

We create the technology to connect the world

NOKIA

June 2022



Agenda

- Nokia Software @ Portugal
- Agile Software Development
- Scrum
- How We Work
- Wellbeing & Social Responsibility

Nokia Software @ Portugal

Highly engaged
engineers

Startup company can-
do spirit

High level of OSS
domain knowledge
and experience

Proven experience in
customer cooperation
for High Value
Applications

R&D collaboration with
local Nokia Services
and Care Centers

Active cooperation
with top universities

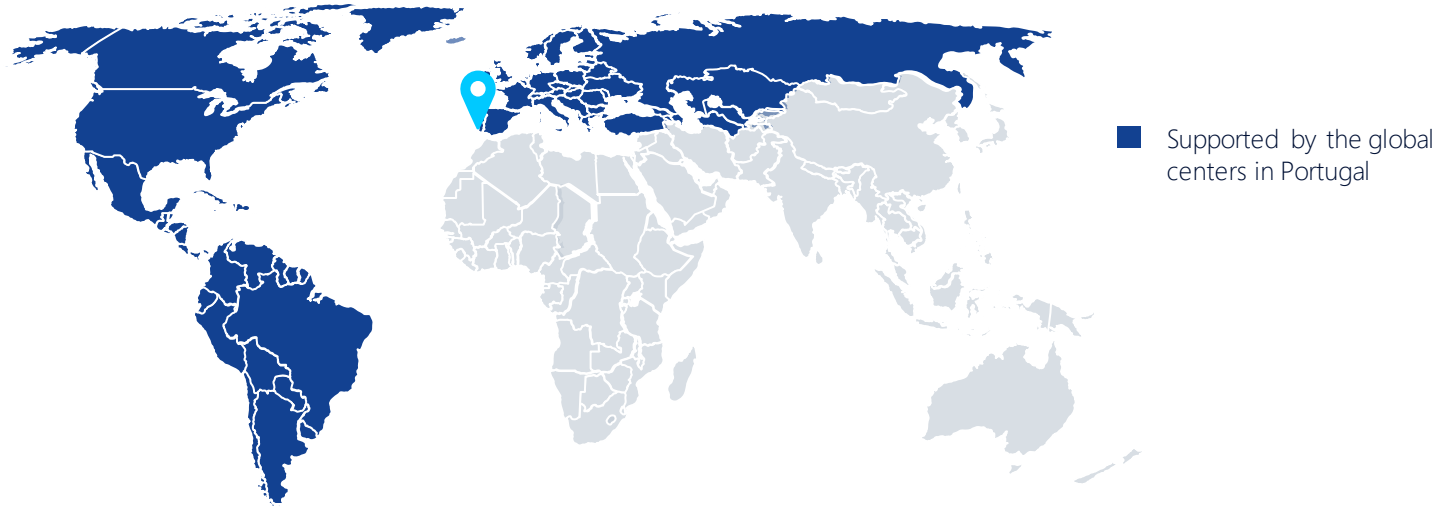
**~2200
people**



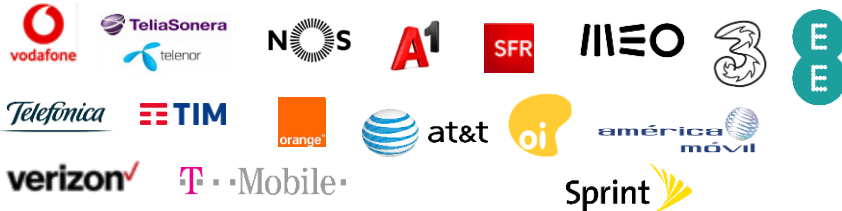
Nokia

- 15+ years of SW
- Software Engineering
- Telecommunications
 - 5G, Network Slicing
 - Radio, Core, IP, Transport
 - NW and Service Automation
- Agile, Lean, Scrum, Kanban, SAFe
- DevOps
- Telco Cloud
- Big Data, Analytics
- Artificial Intelligence & Machine Learning
- WebApps
- CSF
- UX and Interaction Design
- Technical Writing
- OpenSource, ONAP

Providing a full range of services on a global scale



Sample of supported customers



Key Operation data (Yearly)

- 80.000 sites managed remotely
- 174.000 sites operated 24/7
- 2,3 M of working orders executed
- 12.800 support tickets
- 400.000 SW upgrades

CNS @ Nokia Portugal

A team of 750 and counting...



Core Networks

- CN Global Care (#130)
- CN Global Services (#100)

Total HC **230**



Business Applications

- BA Digital Operations (#190)
- BA Solutions & Services (#60)
- BA Analytics (#40)
- BA Security (#<25)

Total HC **320**



Enterprise Solutions

- EnSo SIS (#<50)
- SIS SI & Delivery
- SIS Solution Support
- SIS Solution Management

