

Vom Wiegen allein wird die Sau nicht fett

Wie effektive Teams Softwarequalität verbessern



Dr. Sven Amann, 6. Nov 2024, Software QS-Tag

Softwarequalität verbessern^{☆☆}



Transparenz



Alignment



Fokus



 **Teamscale**
Softwarequalitäts-Plattform



Beratung & Begleitung
zur Qualitätsverbesserung

CQSE



23+ **Promotionen** in
Software Engineering



Eigene **Forschung**



Enger Kontakt zu
Universitäten



VER**SICHER**UNGS
KAMMER
BAYERN

LV 1871

BayBG

...



SIEMENS

NORDEX

ASMPT

SEIDENADER
KÖRPER SOLUTIONS

ROSEN

...



Vibracoustic

FERNRIDE



SEW
EURODRIVE

...



TTTech

SALZGITTER
DIGITAL SOLUTIONS
Ein Unternehmen der Salzgitter Gruppe

tebms

CAD/CAM MES
Software & Services

dm
TECH

...

...

SWM



ProSiebenSat.1
Media SE

EnBW

DATEV

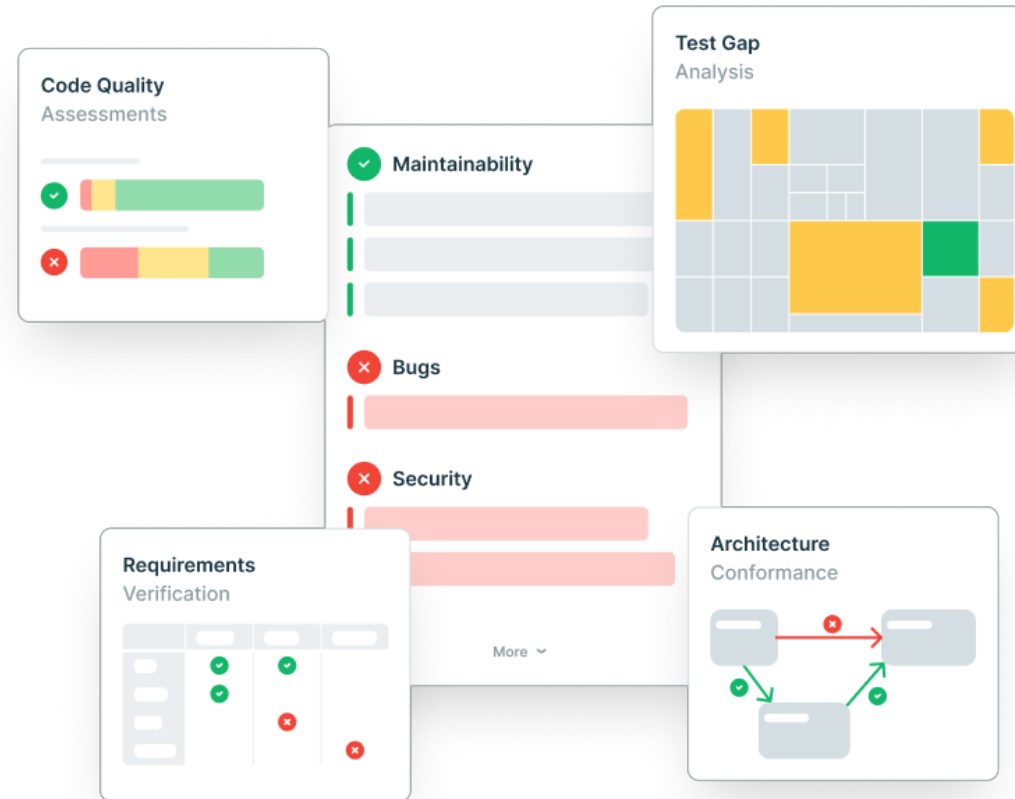
...



ProSiebenSat.1
Media SE



Wir investieren 20% unserer Zeit in die Reduzierung technischer Schulden.



C, C#, C++, Go, Java, JavaScript/TypeScript, Python

Zielmetriken



Kritische Findings abbauen



Keine Scout-Violations

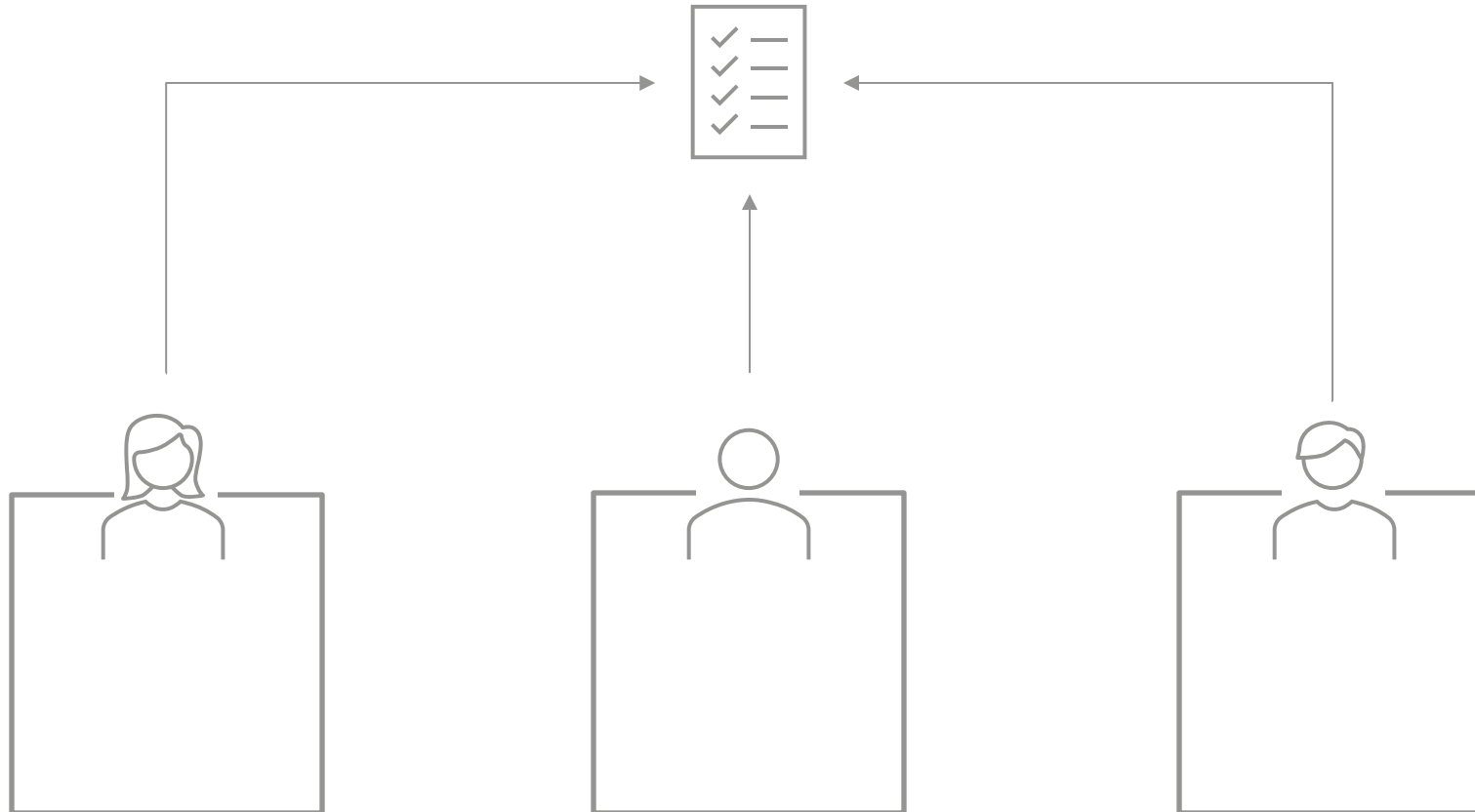


Keine Test Gaps

Bewusstsein zu schaffen und Erwartungshaltungen offenzulegen, ggü. Entwicklung, Test, Management und Fachbereichen, ist fundamental wichtig.



