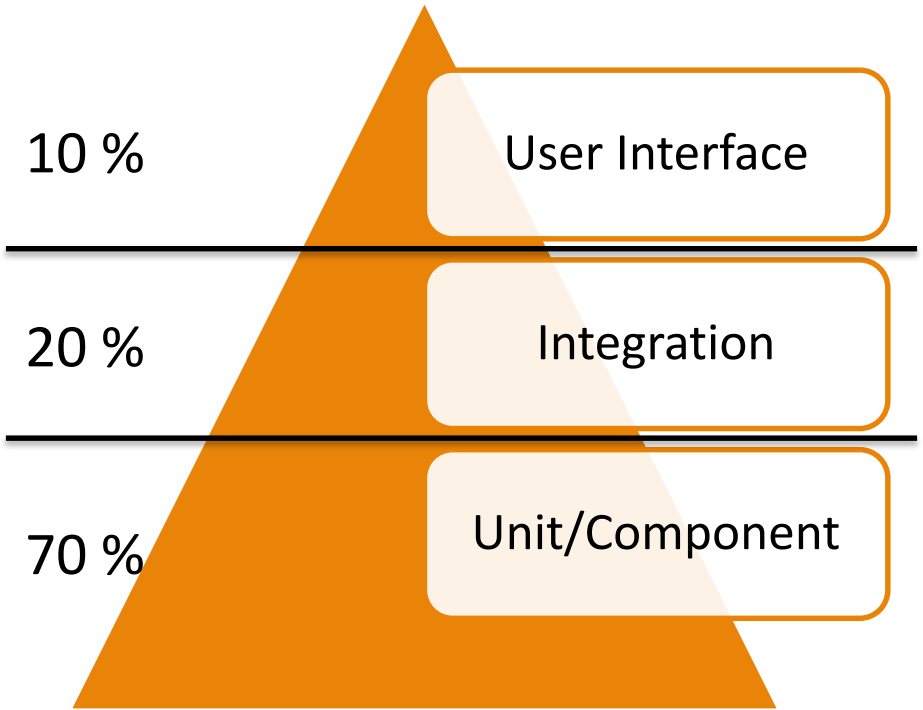
Automation, Automation, Automation

Why Automate

- ✓ Fast
- ✓ Reliable
- ✓ Repeatable
- ✓ Reuseable
- ✓ Control
- ✓ Money
- ✓ Fun



How to approach it



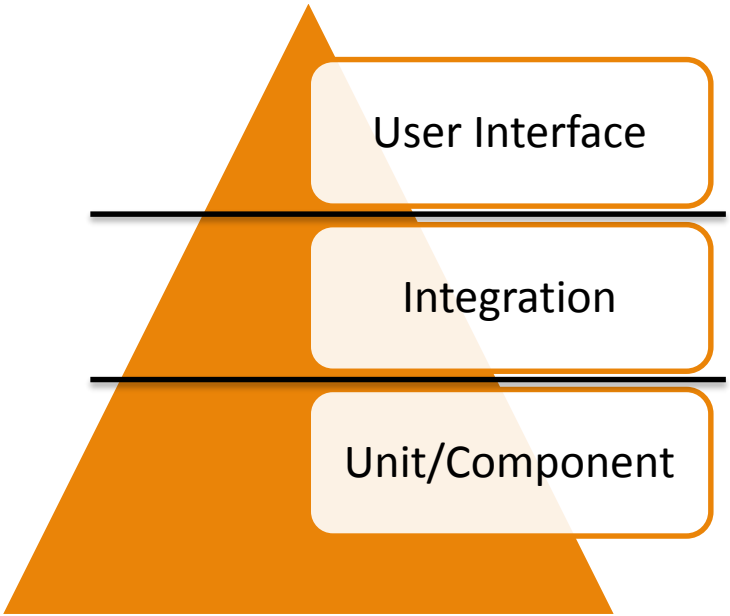
Slow, Big, Many Dependencies & High Maintenance