Total HC **<50**



Cloud & Cognitive Networks

- C&CS OD GDC EU (#80)
- C&CS SP (#12)
- C&CS BOA
- C&CS NFaaS
- C%CS MPS

Total HC **106**

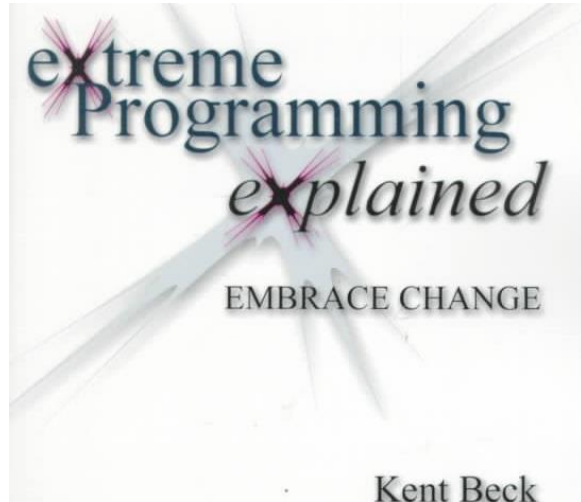
Global Business Center Total HC **<50**

Nokia Software in Portugal –NAC



Agile Software Development

XP Programming and the case of an adjective that became a noun





How the customer explained it



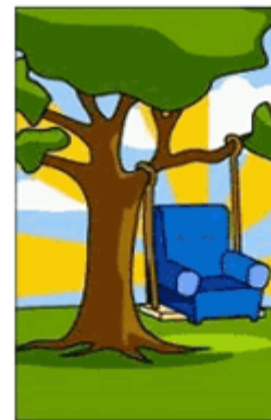
How the project leader understood it



How the engineer designed it



How the programmer wrote it



How the sales executive described it



How the project was documented