Gemeinsame
Coding-Guideline

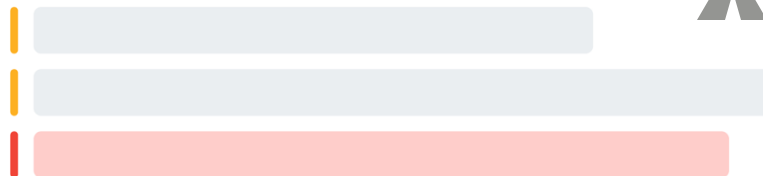




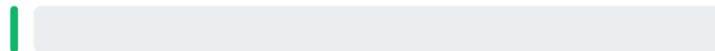
 1 New Findings

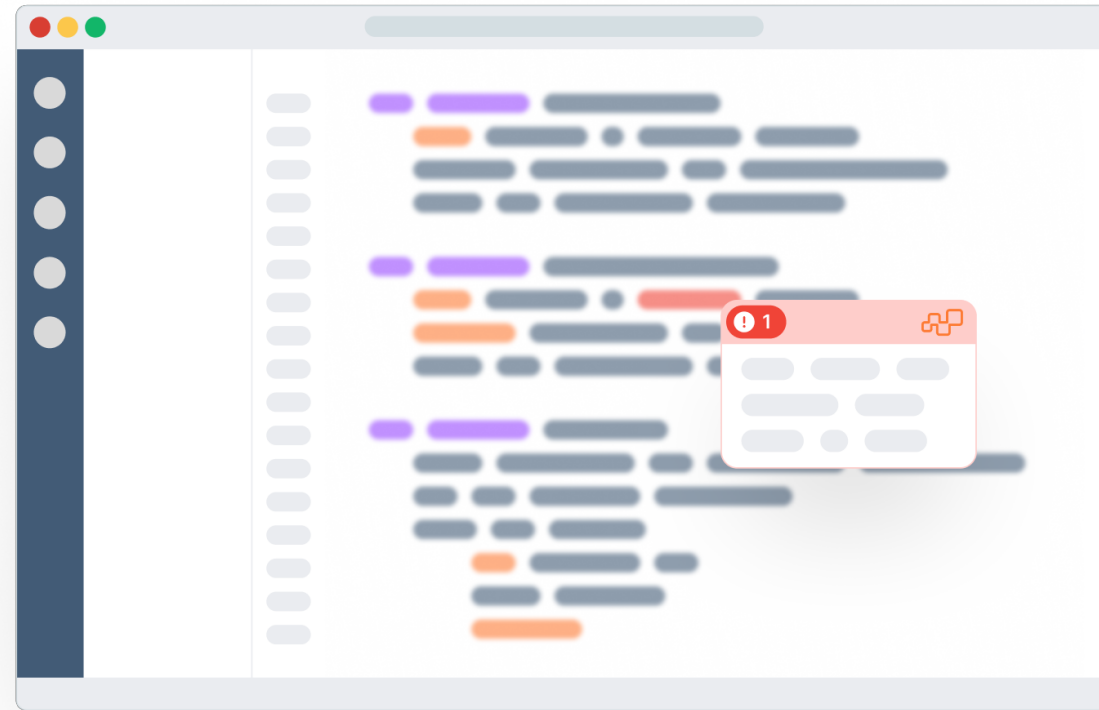


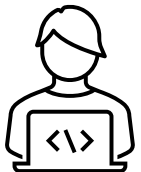
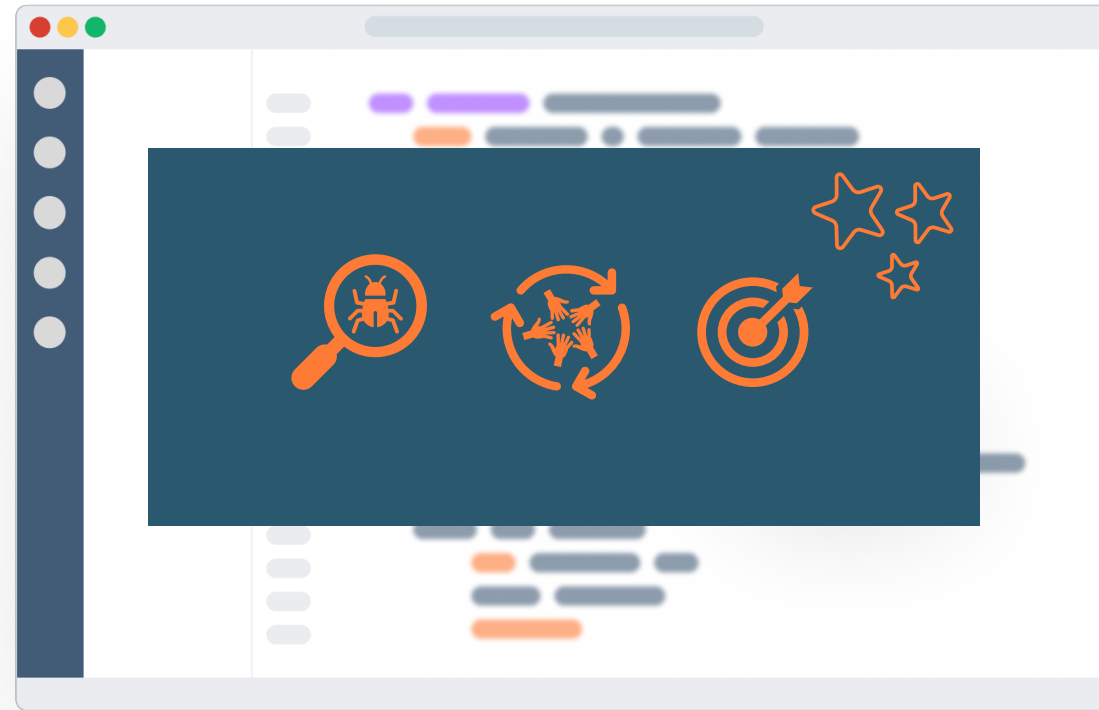
 3 Old Findings in Changed Code