Fast, Bit Bigger, Some Dependecies, Easy Maintenance
ATDD

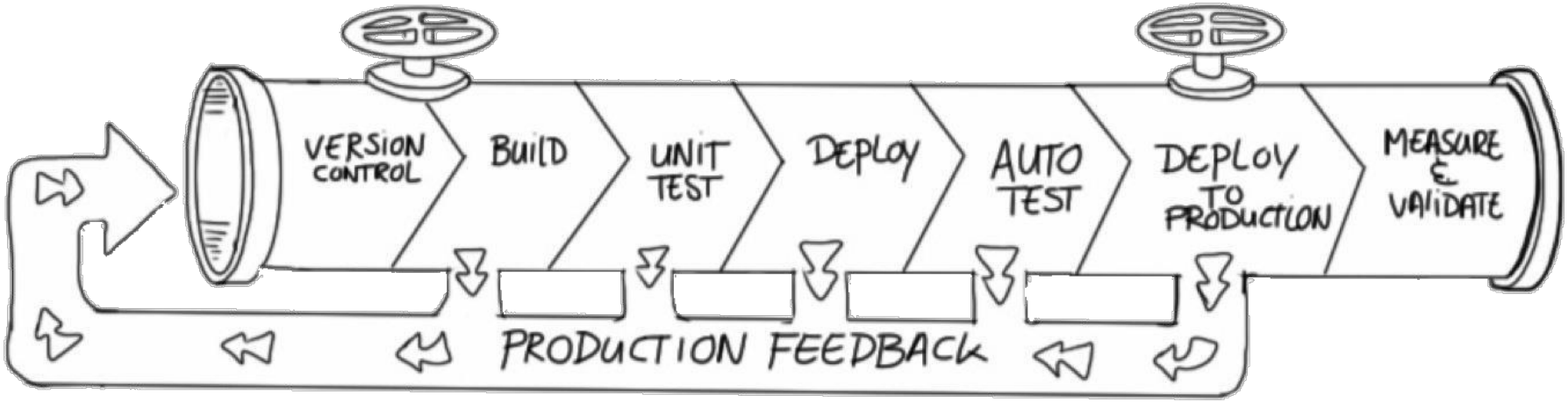
Fast, Small, Easy Maintenance
TDD

What to automate

- Context is key
  - Self build vs bought software
  - Java, Javascript, C++, C#
  - Employee vs Client facing

