



Change-Driven-Testing

Effektiv und effizient testen trotz immer kürzerer Release-Zyklen

14. Mai 2020

Dr. Sven Amann



Praxis

Software-**Audits**

Kontinuierliche **Qualitäts-**
und **Testkontrolle**

 **Teamscale**

CQSE GmbH

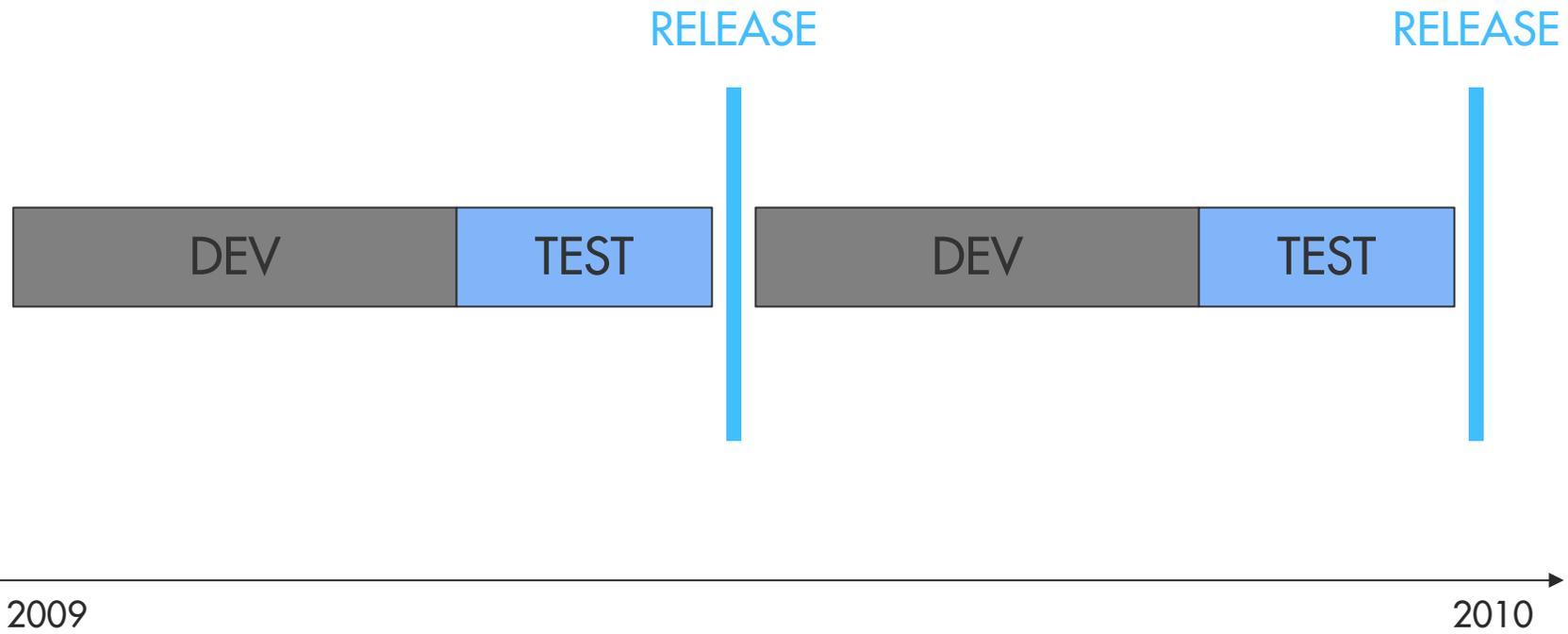


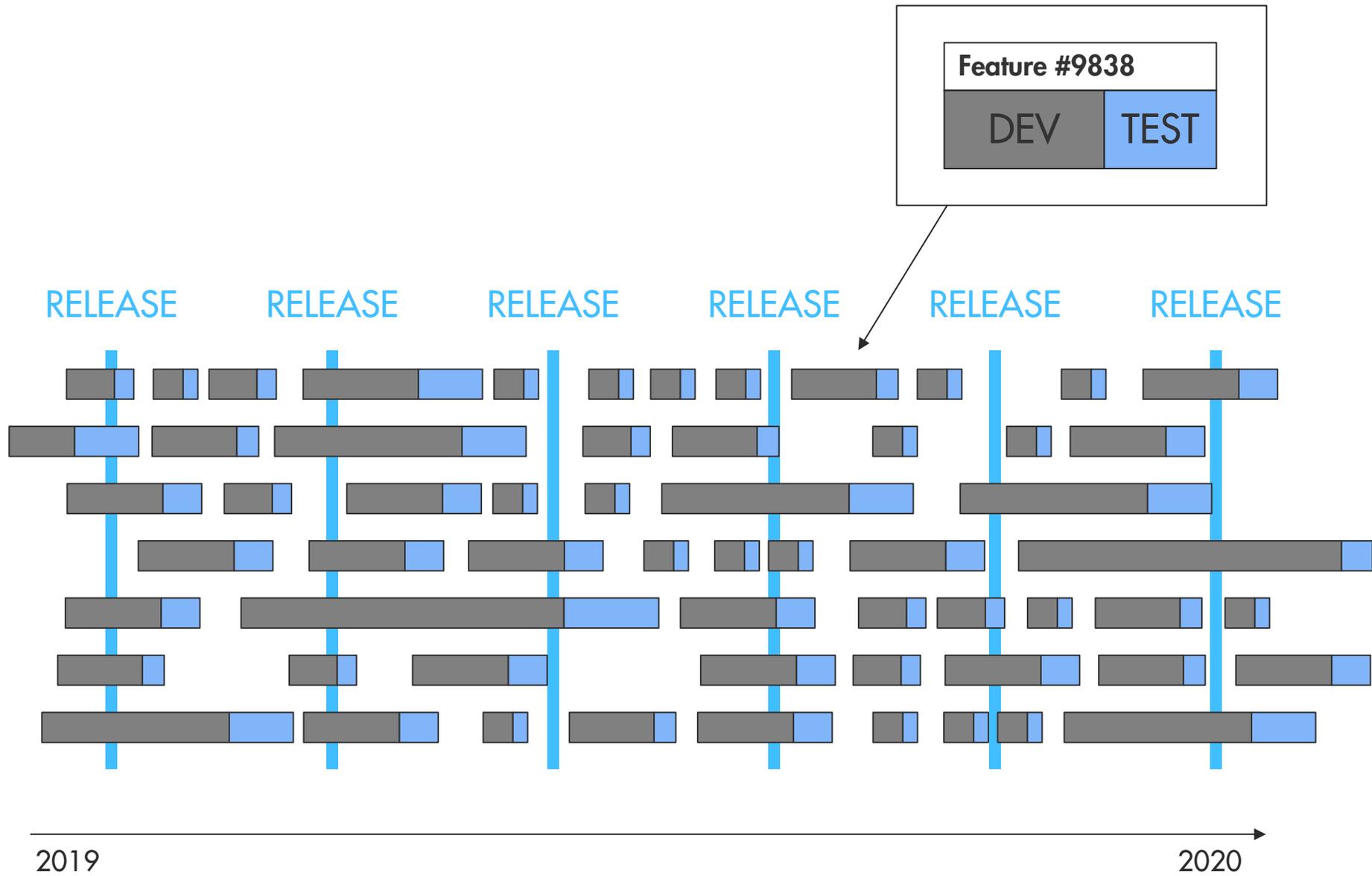
Forschung

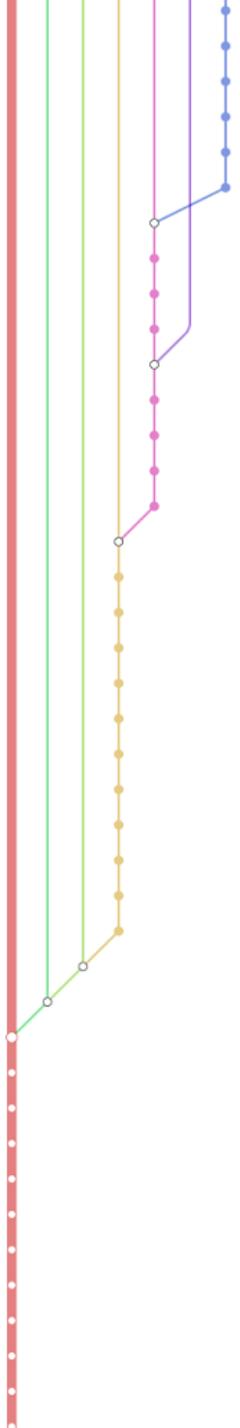
17+ **Promotionen** in
Software Engineering