 3 Resolved Findings

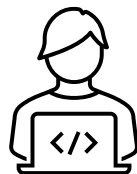




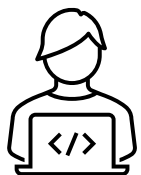
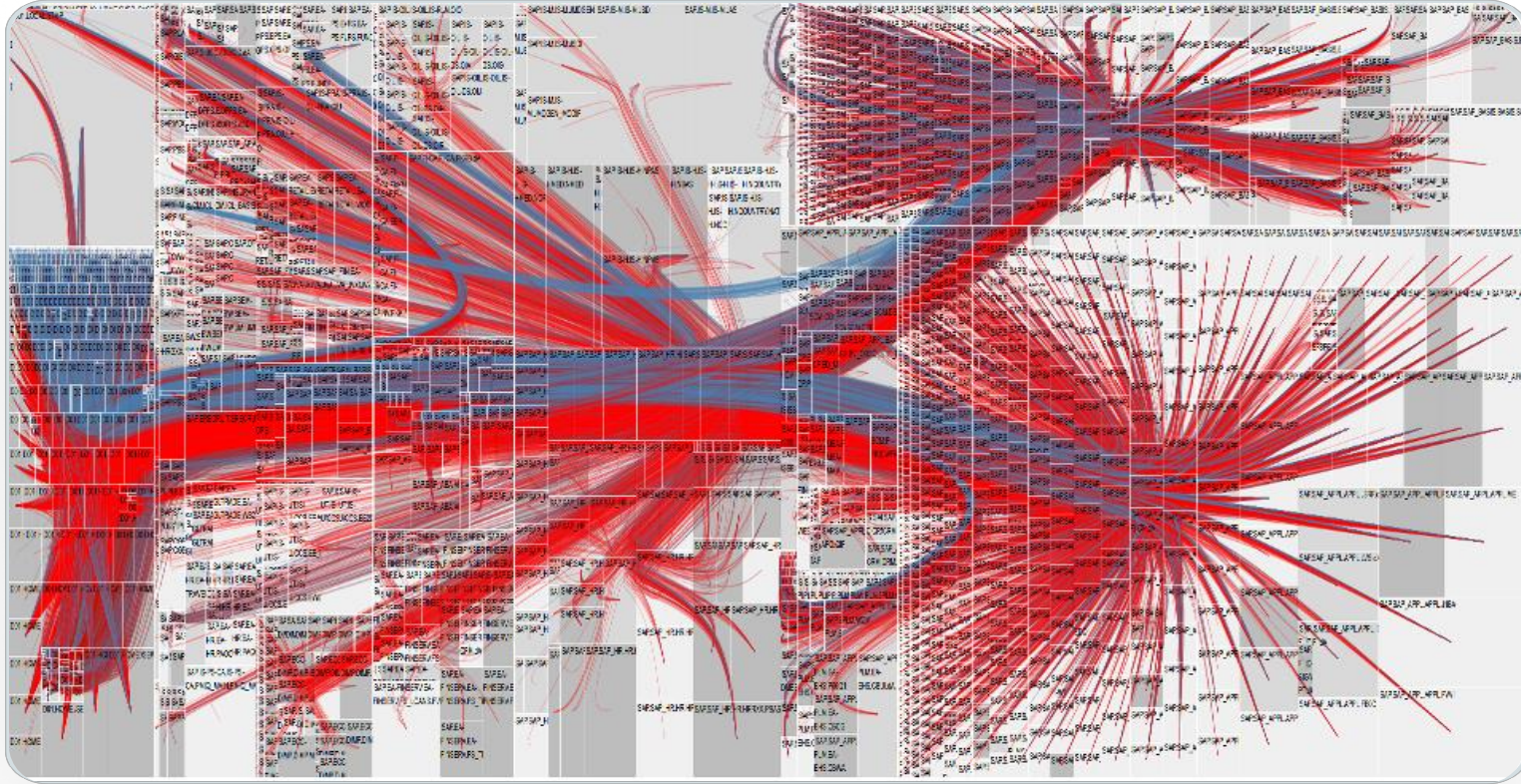


Diese ständige Transparenz führt dazu, dass die Leute von sportlichem Ehrgeiz gepackt werden.