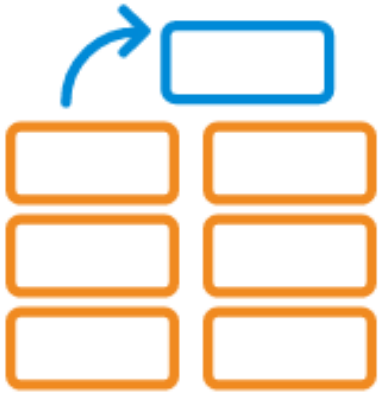


Quality goes further then Test Automation



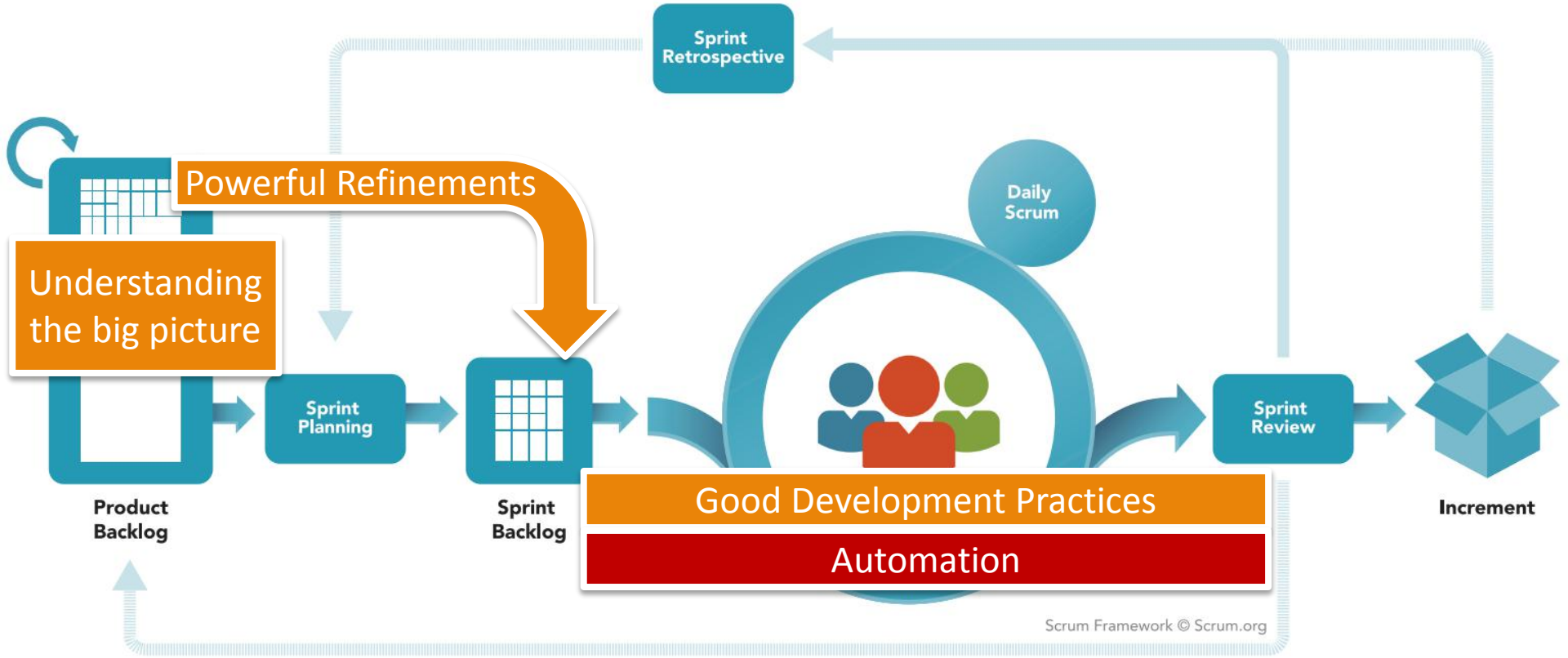
Continuous Delivery Pipeline - Xebia

Even further



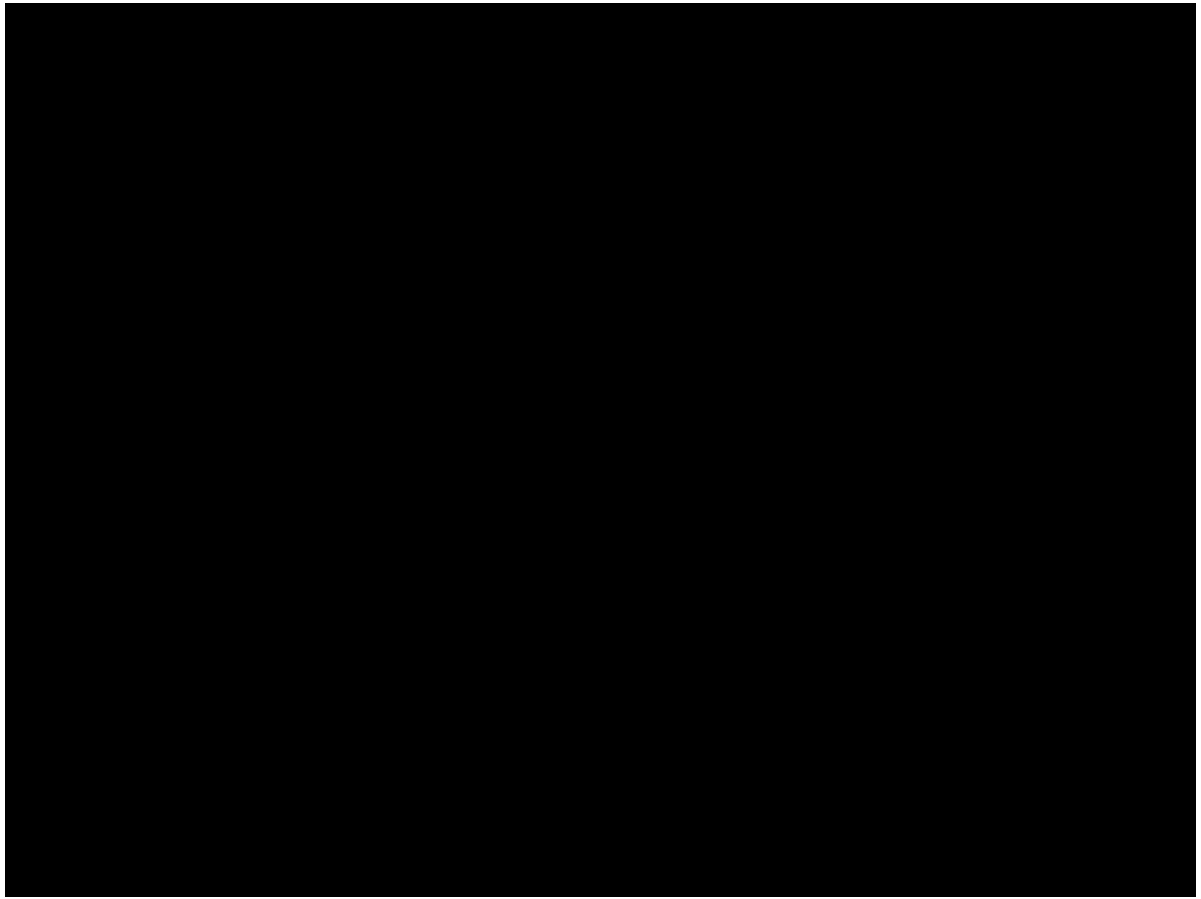
```
application rgbank {
  rgbank::db { $name:
    user    => $db_user,
    pass    => $db_pass,
    export =>
      Db["rg-${name}"],
  }
  ...
}
```