What operations installed



How the customer was billed



How the helpdesk supported it

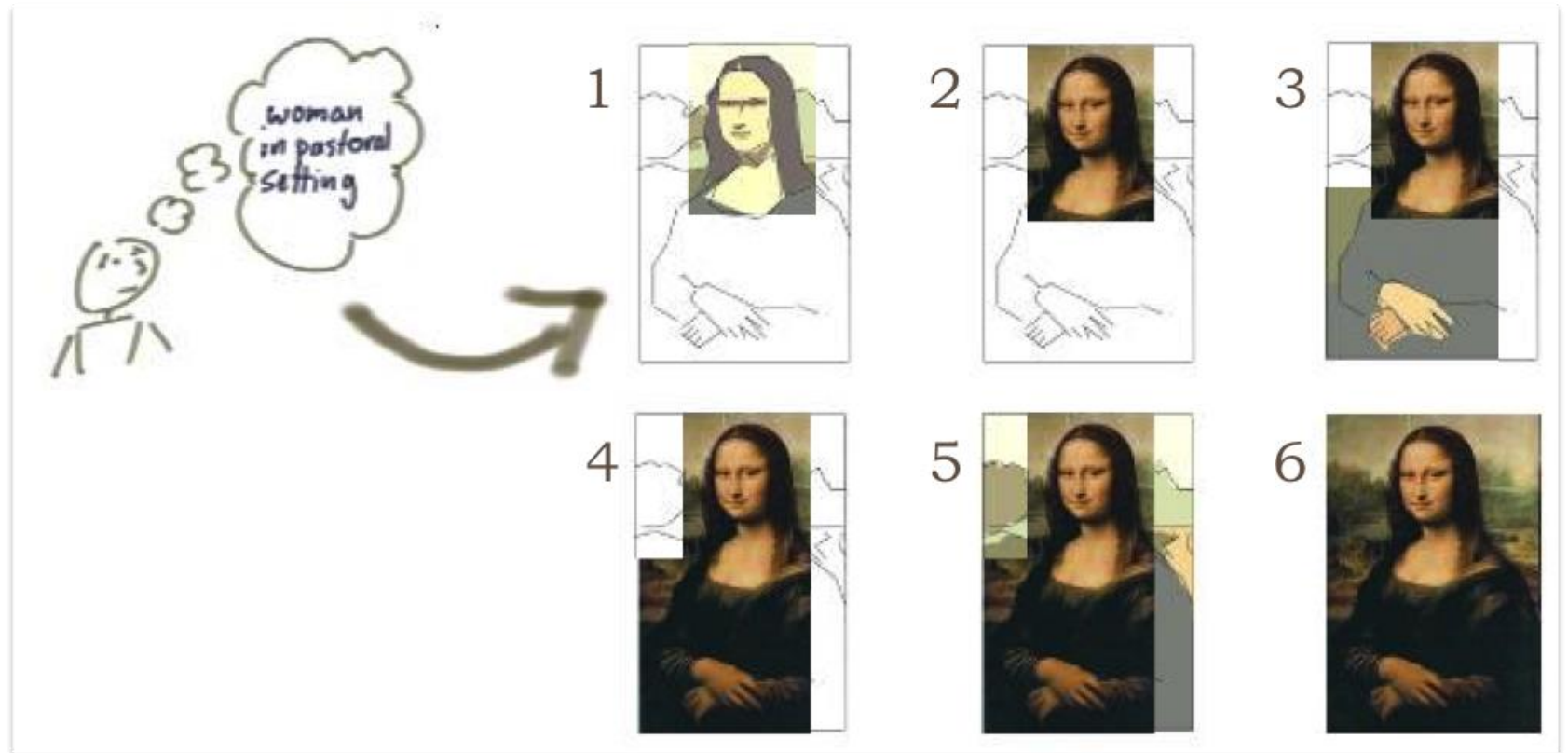


What the customer really needed

The Incremental vs. Iterative Conundrum



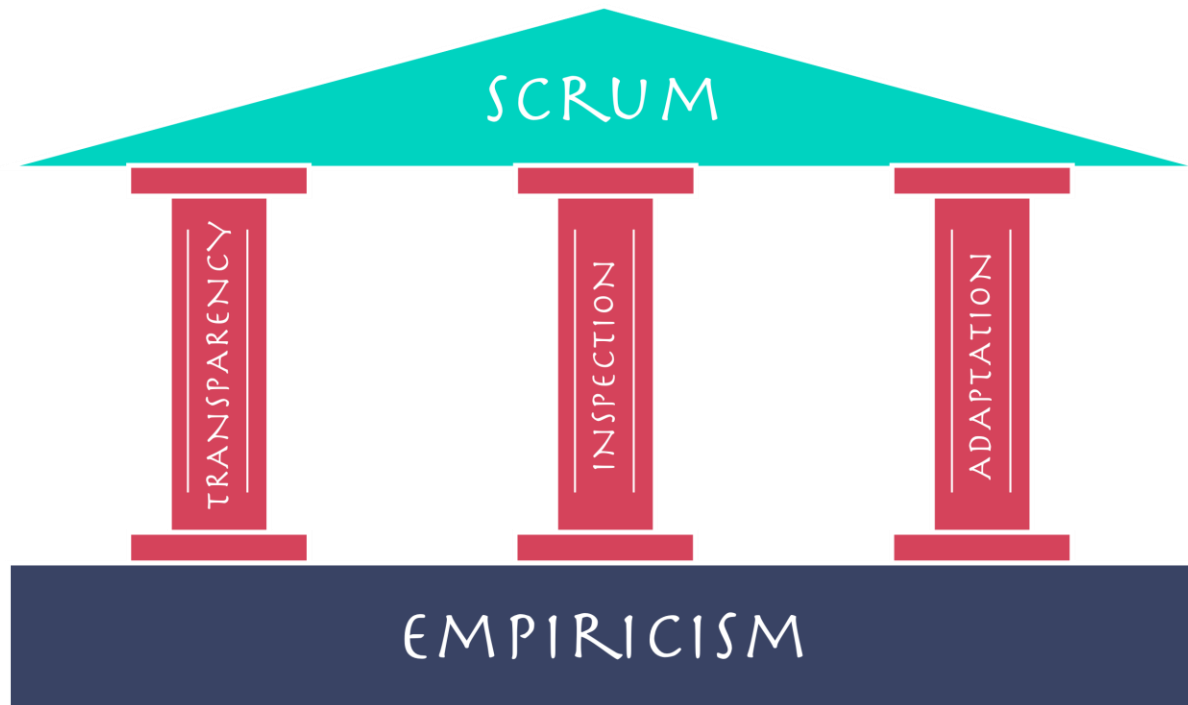
Iterative Incremental Approach



Scrum



Pillars of Scrum



Transparency

Giving visibility to the significant aspects of the process to those responsible for the outcome.

Inspection

Timely checks on the progress toward a sprint goal to detect undesirable variances.

Adaptation

Adjusting a process as soon as possible to minimize any further deviation or issues.