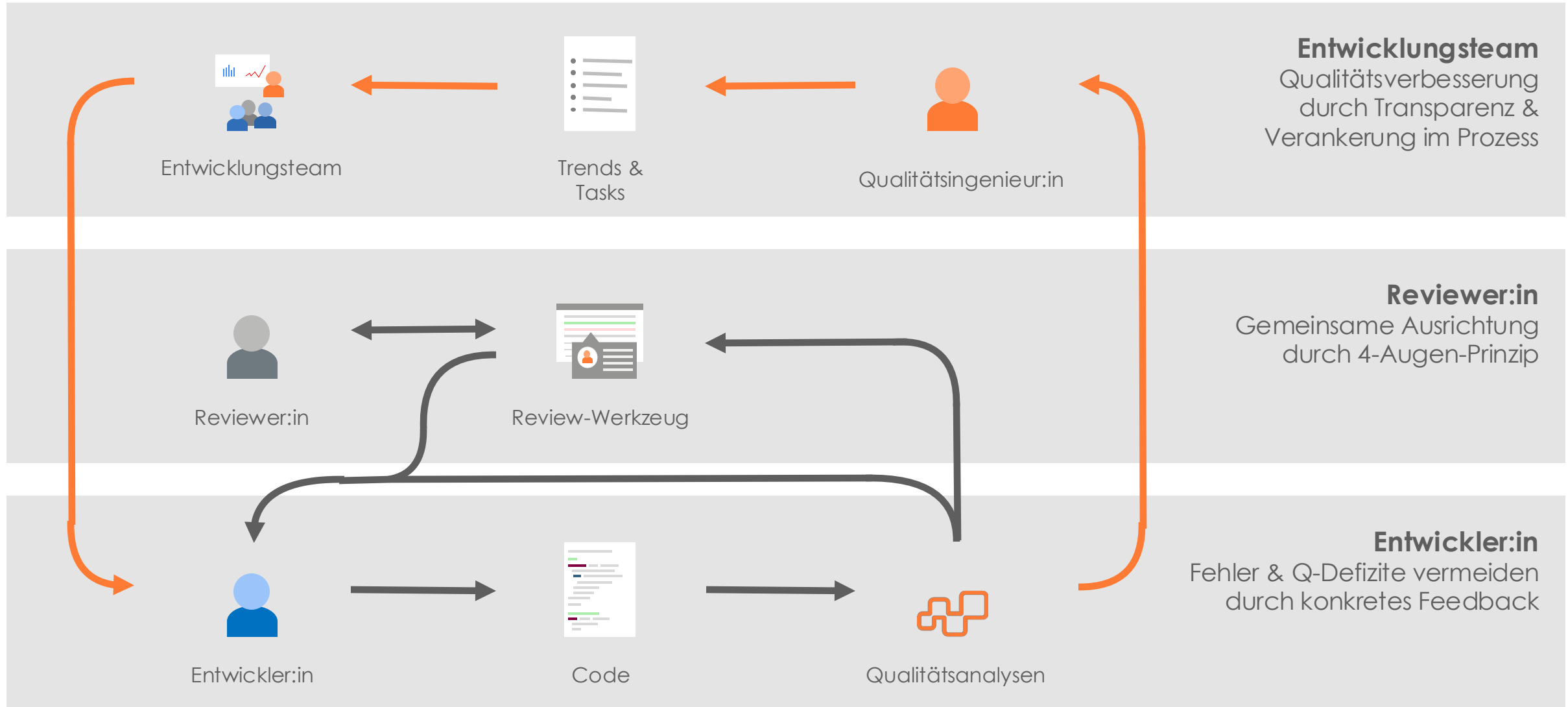
SEW EURODRIVE

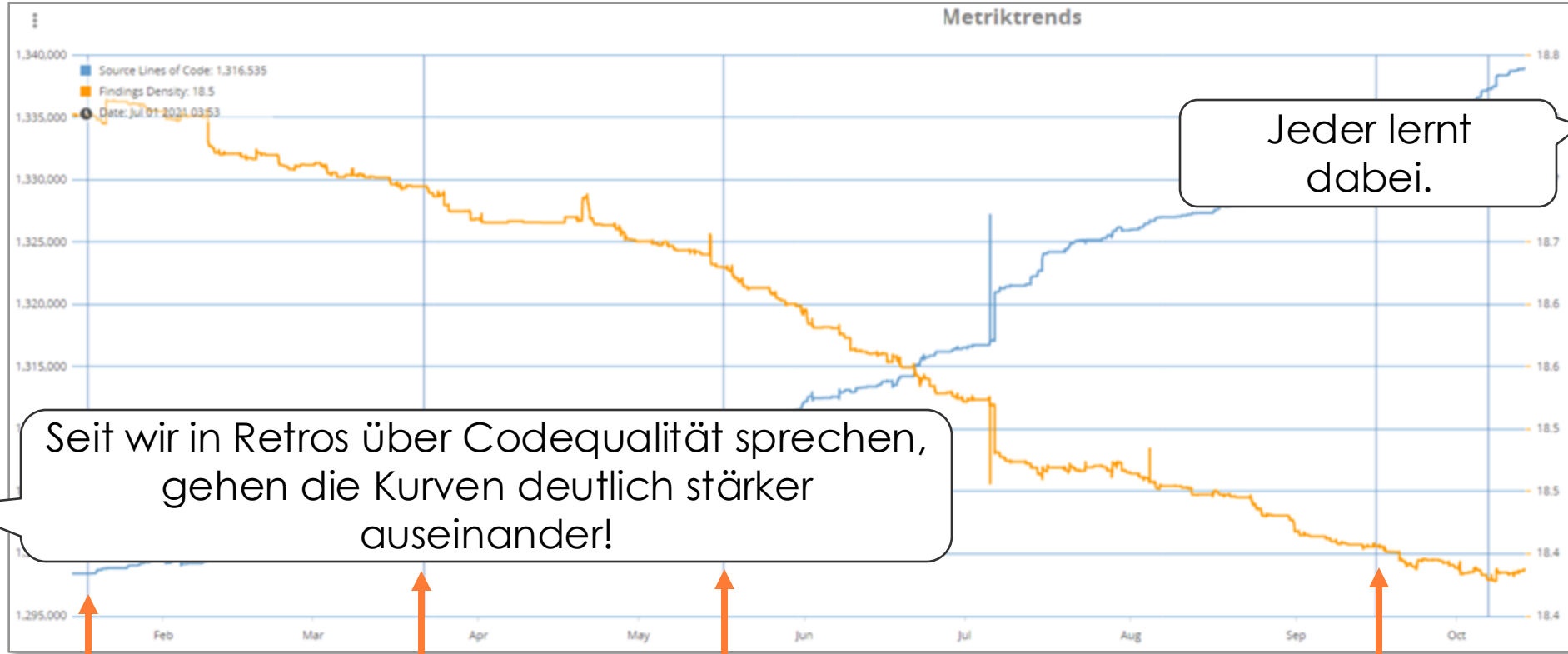


Mein Bauchgefühl sagt, dass wir
ein Qualitätsproblem haben...



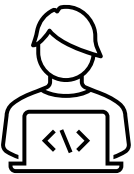
Es ist entscheidend, dass alle einen
besseren Überblick bekommen, inkl. dem
Management.





Jeder lernt dabei.

Seit wir in Retros über Codequalität sprechen, gehen die Kurven deutlich stärker auseinander!



Onboarding

1. Retro

2. Retro

3. Retro





Wir haben zu
viele Feldfehler!