Quality Engineering in Scrum

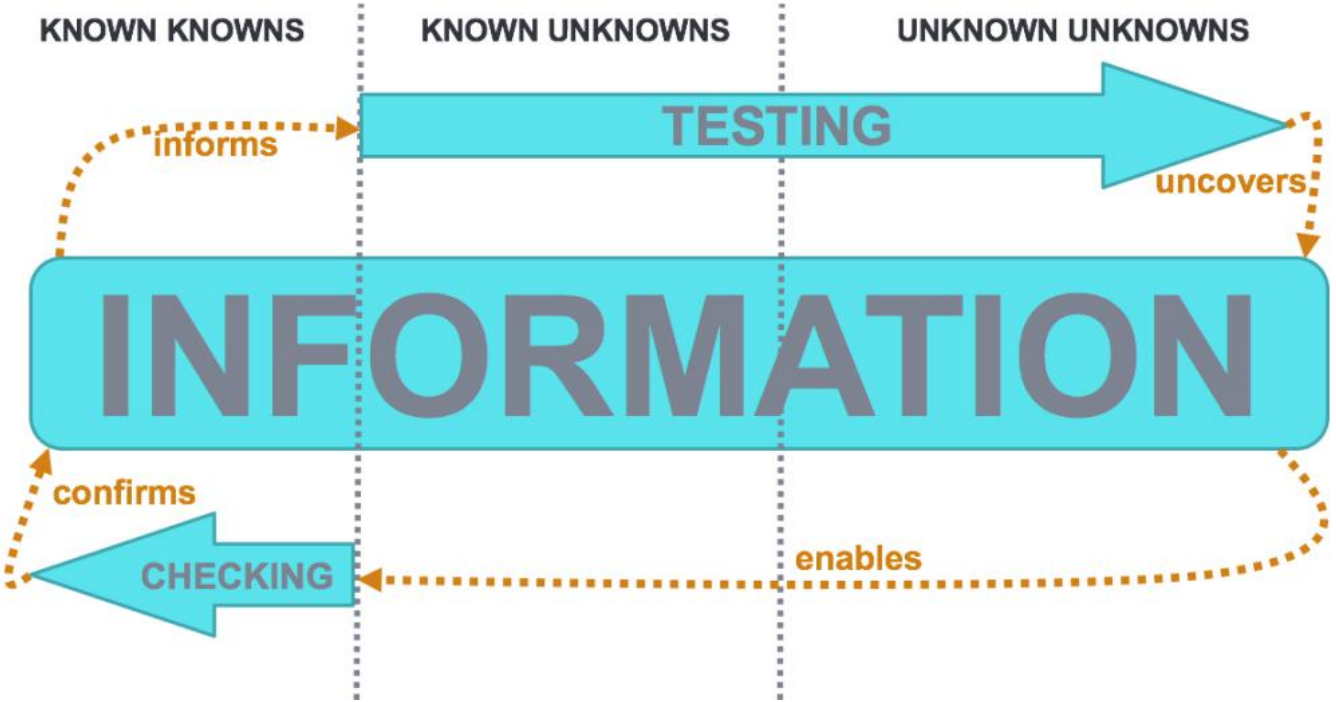


Explore to test

Explore to test



Testing helps Checks



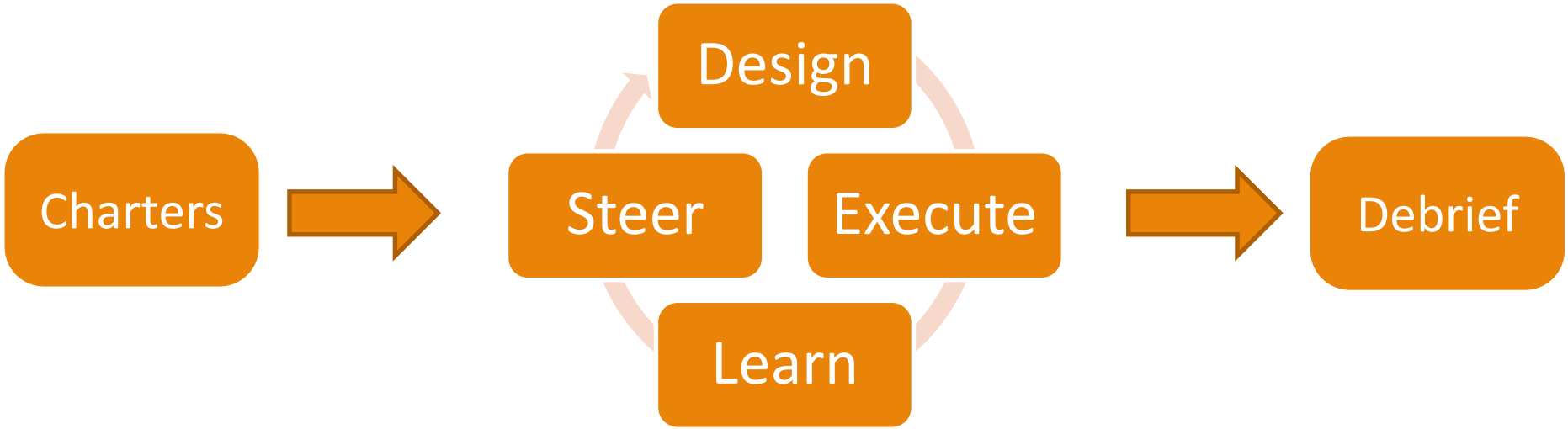
https://findingdeefex.com/2016/05/20/the-testing-checkingsynergy/