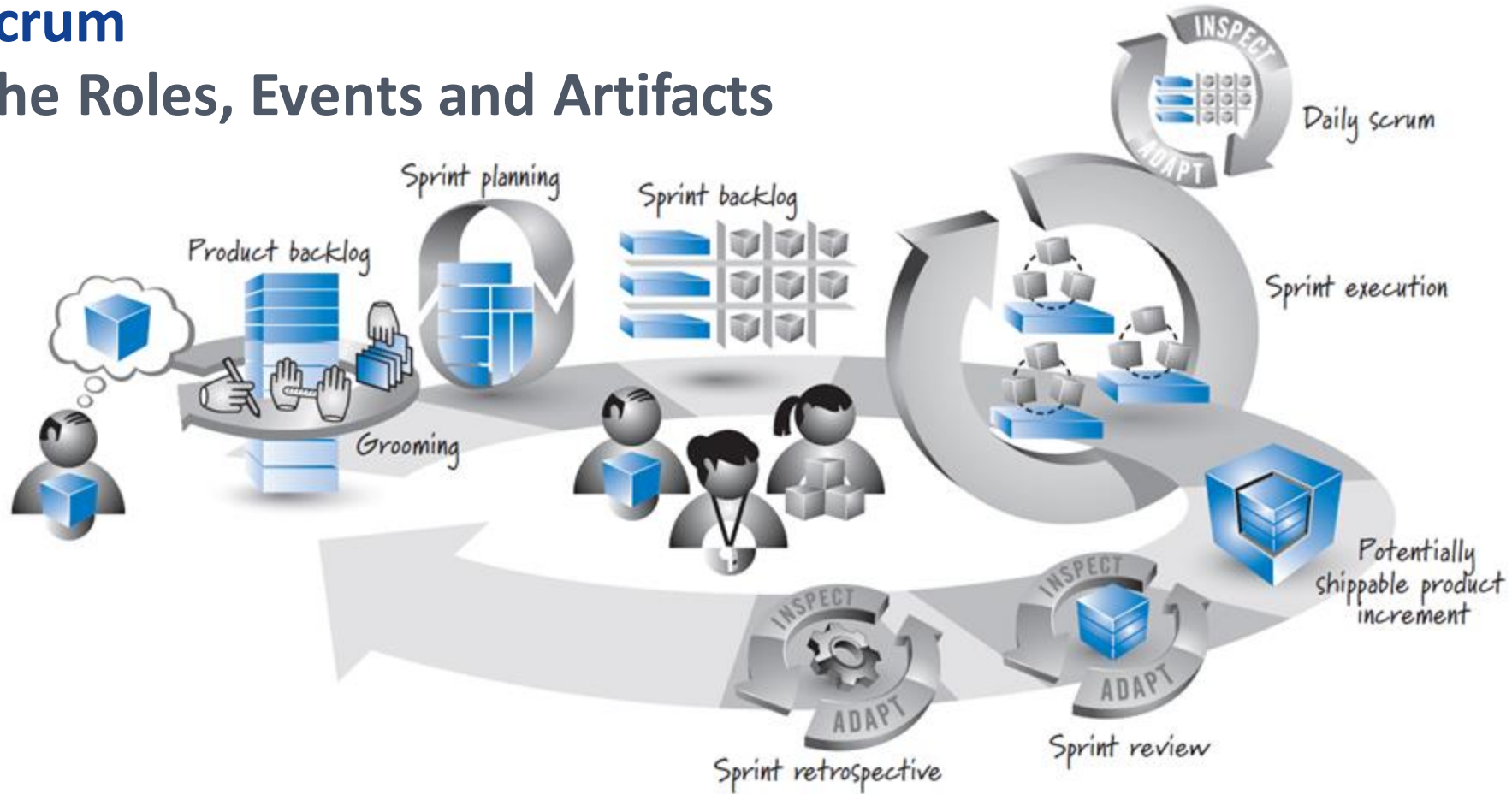
Scrum is founded on empiricism and lean thinking. Empiricism asserts that knowledge comes from experience and making decisions based on what is observed. If we apply Scientific method to software development, we must use empiricism and let reality speak for itself and correct any previous errors and integrate any new insights into previous knowledge.

Values of Scrum



Scrum

The Roles, Events and Artifacts



Scaling Frameworks

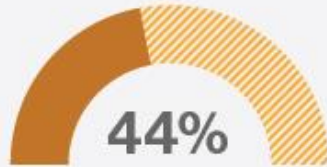
Do we really need them? Business model and reality



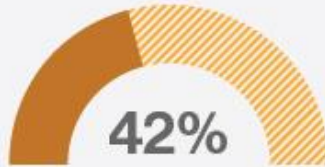
Scaling Agile @ Spotify
with Tribes, Squads, Chapters & Guilds

Is Scrum the Silver Bullet of Software Development?

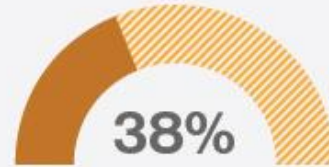
Causes of failure – State of Agile Report 2015



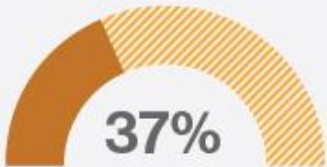
Lack of experience with Agile methods



Company philosophy or culture at odds with core Agile values



Lack of management support



External pressure to follow traditional waterfall processes



Lack of support for cultural transition



A broader organizational or communications problem

Is Scrum the Silver Bullet of Software Development?

Top Agile adoption barriers – State of Agile Report 2022

- Inconsistencies in processes and practices 46%
- Cultural clashes 43%
- General organizational resistance to change 42%
- Lack of skills and experience 42%
- Absence of leadership participation 41%
- Inadequate management support and sponsorship 40%

The key challenges organizations face when adopting Agile have remained largely unchanged for the past several years.

Challenges with **organizational culture**, **resistance to change**, and **lack of support and skills** continue to be problems.

How we work...



Scrum Artifacts – Product & Sprint Backlogs

Assure Program Kanban

Backlog

Board ▾



QUICK FILTERS:

[PI candidate]

Features

Enablers

[PI-5 (inc stretched)]

[Not in PI-5]

[PI5 Releases]

[NAC 20]

[NAC]

[NPM Std]

[NetAct]

[NPM Big Data]

[DO Suite]

Only My Issues

Recently Updated

▼ Candidates (FS/F0) 62 issues

NPM-21428 Improve PM adaptations support and content indexer performance

3 Versions

NPM-25022 NAC user session management (advanced)

NAC 20

NPM-23341 **NOKIA** Dashboards Projects Issues Boards Structure Tests Plans Requirements PTA Create

Search + Search

NPM-4101 HandKamel

All sprints

Test View Board + View

NPM-20254 QUICK FILTERS: In PI Not in PI Only My Issues Recently Updated Zero SP NAC21 FP2101 not NAC21 FP2101 Hide Resolved