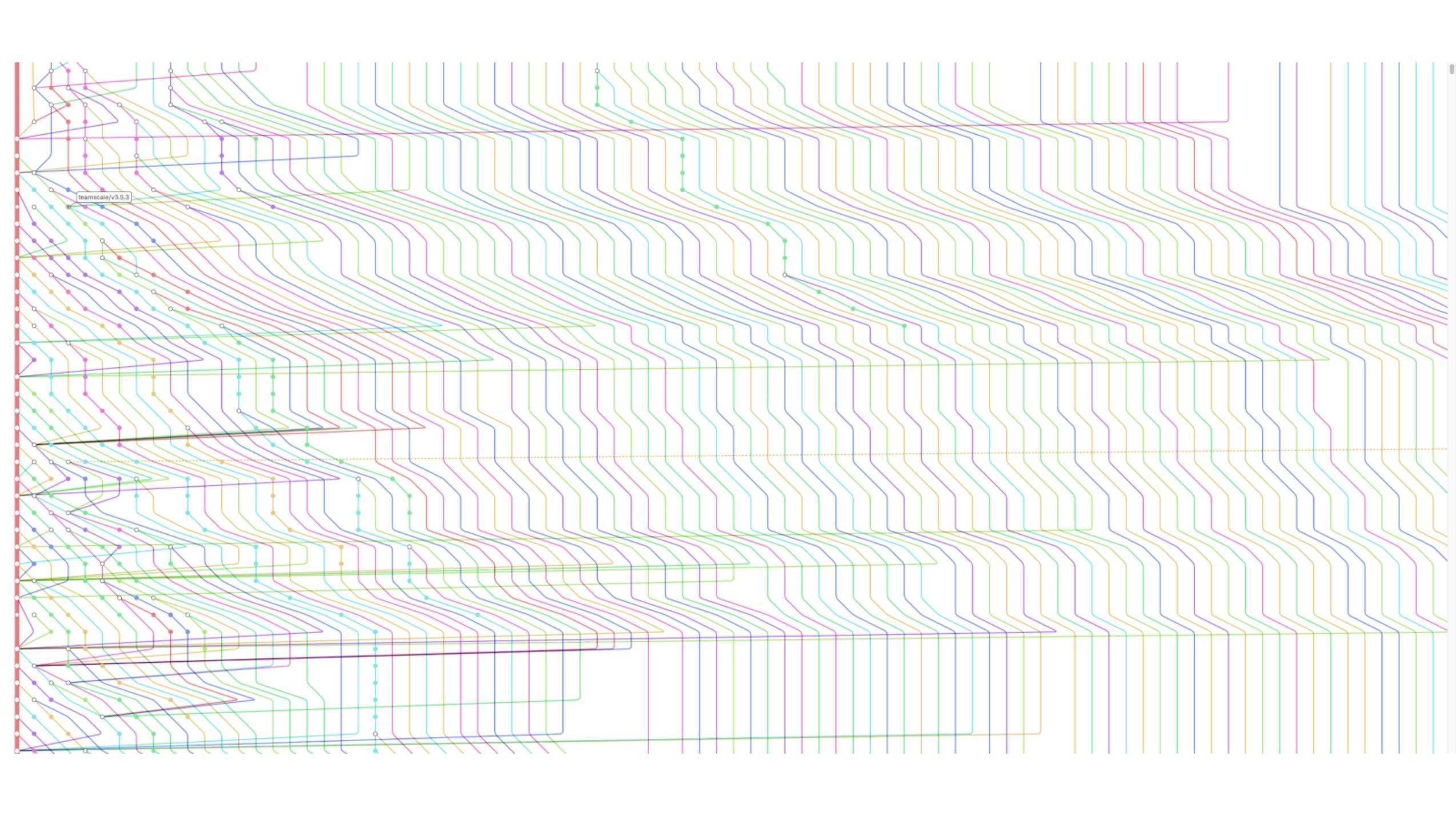
Eigene **Forschung**

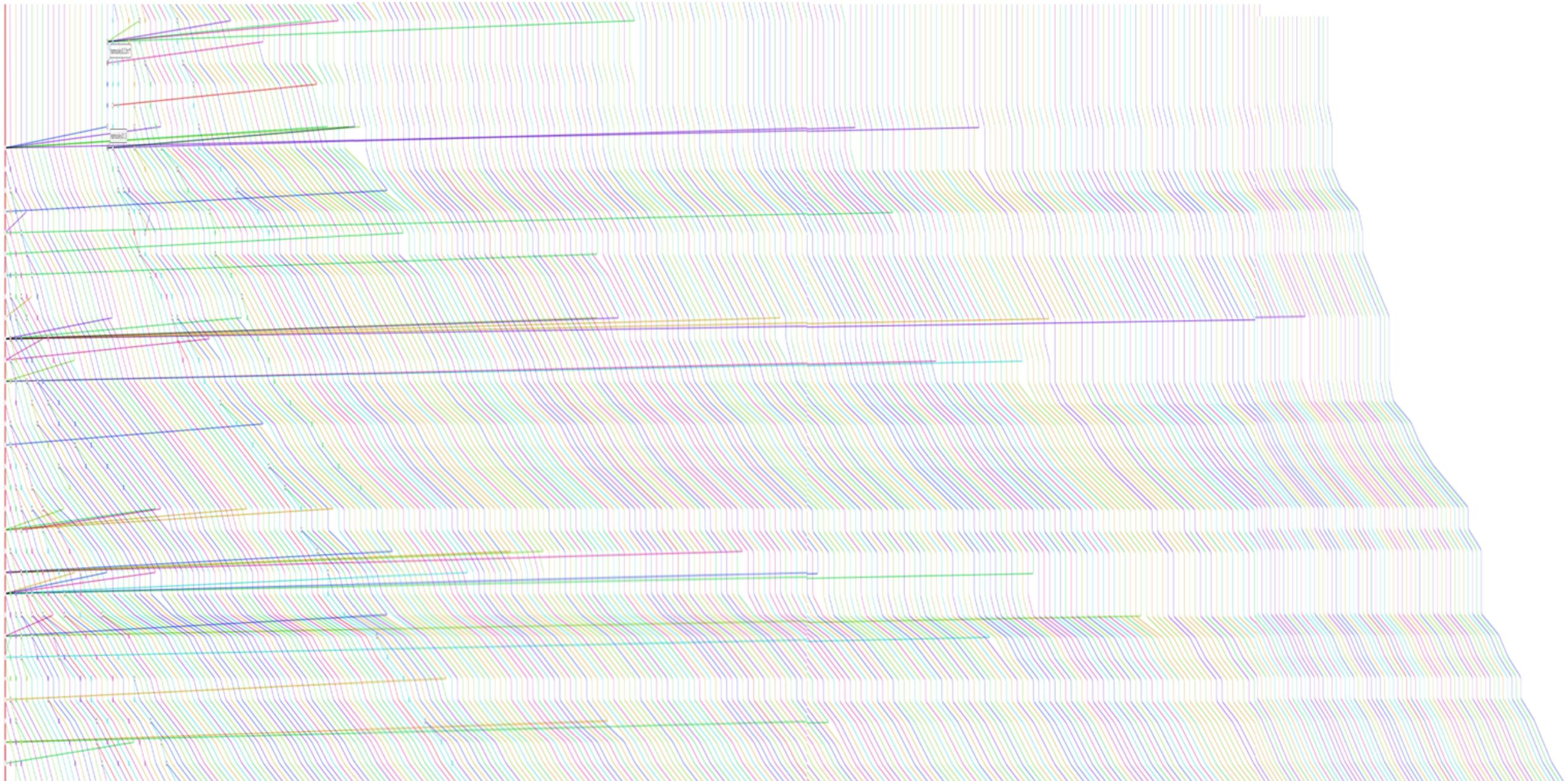
Enger Kontakt zu
Universitäten











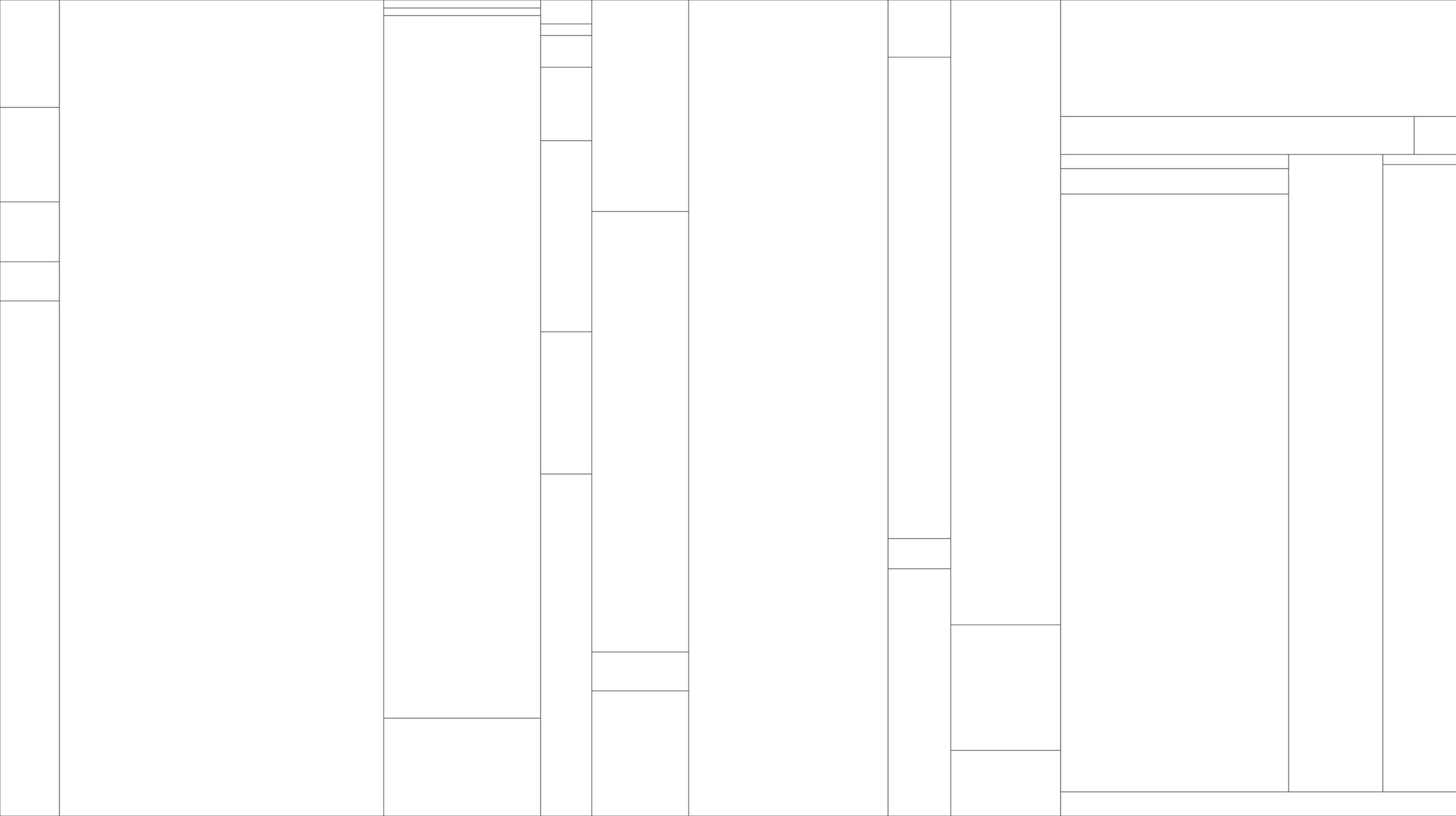
Mehr
Effektivität
&
Effizienz

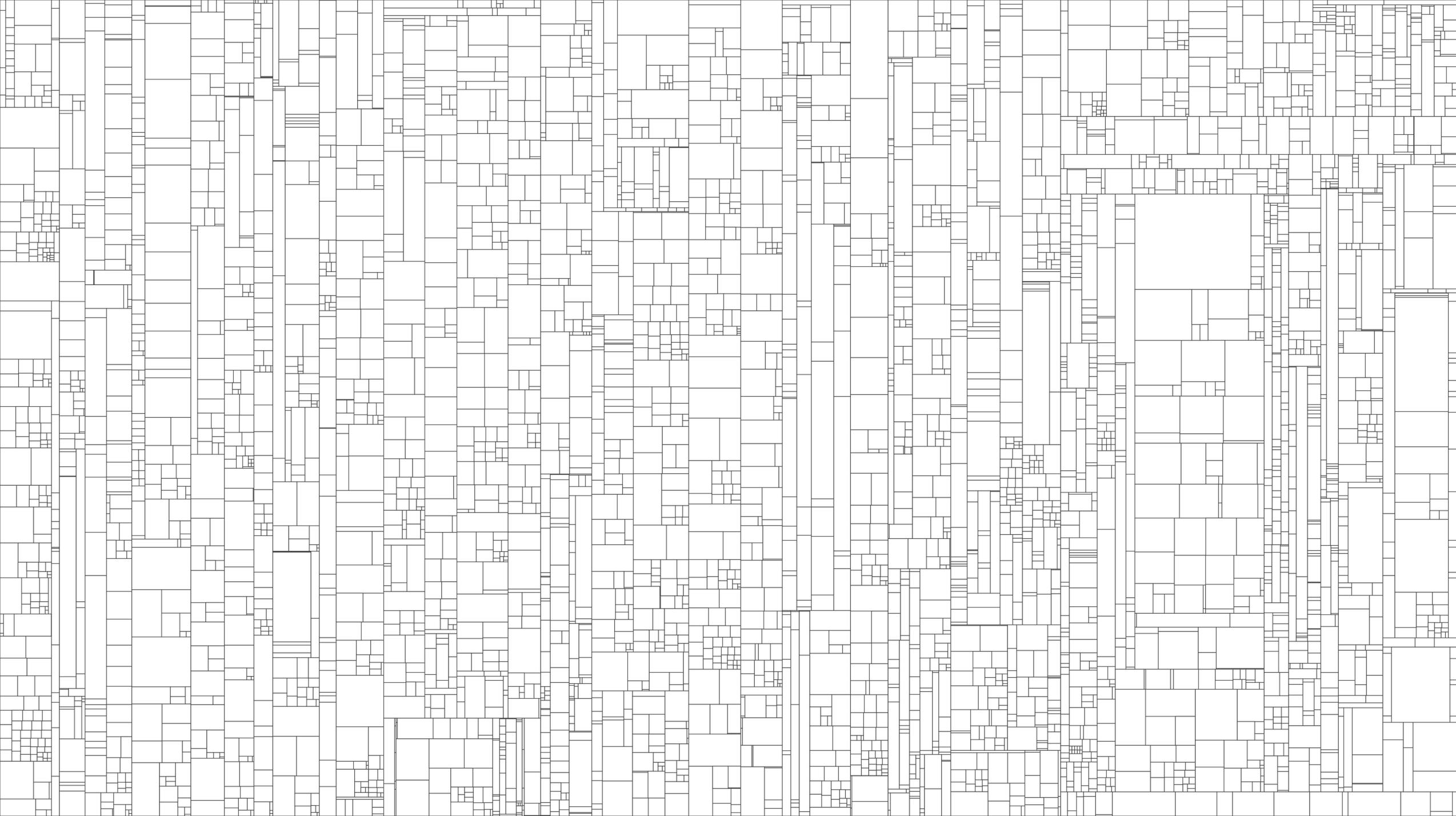


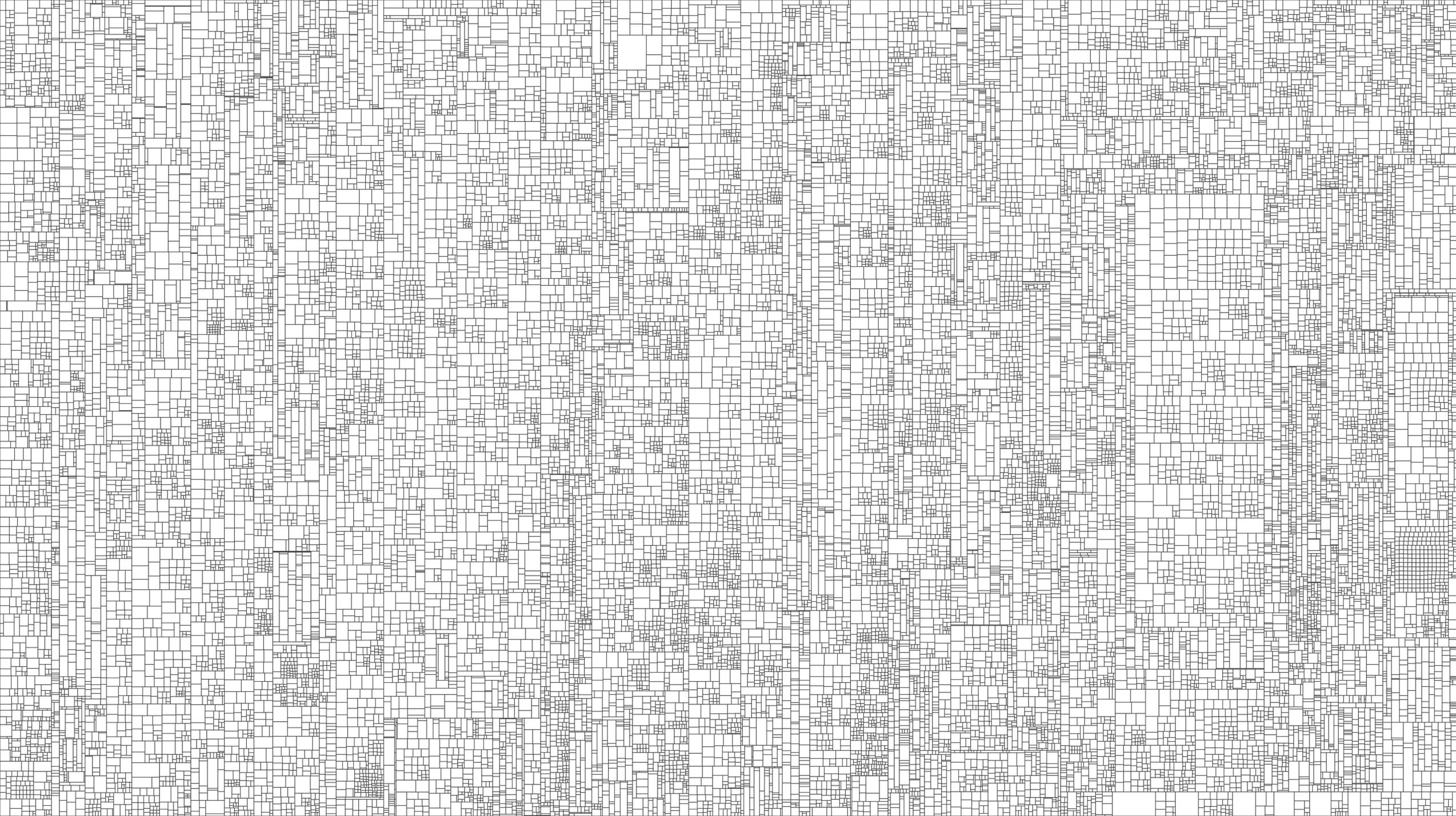
Mehr
Effektivität
&
Effizienz

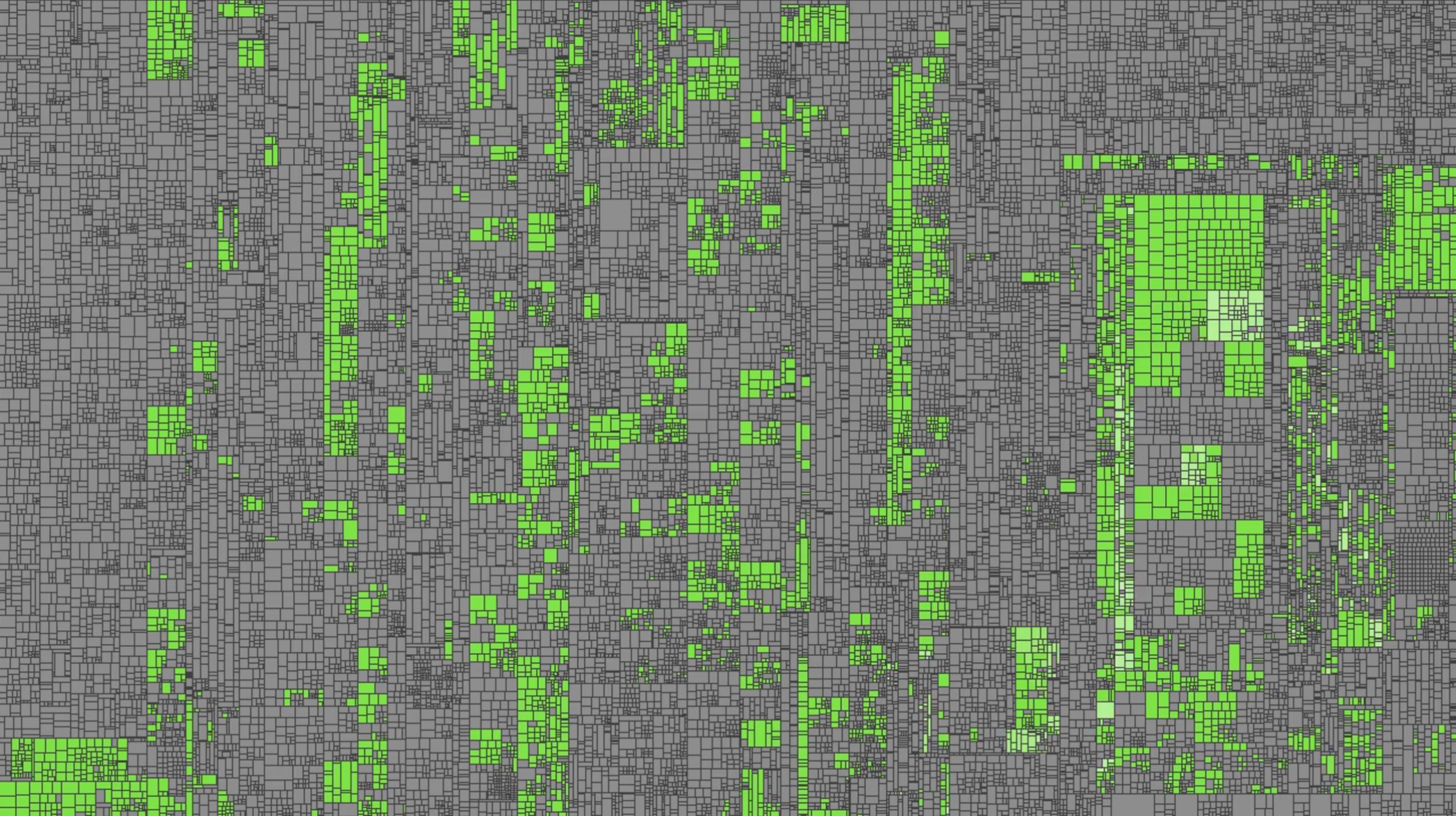














Teamscale / TS-10829

Data Flow Analysis can not handle java lambdas (logs many errors currently)

- Edit
- Comment
- Assign
- More ▾
- Back to New



Details

Type:	Bug	Status:	DONE (View Workflow)
Priority:	↑ High	Resolution:	Green
Component/s:	Backend	Fix Version/s:	Teamscale 4.3
Labels:	dataflow java		
Affected Version:	master		