Änderungen



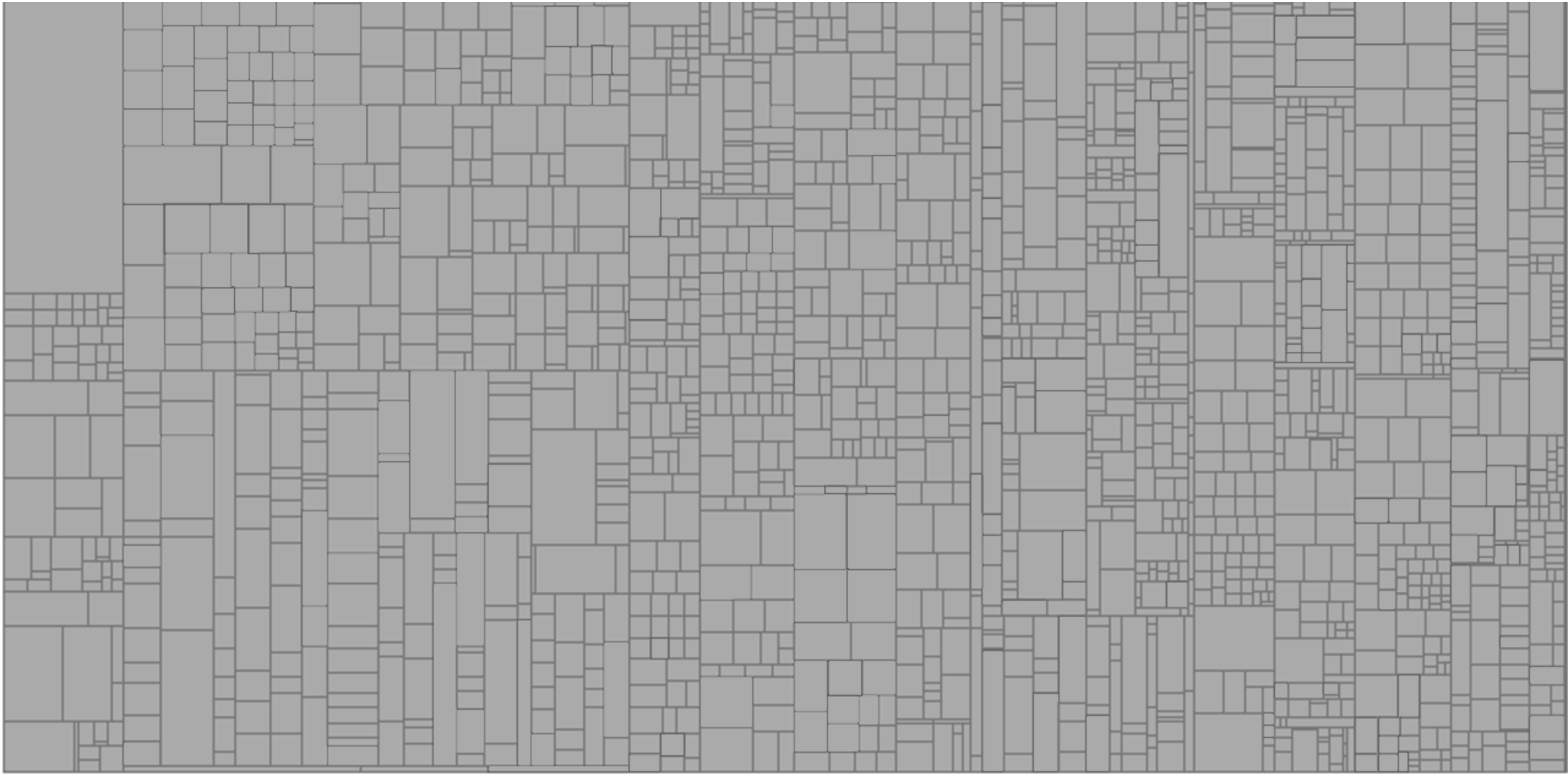
Test-Gap-
Analyse

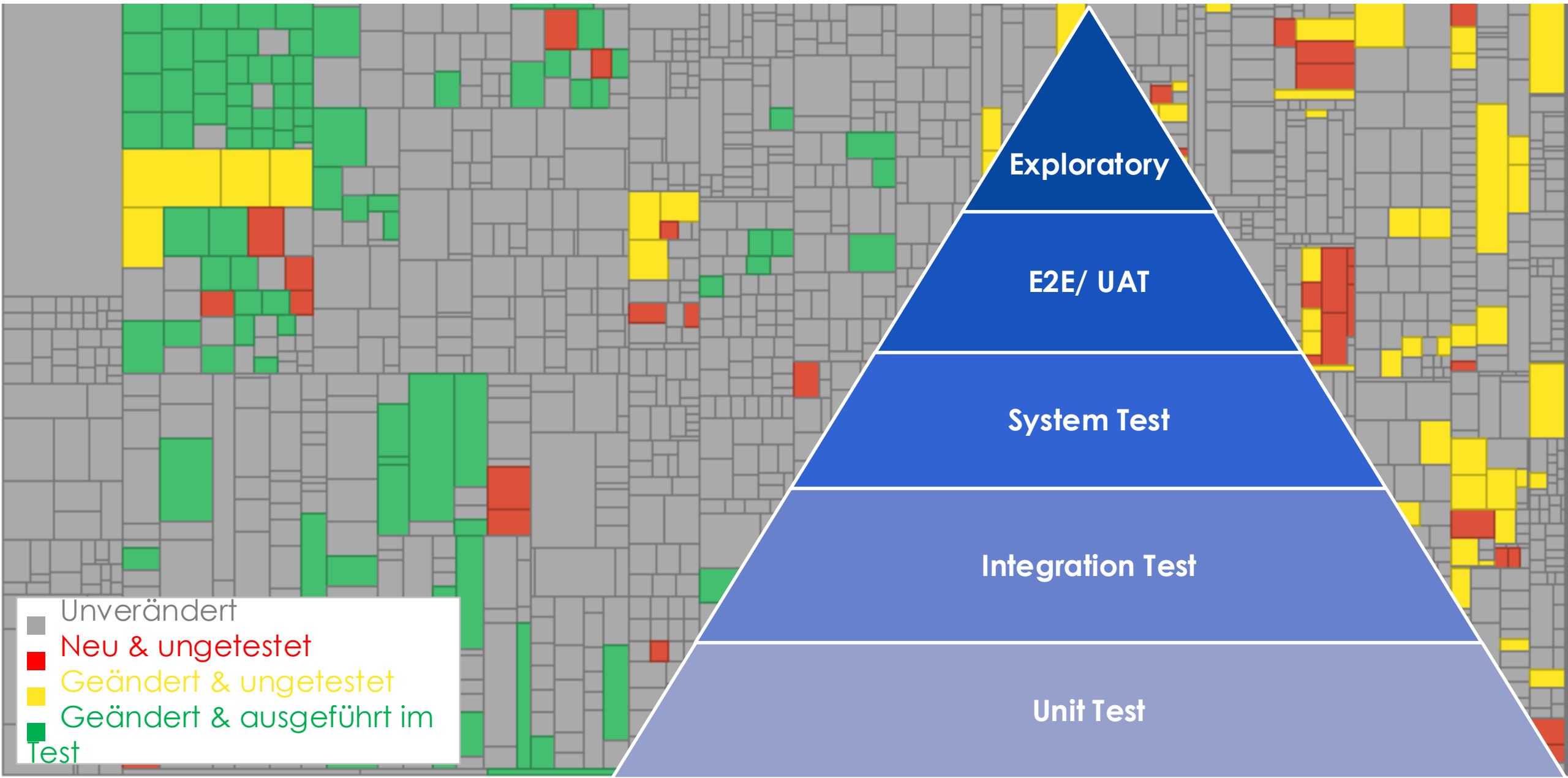


Ungetestete
Änderungen

Ausführung







Änderungen



Test-Gap-
Analyse

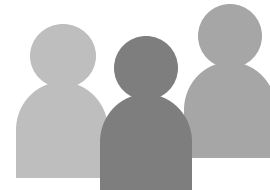


Ungetestete
Änderungen

Ausführung



Testfälle



Entwickler:innen, Tester:innen,
Testmanager:innen



Issue # ▾	Subject			Test Gap
TS-10549	Undo/Redo for web-based architecture editor	Done		0%
TS-10784	Fix long method finding in TaintAnalysisRunner	Done		0%
TS-10923	Implement metric 'Nesting Depth' for Simulink	Done		29%
TS-11364	External findings are not registered during first upload	Done		14%
TS-11942	Manual test coverage upload during development	Done		43%
TS-12262	Cannot set or alter alias without reanalysis	Done		0%
TS-12411	Test coverage upload fails for TS-12411	Done		0%

Für unsere POs ist der Test-Gap ein führendes Abnahmekriterium



Issue		Test Gap	
Issue #	Subject		
TS-10549	Undo/Redo		0%
TS-10784	Fix long me		0%
TS-10923	Implement		29%
TS-11364	External fir		14%
TS-11942	Manual tes		43%
TS-12262	Cannot set or alter alias without reanalysis		0%
TS-12411	Test case not testable due to...		0%

Issue

Code an

Impacte

Related Commits

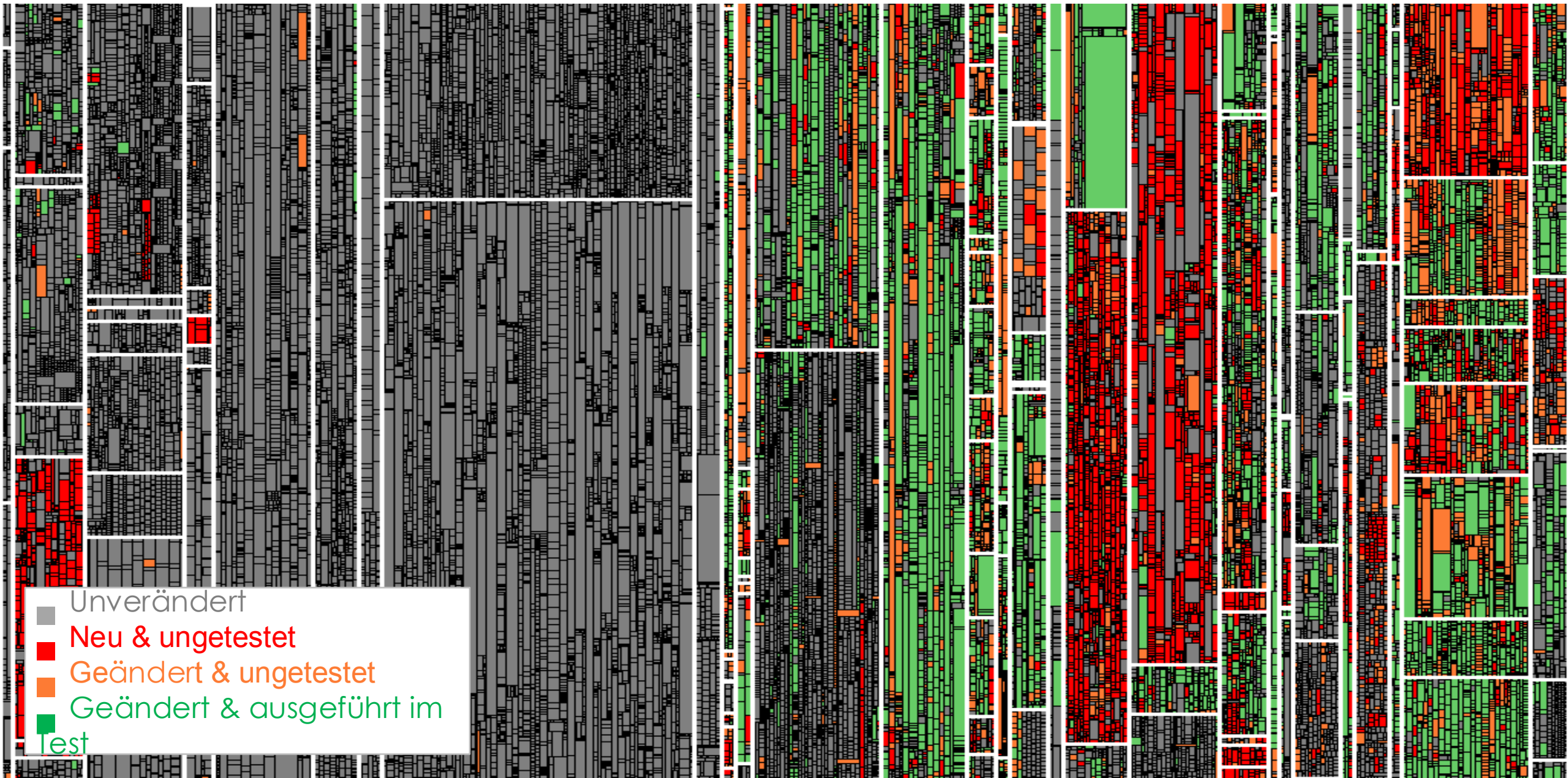
20% weniger Test Gap
48% höhere
Testabdeckung