NPM-24748 BACKLOGS 2 TO DO 17 ON HOLD 9 IN PROGRESS 17 IN REVIEW 1 IN TESTING 0 READY FOR DEMO 0 DONE / OBSOLETE 42

NPM-20208 STT & Faults 2 issues

NPM-25446 ASSUR-1006 Oracle VM creation fails if volume bigger than STB

NPM-22882 ASSUR-1006 Remote Information Disclosure Vulnerability - 8.8.8.8, 9.2.0.6, 10.0.0.103

NPM-14138 NAC 21 FP2101

NPM-25668 ASSUR-1006

NPM-24519 Test obj

NPM-21157 Features 11 issues

NPM-20315 ASSUR-1002

NPM-18383 update oracle database server root disk to 100GB in openstack

NPM-22198 NAC 21 platform customer like install

NPM-17358 ASSUR-1003

NPM-21197 test replica of oracle database node in openstack

NPM-21866 NAC 21 platform customer like install

NPM-17883 ASSUR-1004

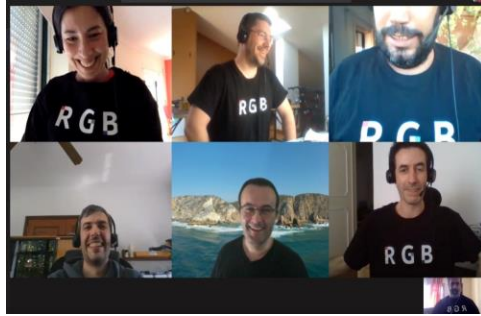
SHC CSPF 21 FP1 onboarding - Draft ready

NAC 21 FP2101 on top of CSPF 21 FP1

ASSUR-1009

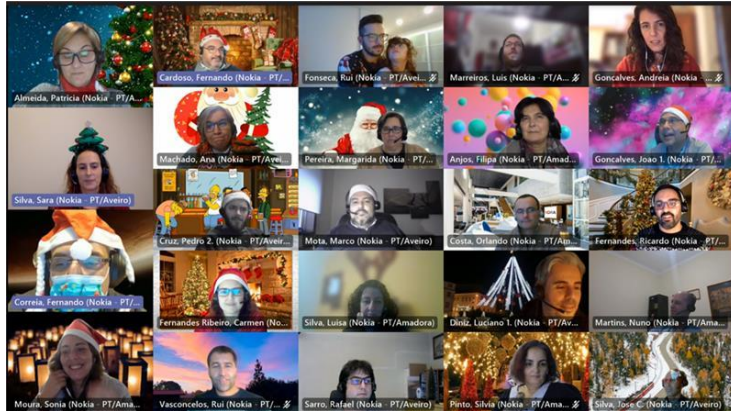
How we work during and after the Pandemic (part 1 of 2)

Being Nokia is adapted to remote work



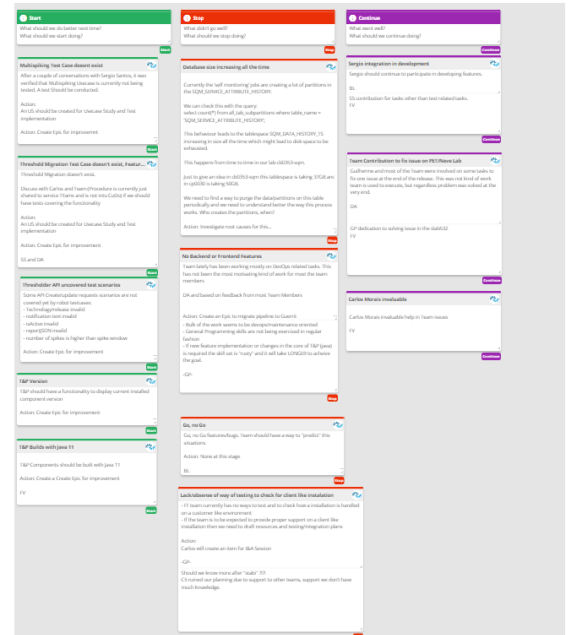
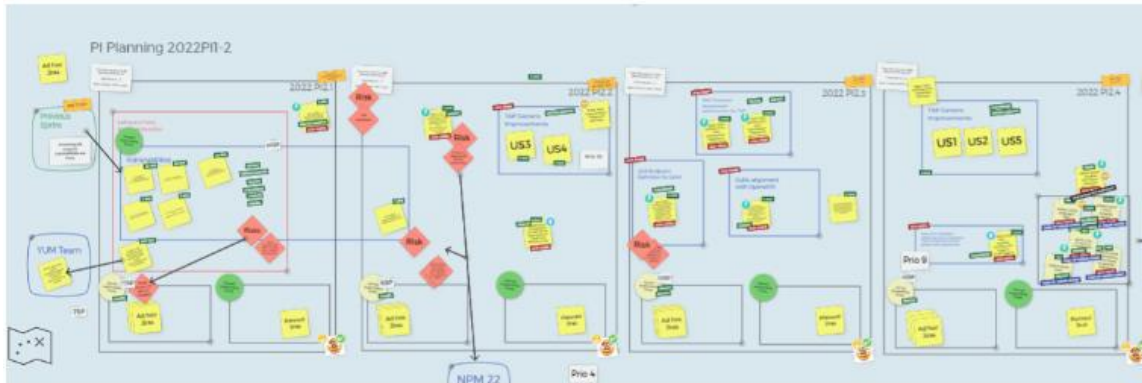
Meetings