Merge Request:	https://git.cqse.eu/cqse/teamscale/merge_requests/2734		
PDash Task:	#4886		

Description

Analysis profile: Java

Repository: JabRef, start revision 9efd23b71871747fe5e18e915e637891d7e55b6d

```
ERROR : An error occurred while trying to construct a CFG for function 'null' in element src/main/java/net/sf/jabref/exporter/layout/format/DOI
[STATEMENT: lambda expression: null (lines 33-33)
]
Tokens: doi . getURL ( )
Occurred in src/main/java/net/sf/jabref/exporter/layout/format/DOICheck.java:32-32 (com.teamscale.index.dataflow.DataFlowFindingsSynchronizer.c
org.conqat.engine.core.core.ConQATException: Could not find any rule that applies to the following entity list:
[STATEMENT: lambda expression: null (lines 33-33)
]
Tokens: doi . getURL ( )
Occurred in src/main/java/net/sf/jabref/exporter/layout/format/DOICheck.java:32-32
at org.conqat.engine.sourcecode.dataflow.heuristics.ControlFlowCreator.findApplicableRule(ControlFlowCreator.java:164)
at org.conqat.engine.sourcecode.dataflow.heuristics.ControlFlowCreator.transformOneStep(ControlFlowCreator.java:139)
at org.conqat.engine.sourcecode.dataflow.heuristics.ControlFlowCreator.transform(ControlFlowCreator.java:92)

[...]
```

People

Assignee:	Andreas Sewe Assign to me
Reporter:	Rainer Niedermayr
QA-Contact:	Alexander von Rhein
Votes:	2 Vote for this issue
Watchers:	3 Start watching this issue

Dates

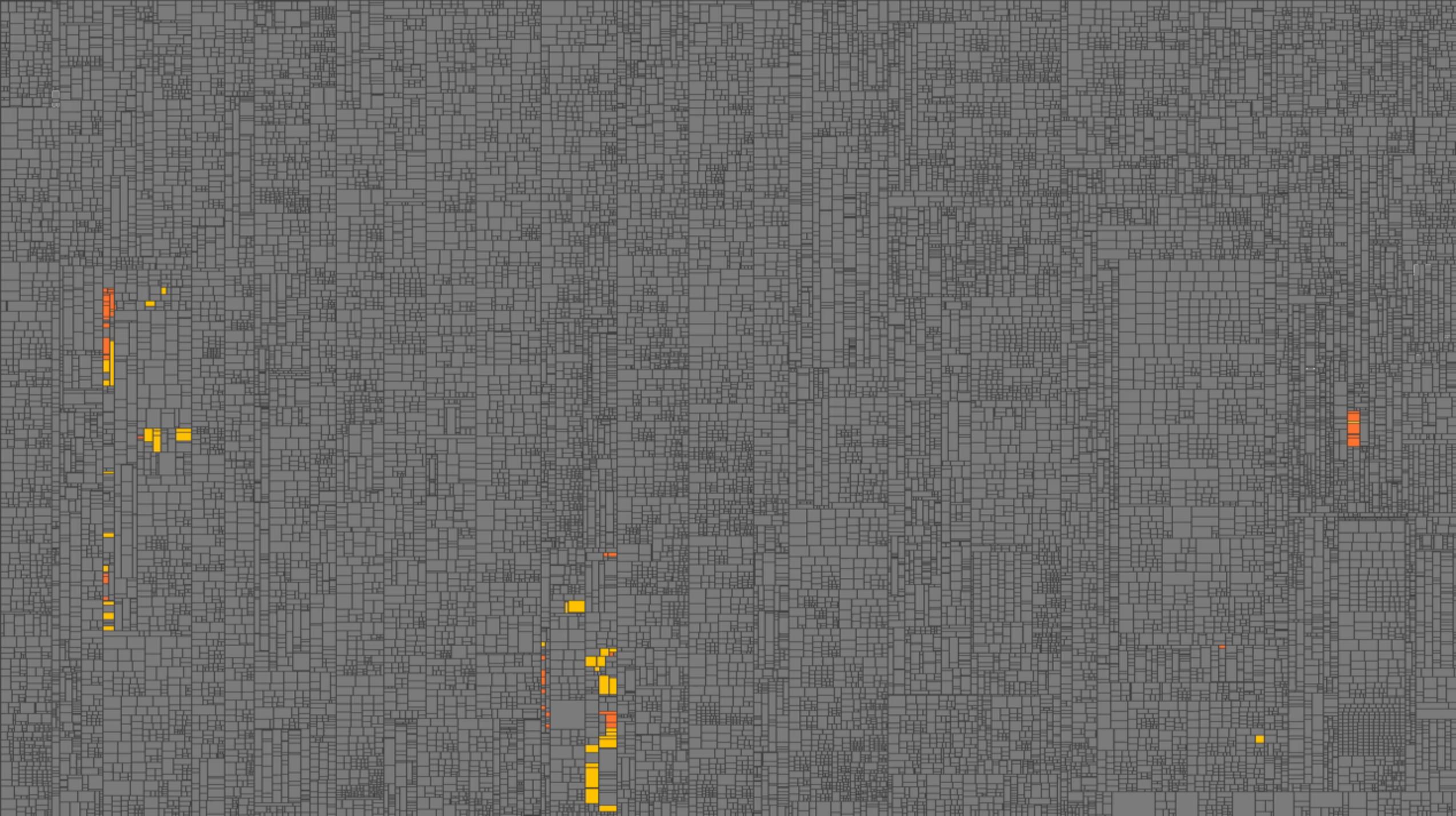
Created:	24/Nov/16 8:35 AM
Updated:	4 days ago
Resolved:	08/May/18 12:42 PM