Done



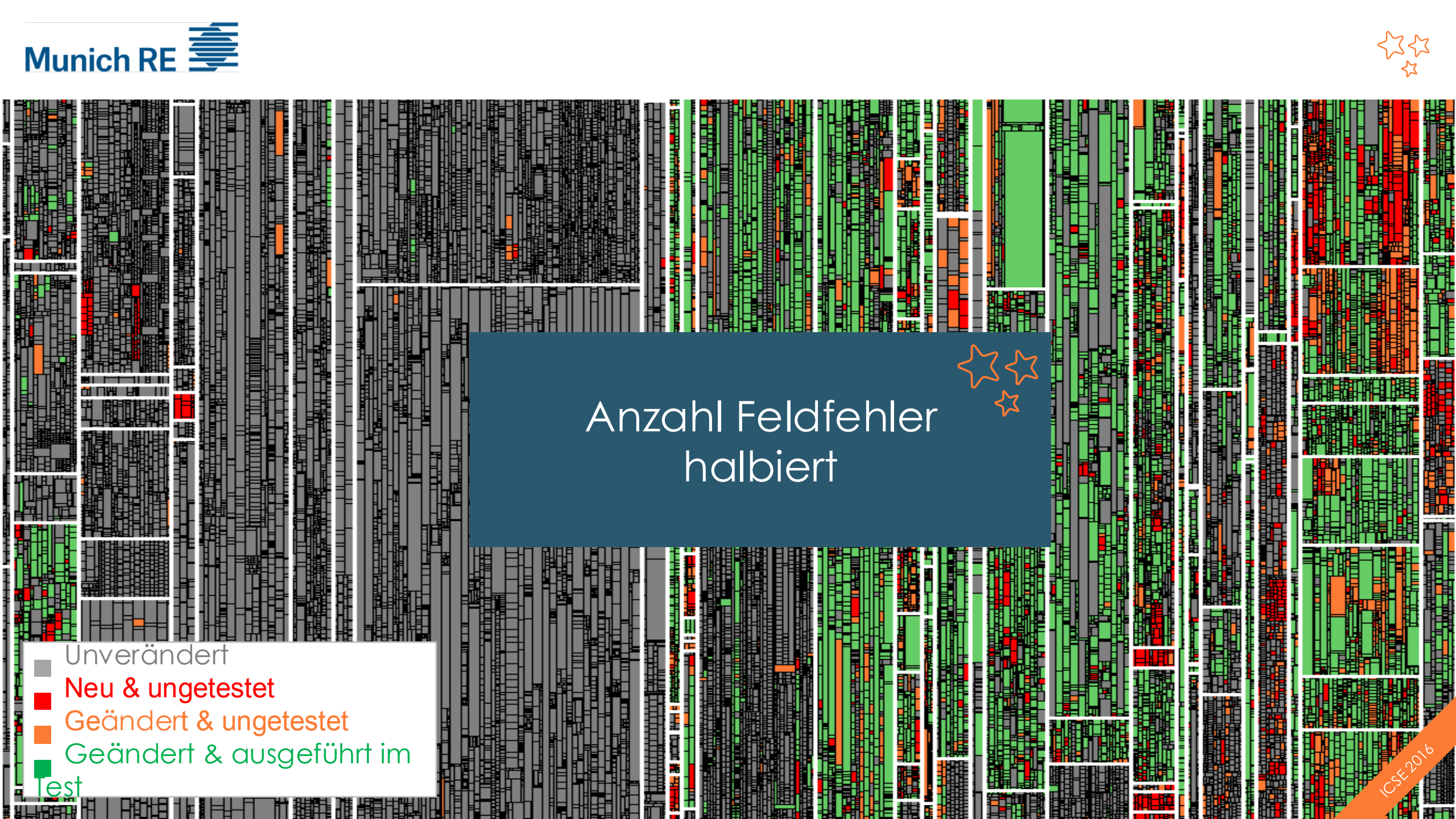
Können wir unsere Software
guten Gewissens releasen?





Wir steigern durch die Analyse
die Transparenz essenziell!

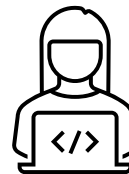
-  Unverändert
-  Neu & ungetestet
-  Geändert & ungetestet
-  Geändert & ausgeführt im Test