Exploratory Testing

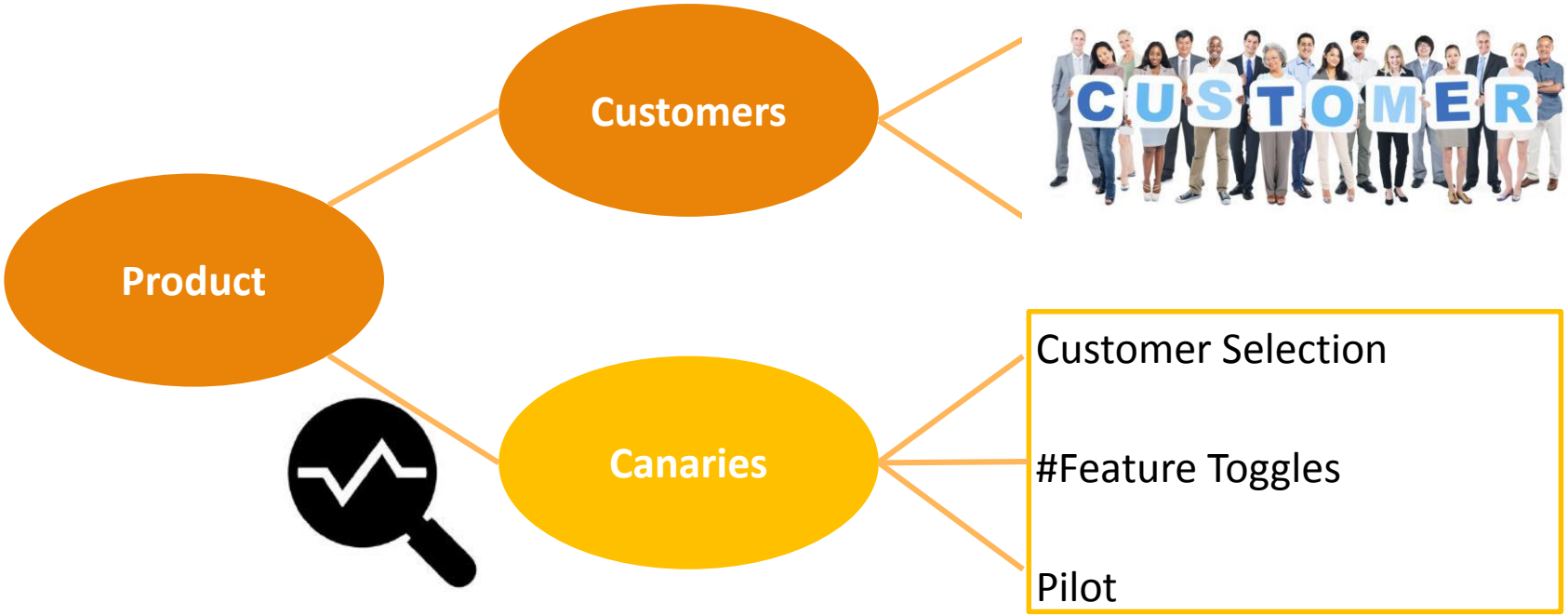
“Exploratory Testing is a style of testing in which you explore the software while simultaneously designing and executing tests, using feedback from the last test to inform the next.” – Elisabeth Hendrickson