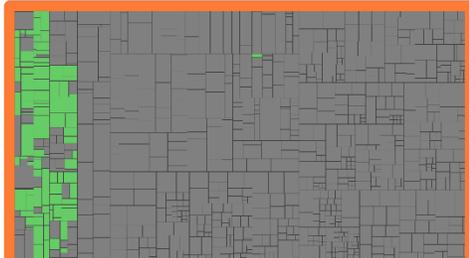
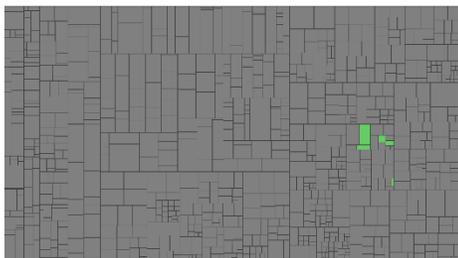
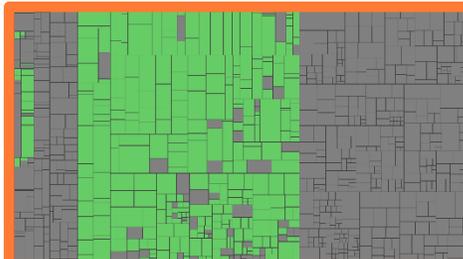
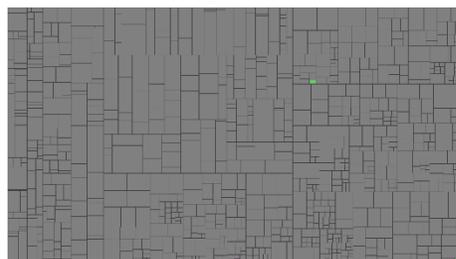
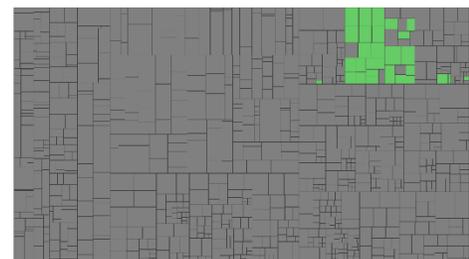
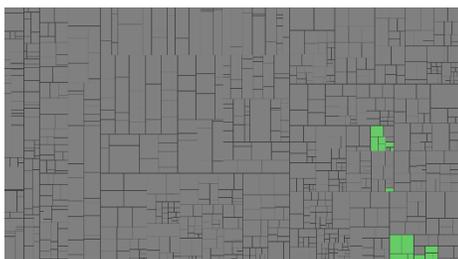
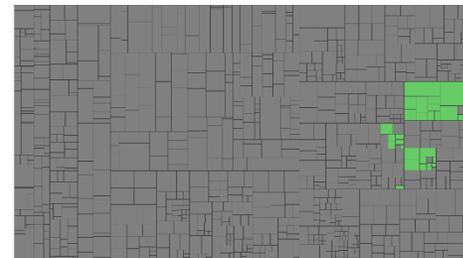
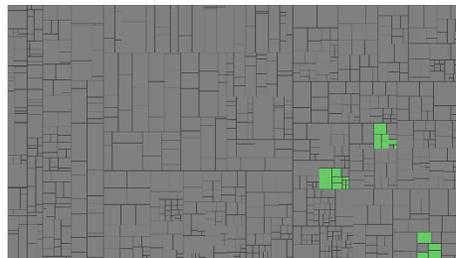
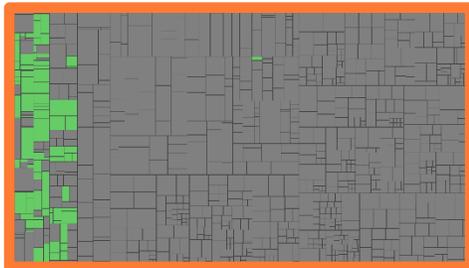
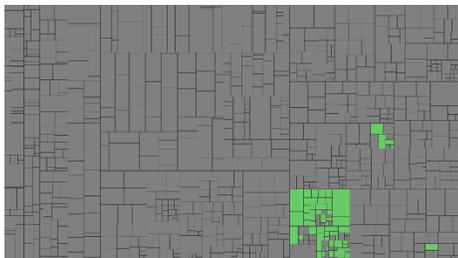
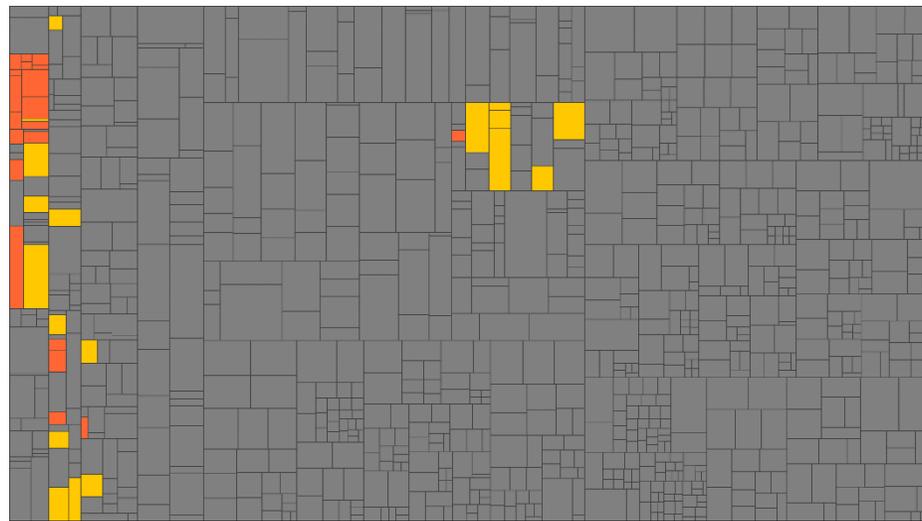
Time Tracking

Estimated:		Not Specified
Remaining:		0m
Logged:		4d 1h 57m

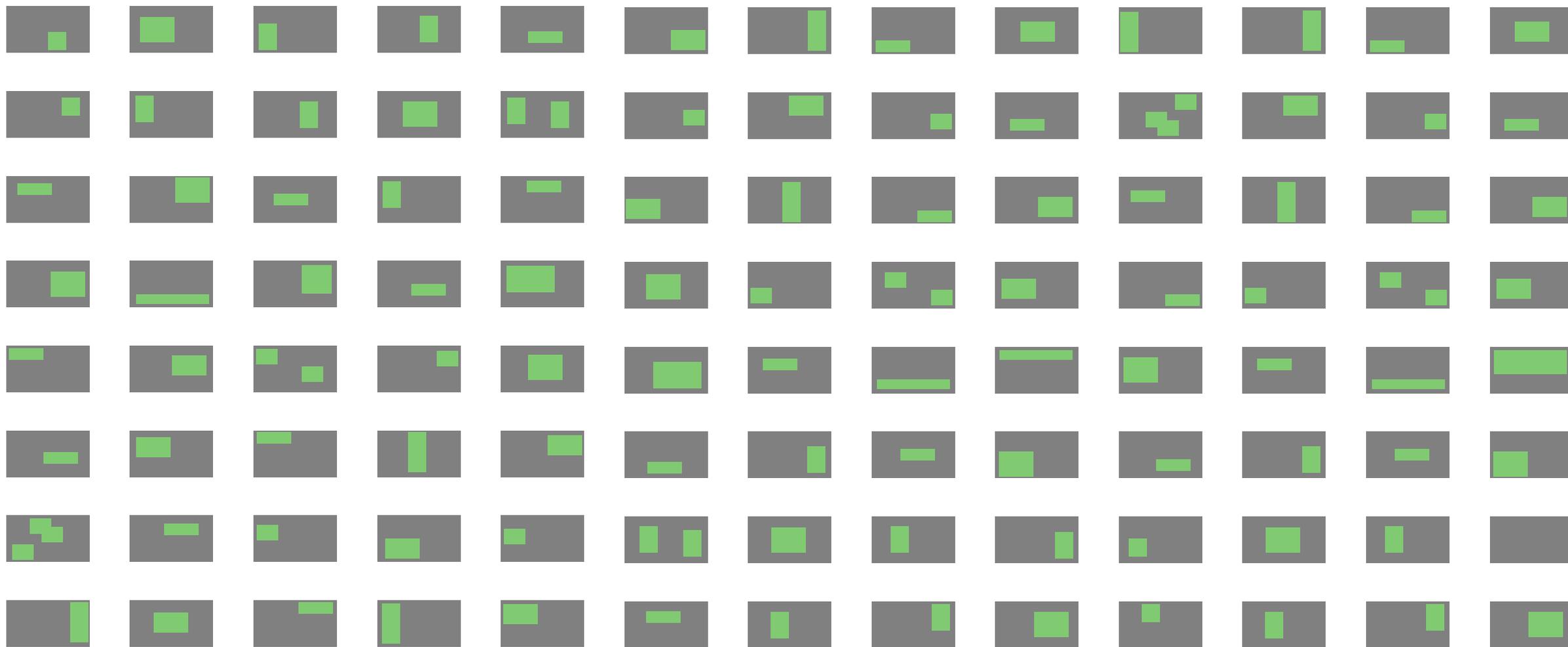
Agile

[View on Board](#)