Christmas time



How we work during and after the Pandemic (part 2 of 2)

Remote Team Plannings and Retrospectives



Focus on Quality (1/3)

Definition of Ready

QUICK FILTERS: **Analyze Flow** Only My Issues Recently Updated

TO DO 0 IN PROGRESS 7 ON HOLD 2 IN REVIEW 0 IN TESTING 0 DONE 8

> **AOA-23855** > **SAFE EXECUTION** 5 sub-tasks Nifi Authentication - email is not suitable for LDAP user

> **AGA-10426** > **SAFE COMPLETED** 37 sub-tasks Nokia PM Adaptations on top of NAC21.x - NA22 FP2202

▼ **ASSUR-24990** > **IN DEVELOPMENT** 2 sub-tasks Create EMIS integration endpoint bookkeeping test

ASSUR-27190
USDor
🔍 ⌵

ASSUR-27171
USDor
🔍 ⌵

DoR (as in [CNS User Story DoR](#) page)

The Product Owner is responsible for verifying and approving DoR on User Story level.

The Agile Team (Development Team, Scrum Master, PO) is responsible for delivering the DoR items.

Once the DoR is completed the User Story can be prioritized as part of the Team Backlog.

ID	Definition of Ready Criteria	Status ?	Comment / Description
USDor-01	Details and Acceptance Criteria are documented	✓	The value is described with good story elements (INVEST mode - Independent, Negotiable, Valuable, Estimable, Small, Testable) The acceptance criteria contains functional and non-functional requirements e.g. performance and test automation levels
USDor-02	Initial story/PBI estimation is done	✓	All effort is estimated by the Team including effort to provide inputs for the technical writer and all other needed actions
USDor-03	The User Story is refined by the Team and the Product Owner	✓	An understanding of acceptance criteria is established by discussions between the agile team members

Note on USDor-01: Current list of **NFRs** that we need to support in NAC can be found [here](#).

Focus on Quality (2/3)

Definition of Done

ID	Definition of Done Criteria	Status ?	Comment / Description
USDoD-01	Acceptance criteria is fulfilled	✓	Requirements are fulfilled, demonstrated and approved by the Product Owner
USDoD-02	Static Code analysis is done and technical debt targets are met	N/A	New technical debt cannot be introduced. Unit test coverage is measured and targets need to be met for new code implementation.
USDoD-03	Code is reviewed, approved, and checked in to the version control system and main software branch	✓	Code review is successfully done and documented. Coding standards have been followed
USDoD-04	Tests in all levels are documented, automated and passed according to the test plan	✓	All requirements according to the acceptance criteria must be tested and tests automated
USDoD-05	There are no open faults	✓	Virtual zero targets must be adhered according to the virtual zero guidance
USDoD-06	The User Story is demonstrated in Iteration Review	✓	Demo at iteration review (10/3/2022)

USD oD-10	Privacy Data Scrambling implementation is completed and Privacy Data Definitions (PDD) document is updated	N/A	If the privacy data definitions (PDD) for one or more components have been changed, component teams complete implementation of PDD changes and trigger needed updates to decoder and scrambler tools. Final updates are done in the PDD and checked into version control by the Product Security Lead. Privacy Champion concurs these activities with the Product Security Lead (if they are different individuals in the organization).
USD oD-11	Privacy Engineering and Assurance Process (PEAP) activities are completed	✓	PEAP activities include Scope, User Stories, Data Flows, PDI and PTA from the template. The Risk Assessment (PIA) is completed at the release level. The activities need to be approved by the Privacy Champion.
USD oD-12	SVM and TALKO tools information is updated for the 3rd party components introduced or updated in the User Story	✓	3rd party components (OEM/OSSW/Firmware) introduced or updated as a part of the user story must be updated in the SVM tool (VAMS) as well as TALKO tool (for licensing checks). This ensures that all 3rd party components are monitored for vulnerabilities as well as licensing breaches. https://talko.int.net.nokia.com/certificates/details.php?certificate_id=10771

Focus on Quality (3/3)

Acceptance Criteria (Conditions of Satisfaction)