- Timeboxed
- Charters
- Debrief
- In Pairs

Exploratory Testing

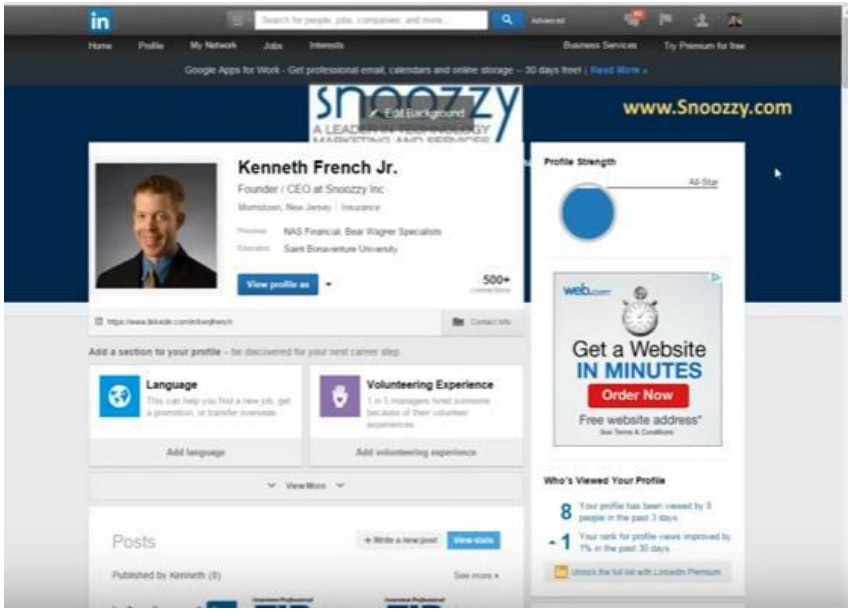


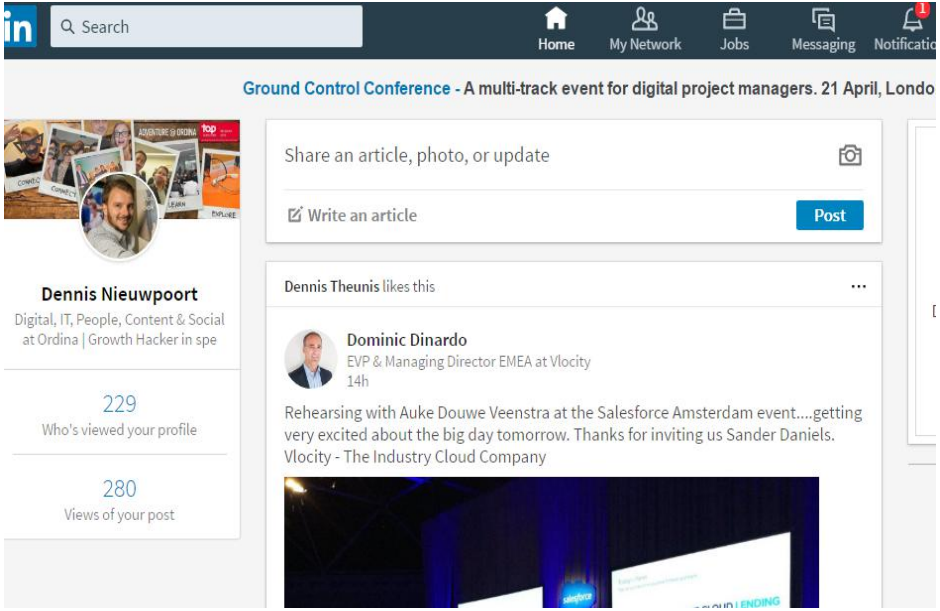
Release Strategy



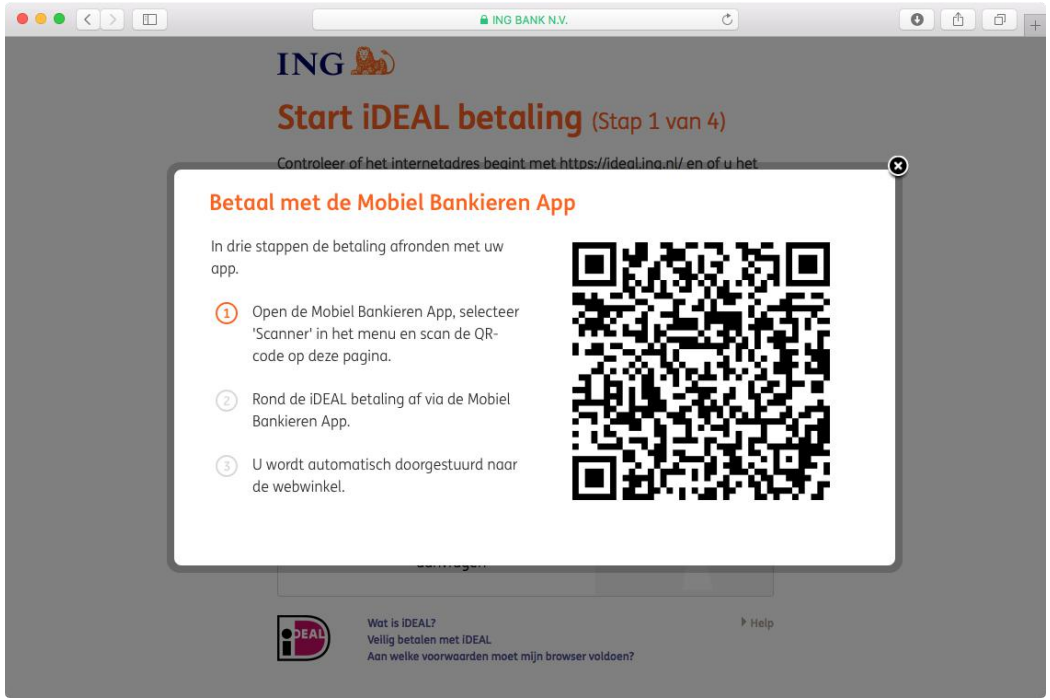
Explore to test

Examples

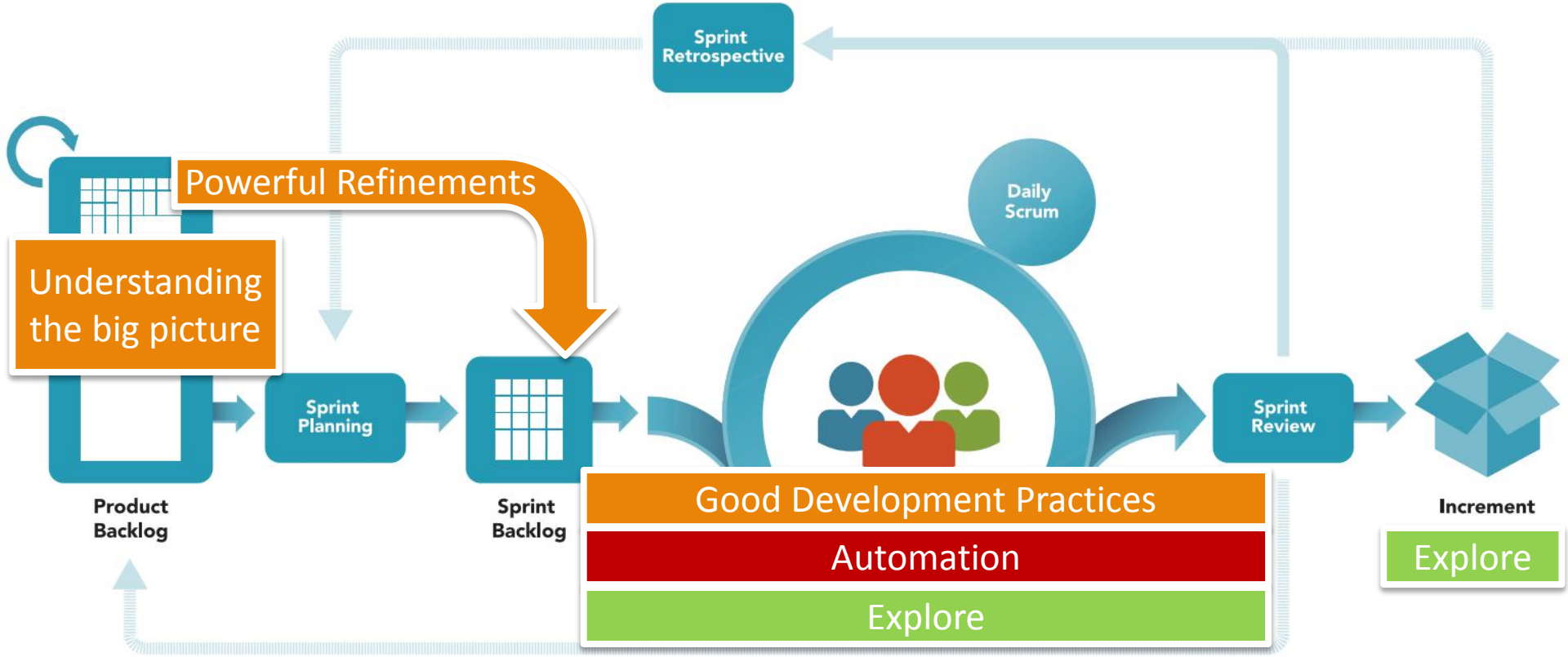




Examples


ING BANK N.V.
ING
Start iDEAL betaling (Stap 1 van 4)
Controleer of het internetadres begint met https://ideal.ing.nl/ en of u het
Betaal met de Mobiel Bankieren App
In drie stappen de betaling afronden met uw app.
1 Open de Mobiel Bankieren App, selecteer 'Scanner' in het menu en scan de QR-code op deze pagina.
2 Rond de iDEAL betaling af via de Mobiel Bankieren App.
3 U wordt automatisch doorgestuurd naar de webwinkel.
Wat is iDEAL?
Veilig betalen met iDEAL
Aan welke voorwaarden moet mijn browser voldoen?
Help