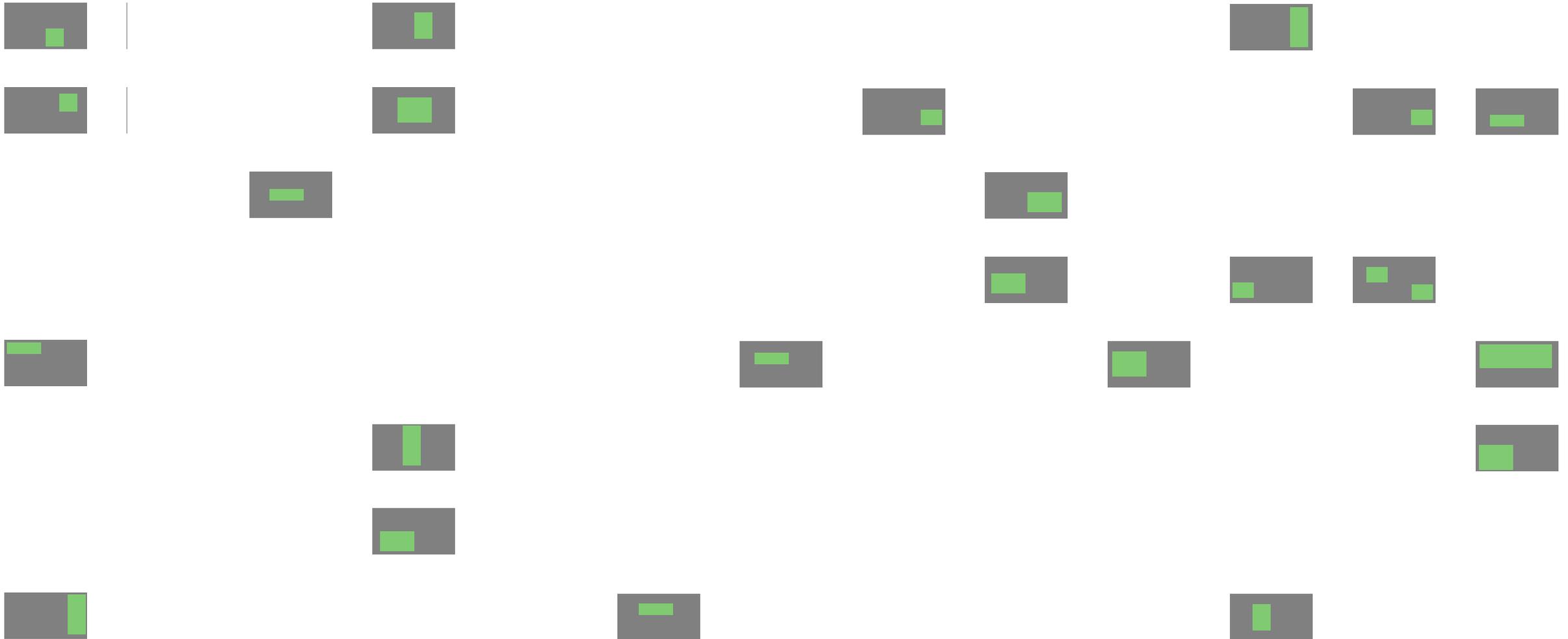
... 4000+ Testfälle
ohne Überdeckung



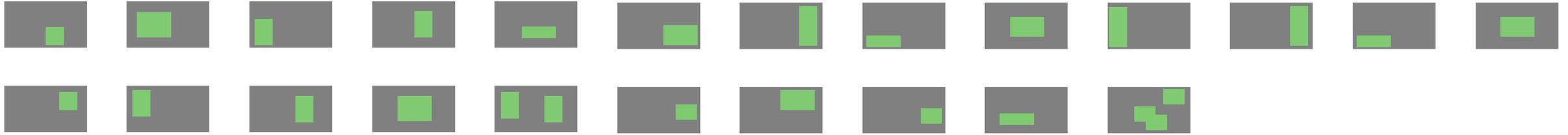
Schritt 1: Selektion betroffener Testfälle



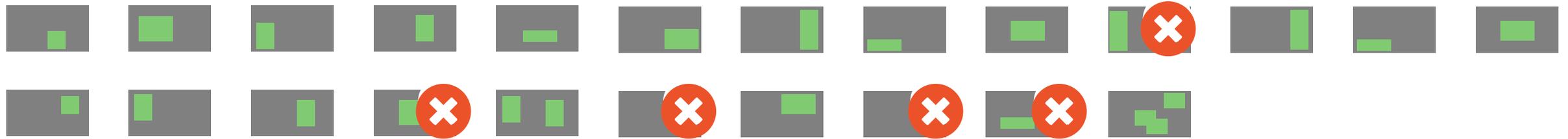
Schritt 1: Selektion betroffener Testfälle



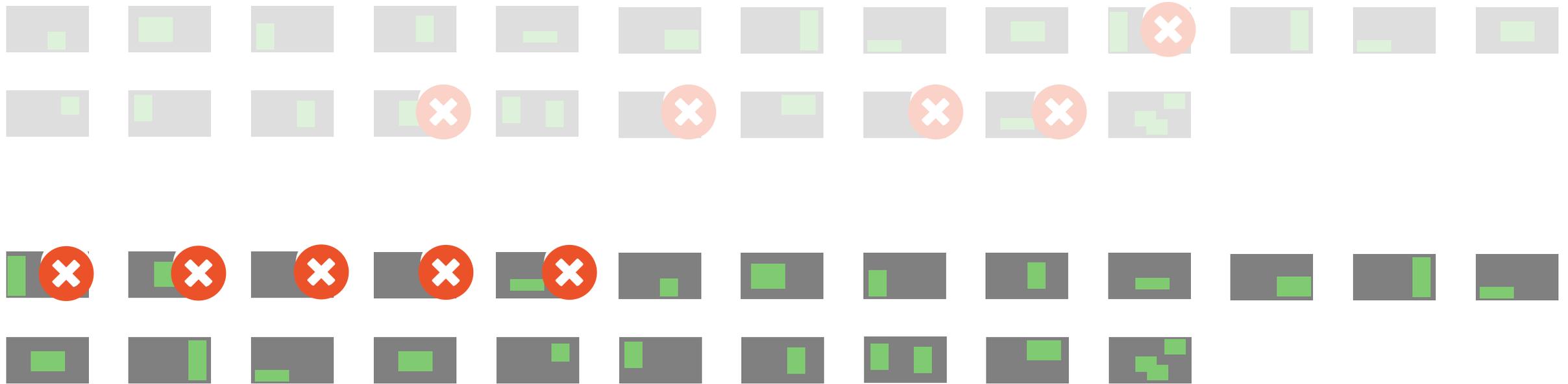
Schritt 1: Selektion betroffener Testfälle



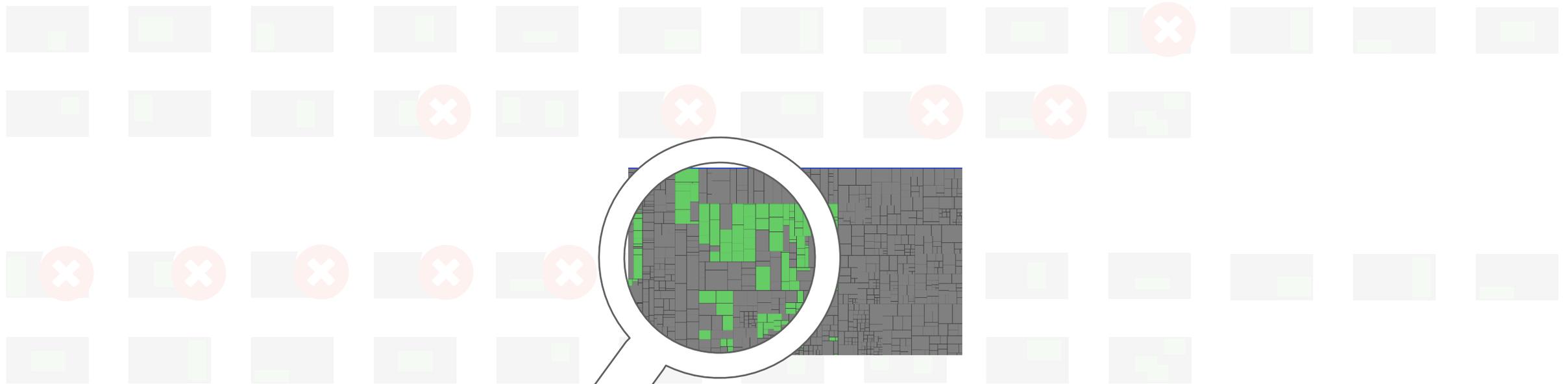
Schritt 2: Priorisierung selektierter Testfälle