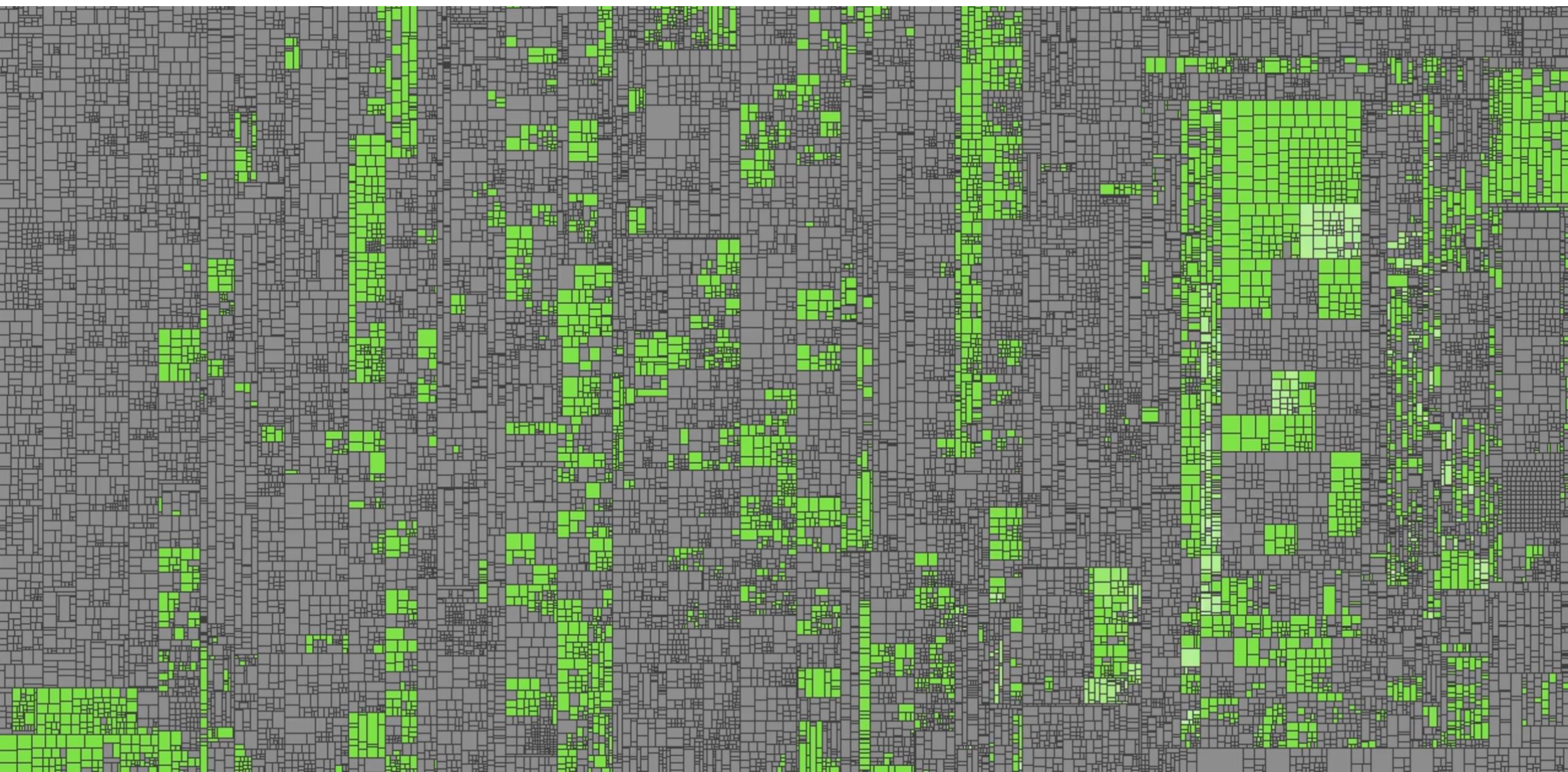
Anzahl Feldfehler
halbiert

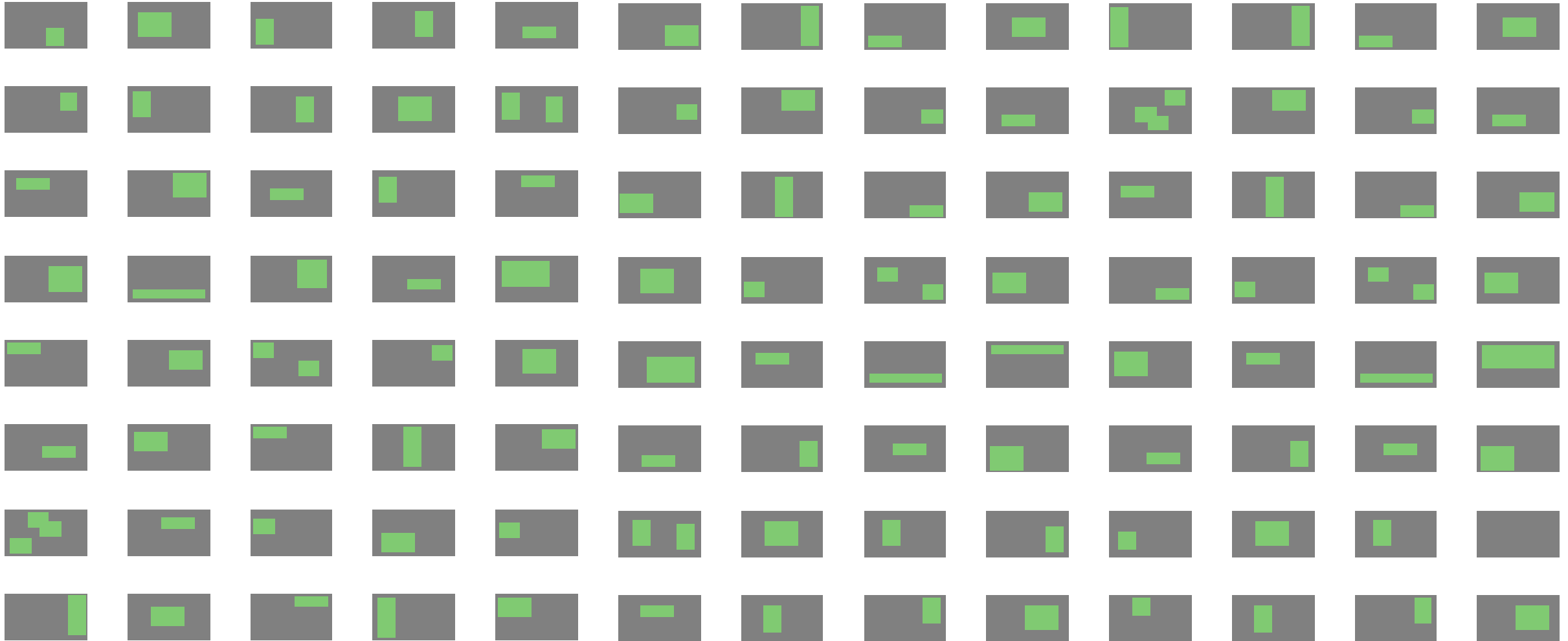


- Unverändert
- Neu & ungetestet
- Geändert & ungetestet
- Geändert & ausgeführt im Test



Wir brauchen schnelleres
Test-Feedback!









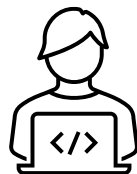
Unsere CI bleibt konstant
unter 10 Minuten!



70% der fehlschlagenden
Commits in nur 5% der Zeit



Die Testauswahl ermöglicht uns, unsere
80.000 Tests im Griff zu behalten.



Wer sichert unsere
Qualitätssicherung?

PESWXXT-9565: Remove remaining deprecated keywords from rtl

 Open  requested to merge [PESWXXT-9565_Remove_remain...](#) into [PESWXXT-9423_new_RTL_17_0_0](#) 20 hours ago

Overview **3** Commits **4** Pipelines **5** Changes **17**

 Teamscale Findings  **3**  **3**  **1** 0 Test Gaps (0%) 

Edited 19 hours ago by Gitlab Technical User

 0  0 

 Merged result pipeline **#72791** passed
Merged result pipeline passed for [4fb0bf9f](#) 19 hours ago

   →   

8  [Approve](#) Requires 1 approval from eligible users. 

 Test summary: **no** changed test results, **876** total tests

[Full report](#) 

Die enge Workflow-Integration
ist entscheidend!



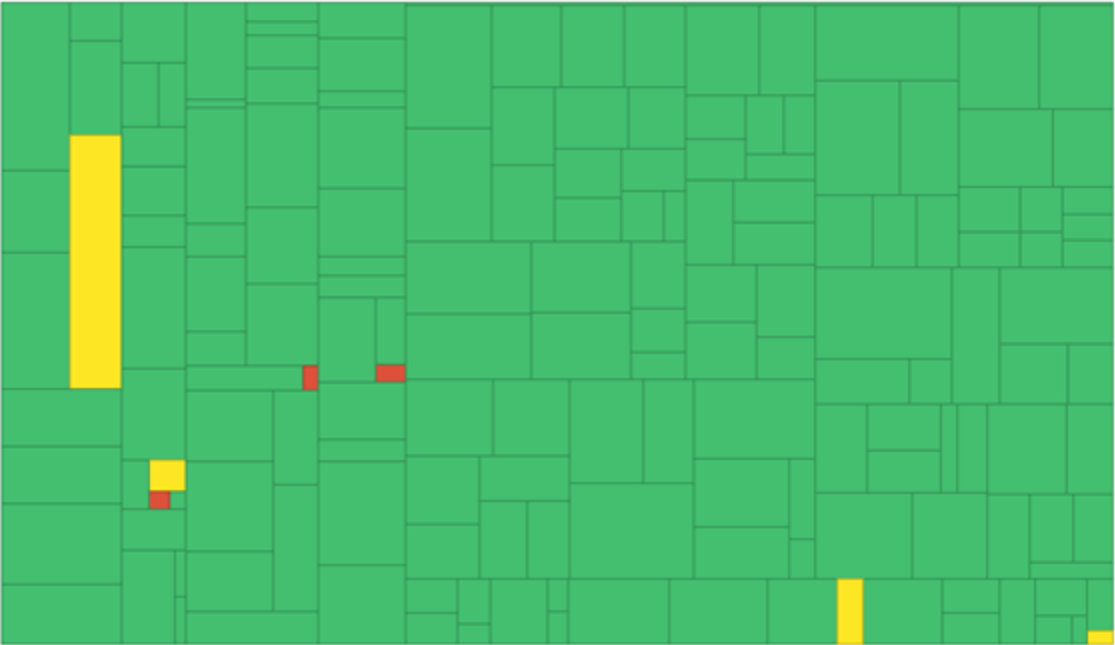
Metrics Table for [robotframework_rational_testlibrary](#)