TM_Assure / ASSUR-19495

Storing Period refactor - List adaptations available

Edit Add comment Assign More Cancelled

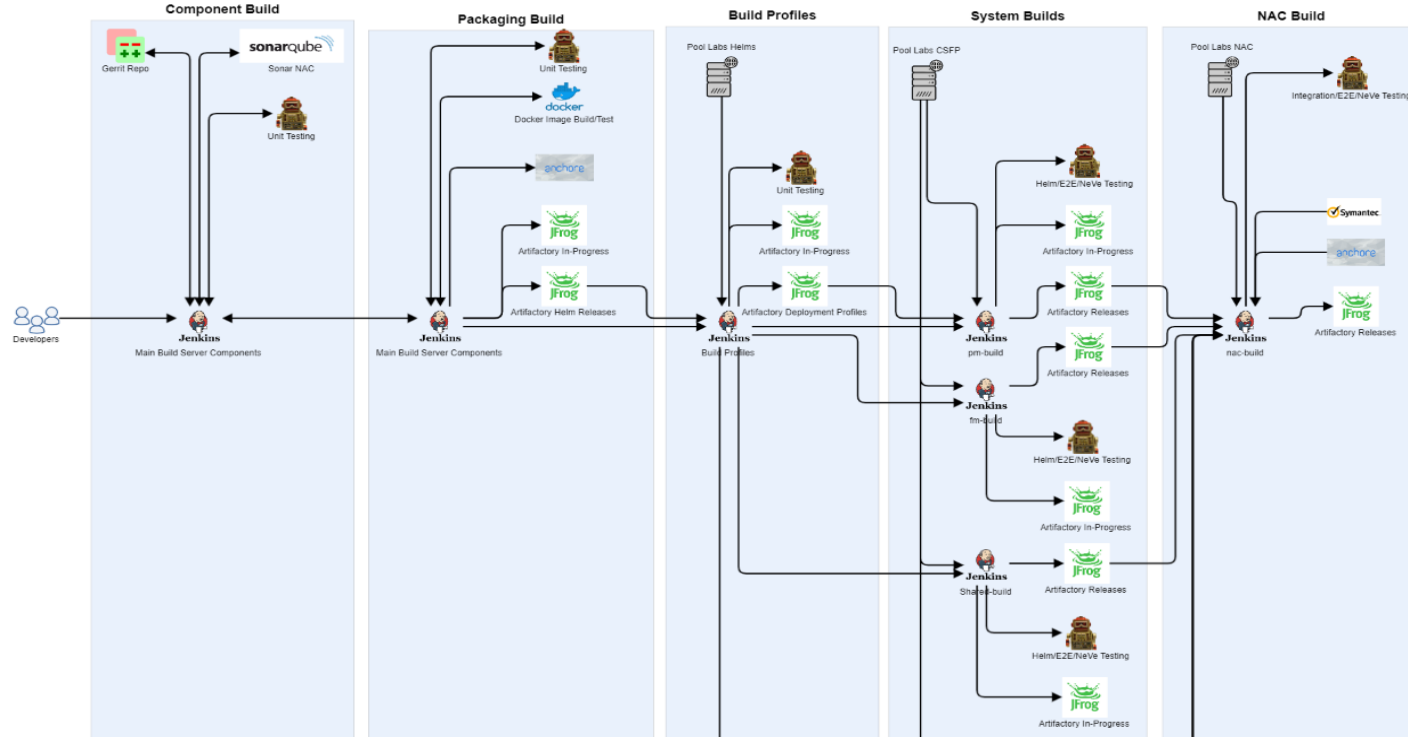
▼ Details

Type:	User Story	Status:	DONE (View Workflow)
Priority:	Unknown	Resolution:	Resolved
Affects Version/s:	None	Fix Version/s:	None
Component/s:	None		
Labels:	None		
Issue Category :	Enabler		
Acceptance Criteria:	<div>▼ Given storing period ui</div> <div>When the user access storing period</div> <div>Then the list of adaptations is available.</div> <div>Given storing period ui</div> <div>When the user inserts text in the adaptation search box</div> <div>Then the list of adaptations is filtered based on the inserted text</div>		