Schritt 2: Priorisierung selektierter Testfälle

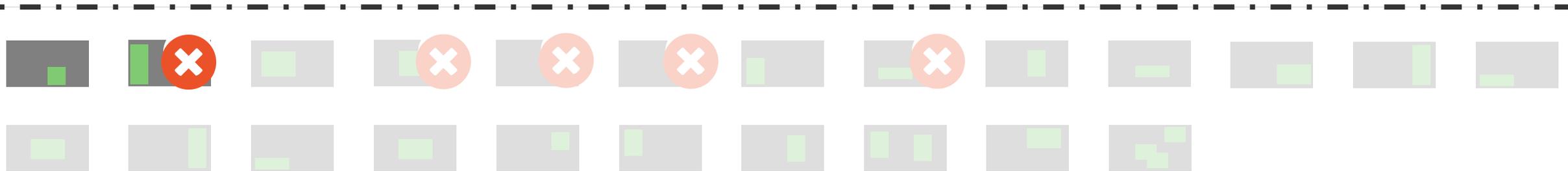


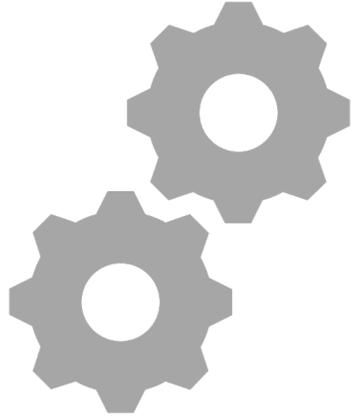
Schritt 2: Priorisierung selektierter Testfälle



 Change coverage

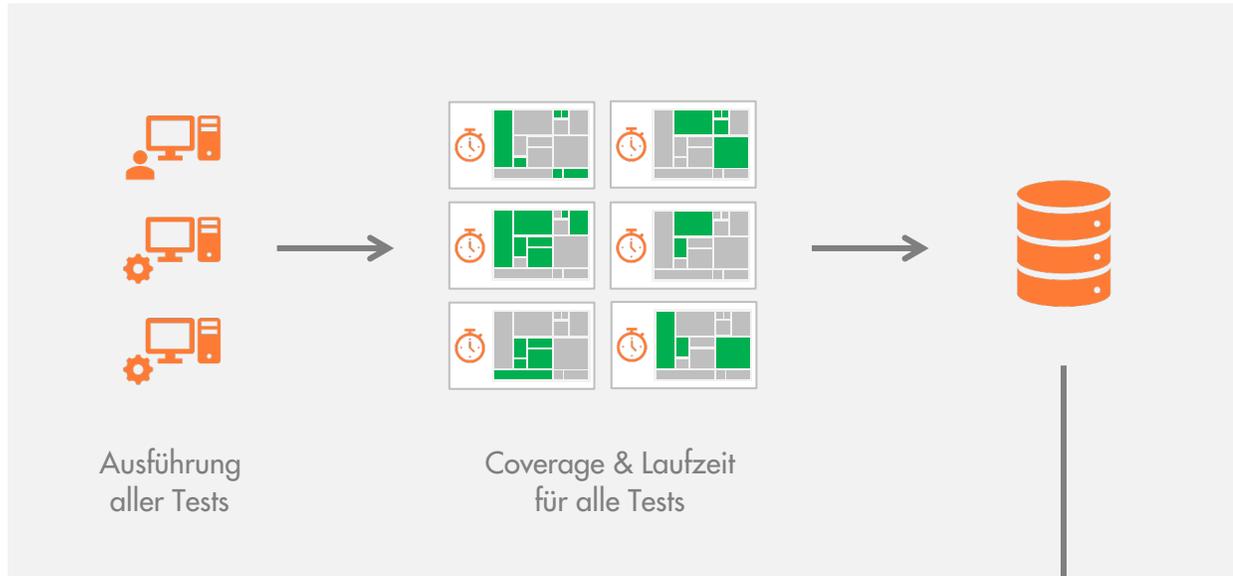
 Execution time





Test-Impact Analyse

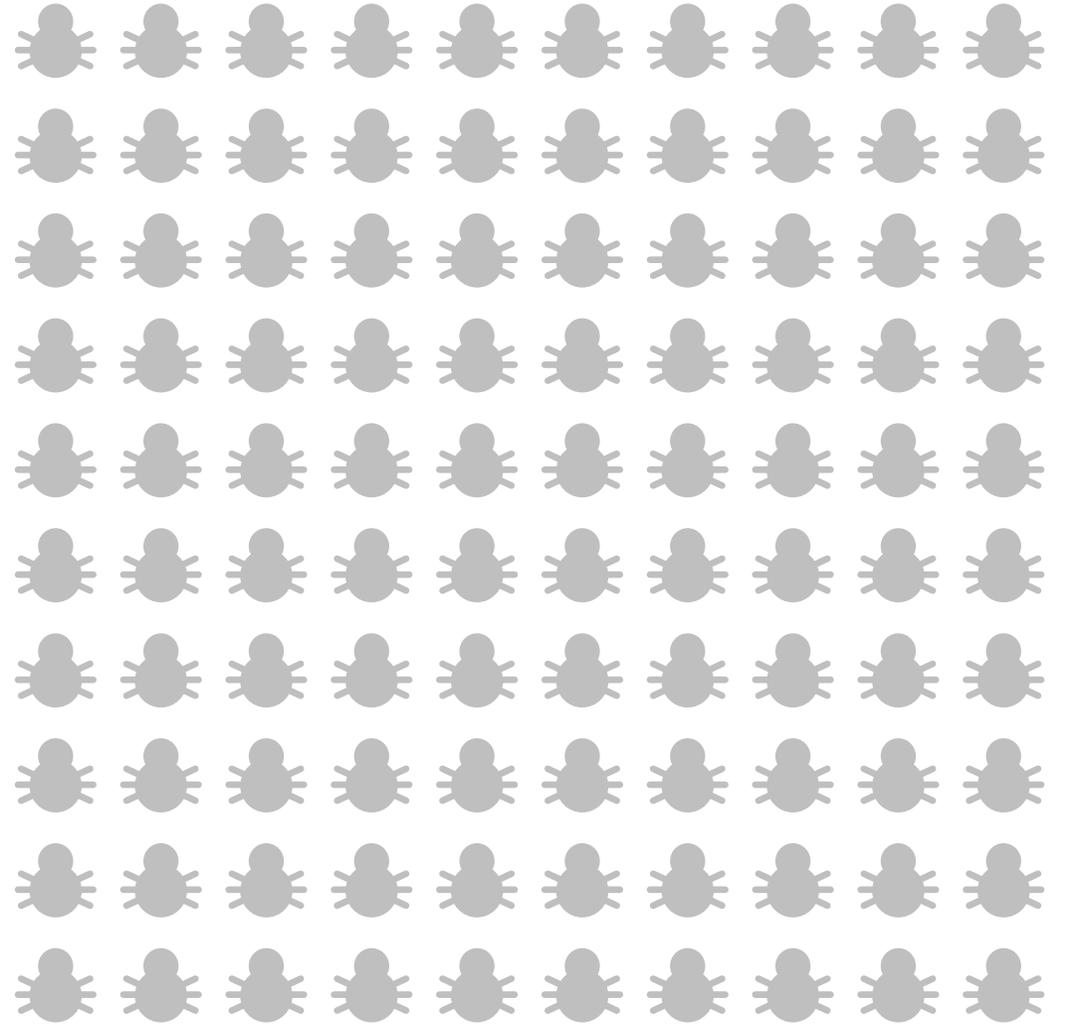
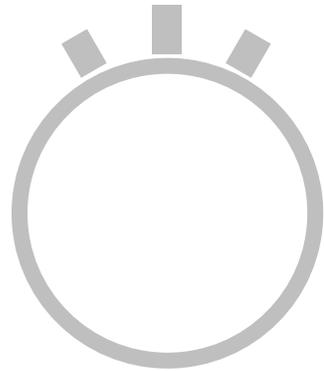
Initiale Aufzeichnung aller Tests