Quality Engineering in Scrum



AMAZON ORIGINAL

The Grand Tour

About the experience

Quality Engineering

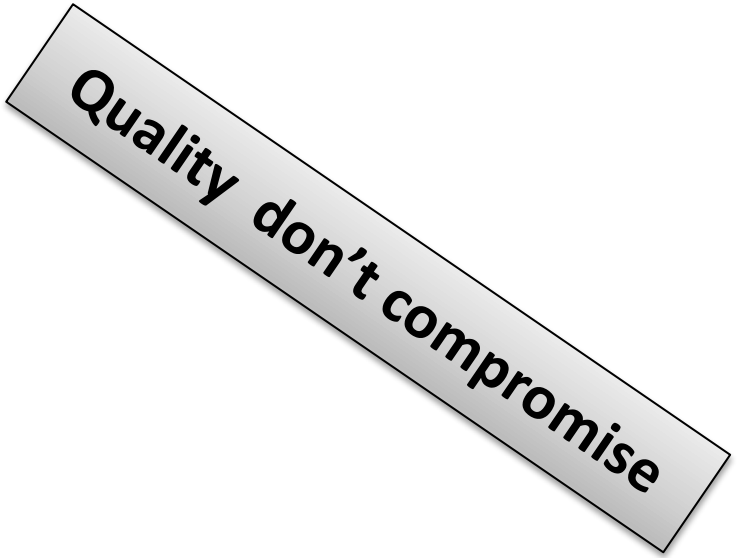
- Functionality
- Performance
- Resilience
- Security
- Usability
- Accesability

- Other software components
- Infrastructure
  - Servers
  - Databases
- Monitoring
- Build pipeline

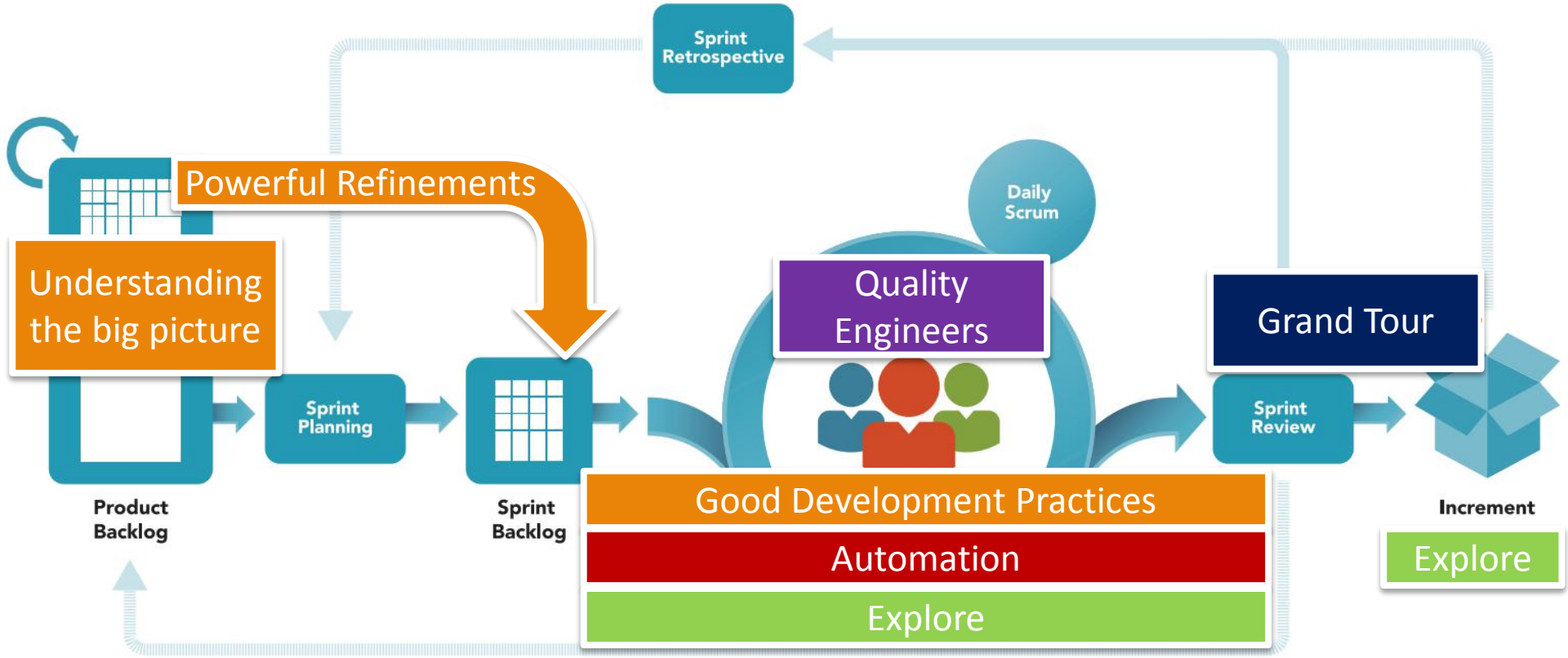
Quality Engineering with the customer in mind

Key Principles for your team

- Customer first
- Whole team is responsible for quality
- Tested = Checked + Explored
- Bugs are fixed when they are found
- ‘Done’ means fully tested
- Quality before new functionality
- Collaboration is key for quality



Quality Engineering in Scrum



Becoming a Quality Engineer? Sounds impossible?

Geoffrey van der Tas

May the Quality Force be with you!

E-mail: Geoffrey.van.der.Tas@Ordina.nl
Twitter: @Gavdtas
LinkedIn: https://nl.linkedin.com/in/geoffreyvdtas