☐	Files	223	↑
☐	Lines of Code	19.5k	↑
☐	Source Lines of Code	14.2k	↑
☒	File Size Assessment		↗
☐	Longest Method Length	49	→
☒	Method Length Assessment		↗
☒	Nesting Depth Assessment		↗
☐	Last Change Date	Dec 08 2022 15:52	
☐	Number of Findings	3.4k	↘
☐	Findings Density	175.9	↗
☒	Clone Coverage	1.3%	↗

Trend since 30 Days ago

Test Gap Treemap for [robotframework_rational_testlibrary](#)

Nov 12 2022 00:00 - Dec 12 2022 00:00 | Test Gap: 4.1%



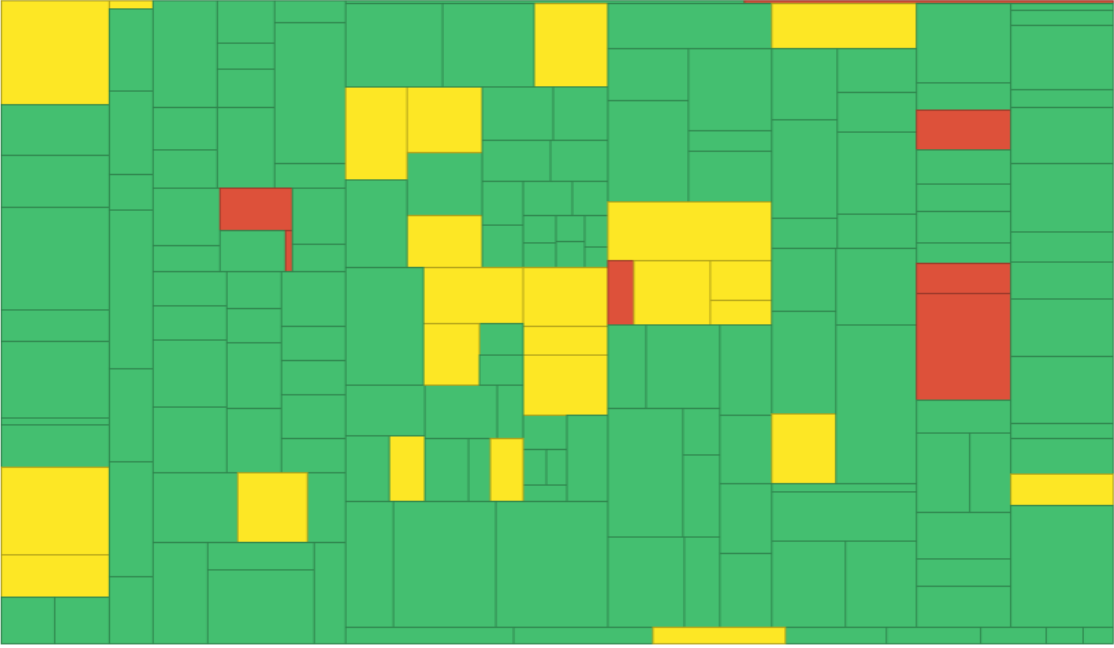
Metrics Table for [robotframework_rational_testlibrary](#)

☐	Files	224	↓
☐	Lines of Code	19.8k	↑
☐	Source Lines of Code	14.4k	↑
☒	File Size Assessment		↓
☐	Longest Method Length	50	↓
☒	Method Length Assessment		↓
☒	Nesting Depth Assessment		↓
☐	Last Change Date	Jan 17 2023 16:19	
☐	Number of Findings	3.5k	↓
☐	Findings Density	177.7	↓
☒	Clone Coverage	1.3%	→

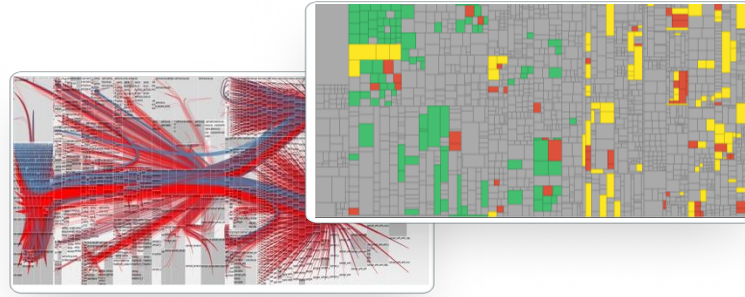
Trend since 30 Days ago

Test Gap Treemap for [robotframework_rational_testlibrary](#)

Dec 20 2022 00:00 - Jan 19 2023 00:00 | Test Gap: 17.1%



Wenn der Wächter schläft...

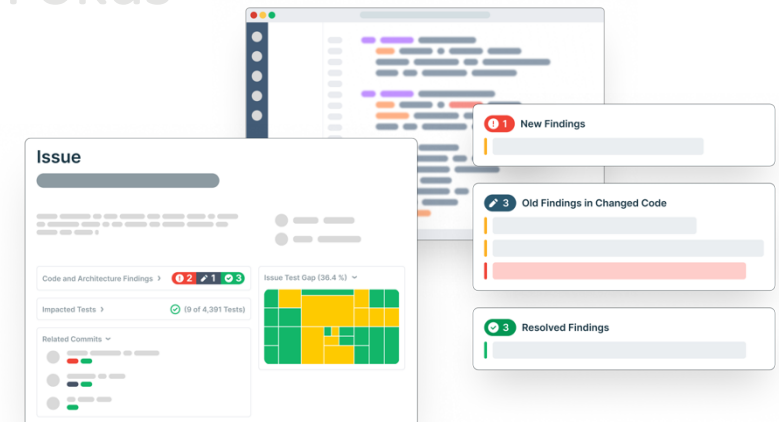
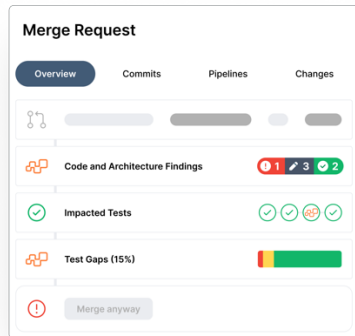


 Transparenz

Softwarequalität verbessern

 Alignment

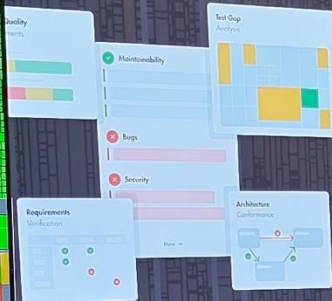
 Fokus





Create Transparency

Raise everyone's awareness by making quality visible, across code, tests, security, architecture, requirements and more, as well as all your technologies.



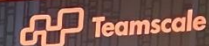
Align Your Teams

Get everyone working towards your quality goals, such as fewer bugs, clean code, less technical debt, higher security, regulatory compliance or any other.



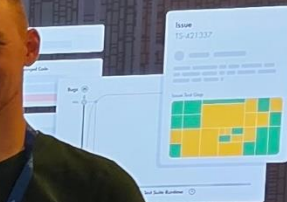
Teamscale

The Software Quality Platform for Great Teams



Focus on What Matters

Get the most from your valuable resources by providing actionable insights to everyone, from individual contributor to management.



improving quality by seamlessly
integrating new tools, such
as DevOps, Visual
Studio Code, and more.



CQSE

Ich freue mich über Feedback und Diskussionen



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Vortragsfolien



[tmscl.me/qs-
tag_sau](https://tmscl.me/qs-tag_sau)



Continuous Quality in Software
Engineering