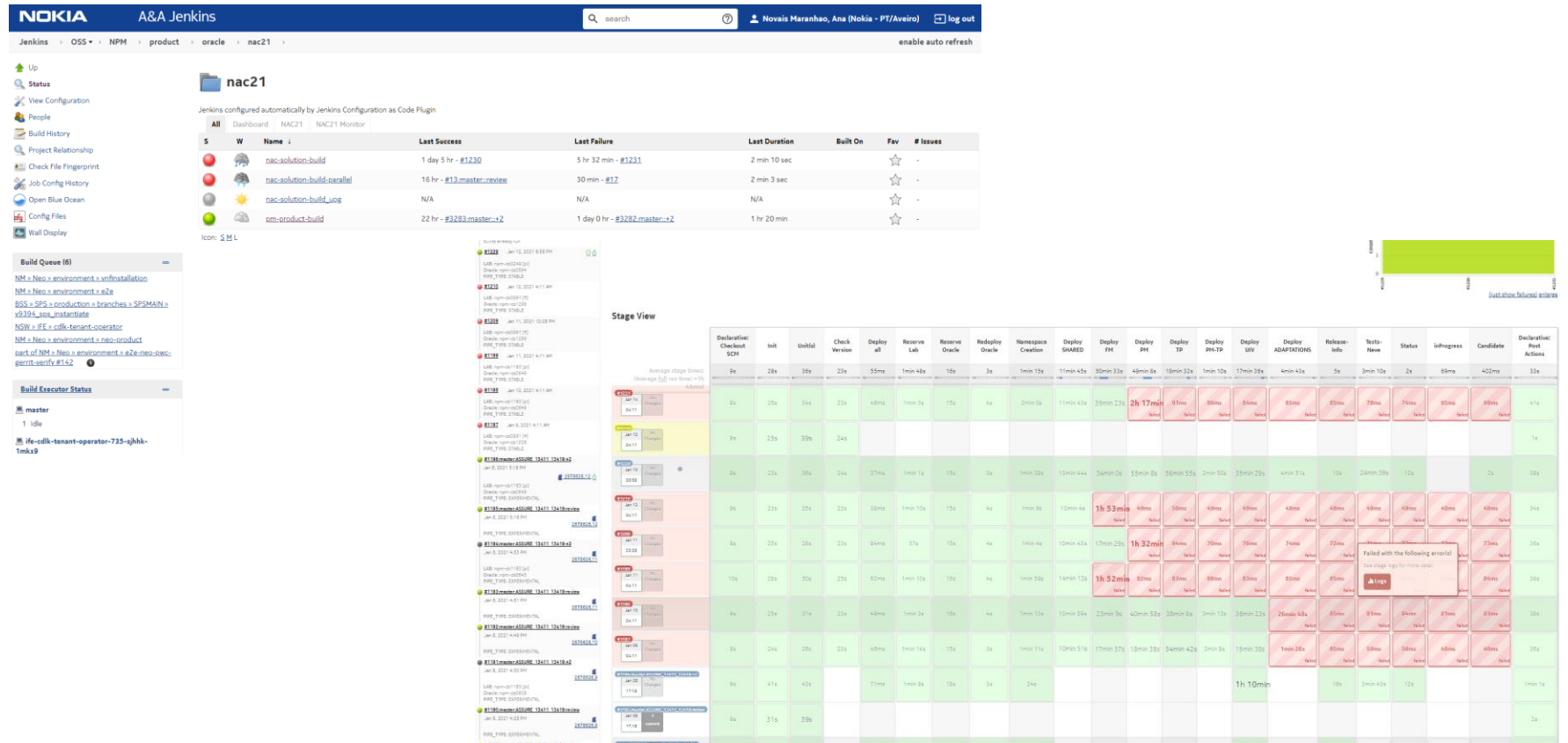
Continuous Improvement



CI Overview



Continuous Integration

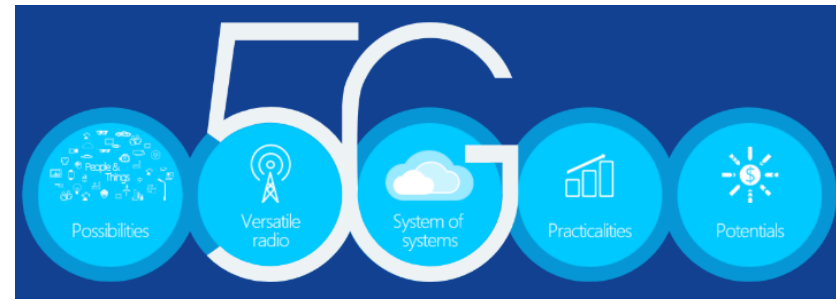
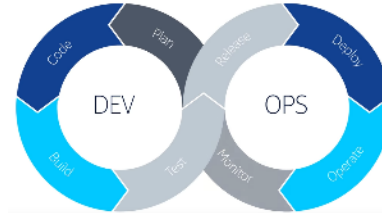


Best Practices

- Pair Programming
- Code Review
- Component/CodeGuardians
- Pre-Studies
- TDD/ATDD
- Continuous Integration
- Testing
- Refactoring
- Static Code Analysis
- Version Control System (Git and Gitlab)



Continuous Innovation



CoPs
Communities of
Practice

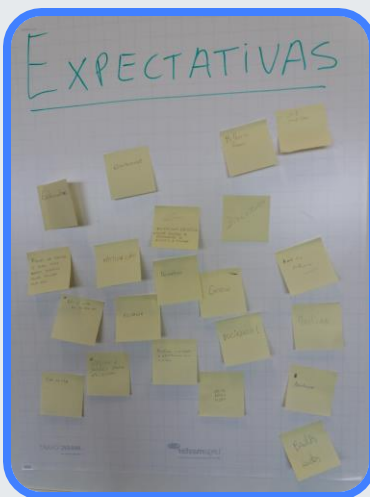
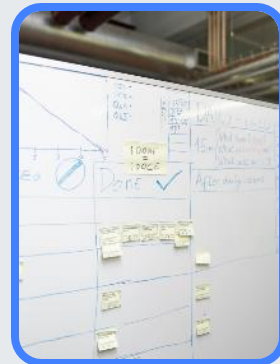
BROWN
BAG Series
Lunchtime discussion



Wellbeing & Social Responsibility



Being Nokia!



References

- Robot (Test) Framework <https://robotframework.org/>
- Zombie Scrum Survival Guide, 2020 (Christiaan Verwijns, Johannes Schartau, Barry Overeem)
- Scrum: The Art of Doing Twice the Work in Half the Time, 2014 (Jeff Sutherland)
- Clean Agile: Back to Basics, 2019 (Robert C. Martin – aka Uncle Bob)
- Uncle Bob: Clean Agile, Back to Basics, 2020, [Youtube talk](#)
- Uncle Bob Clean Code Lessons, 2019, [Youtube talk](#)
- Scrum Master Toolbox [podcast](#)

Contacts for further Questions

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- Orlando Costa orlando.costa@nokia.com