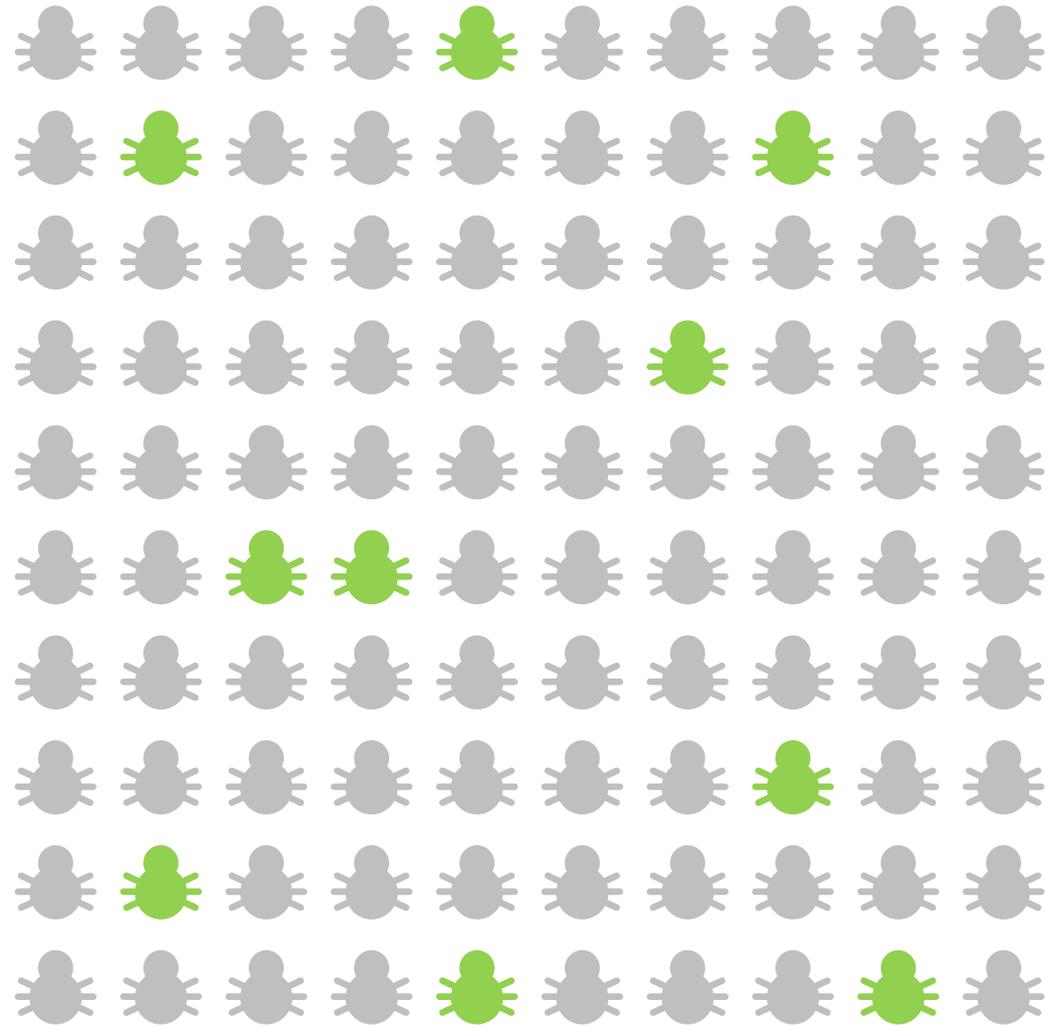


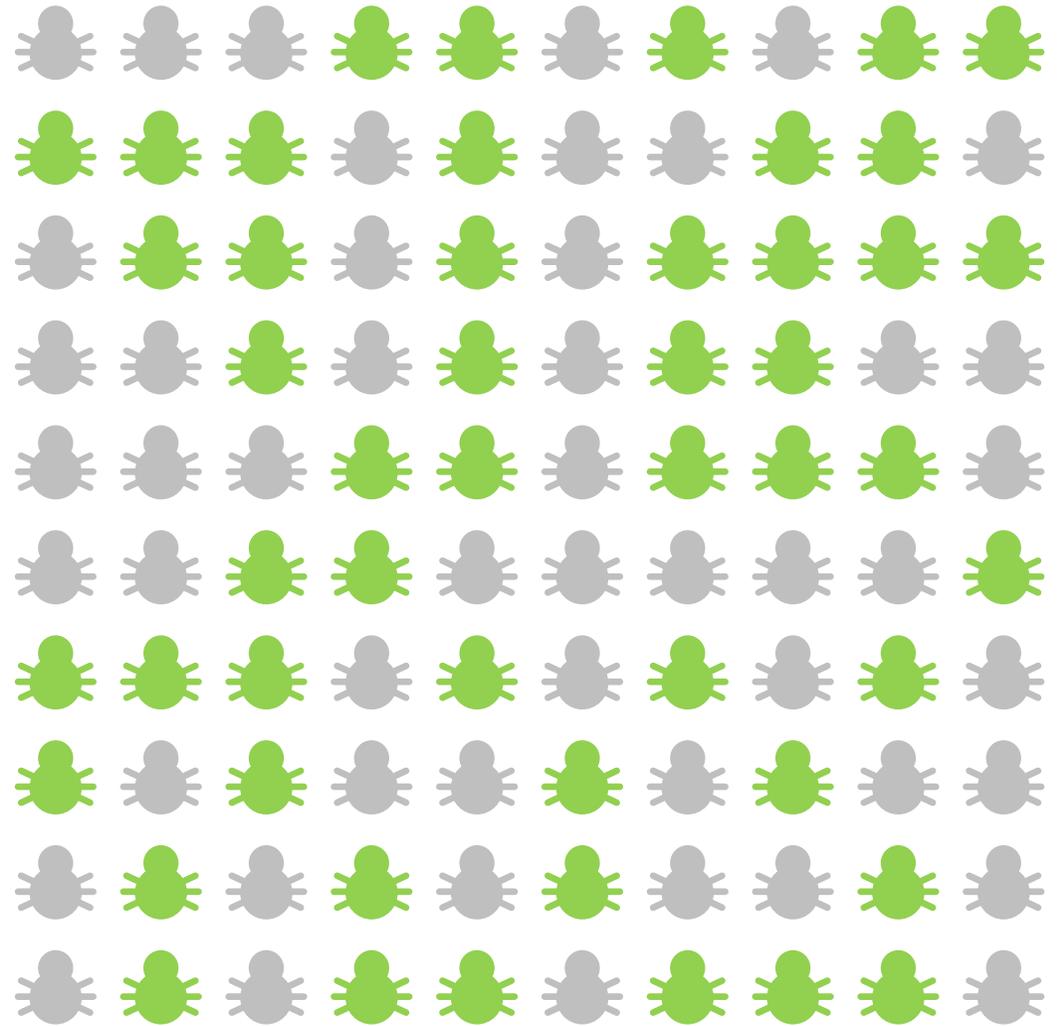
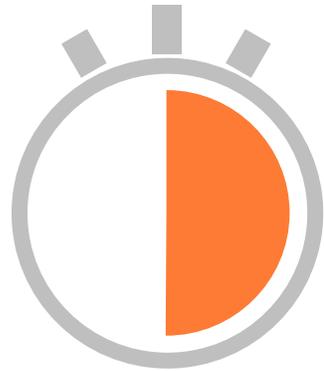
Testausführung nach Änderungen

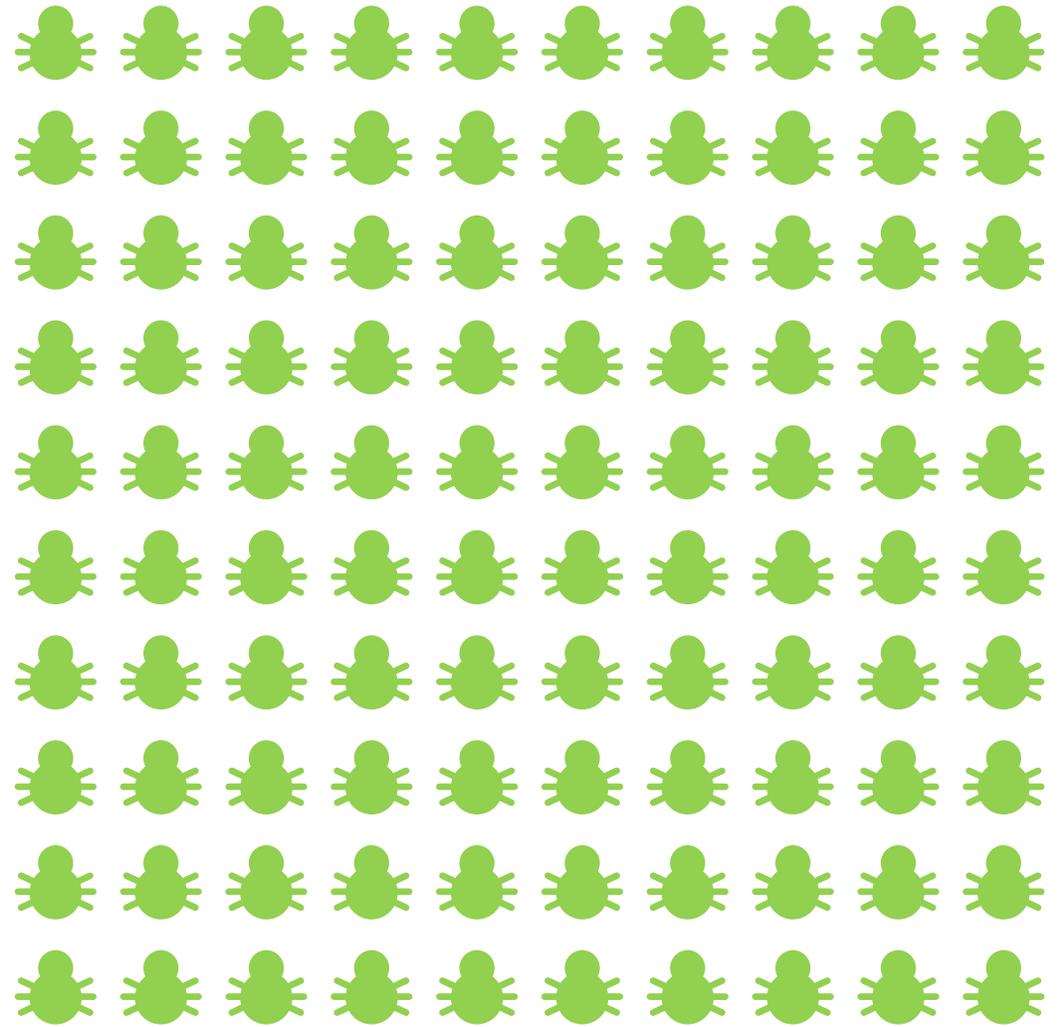
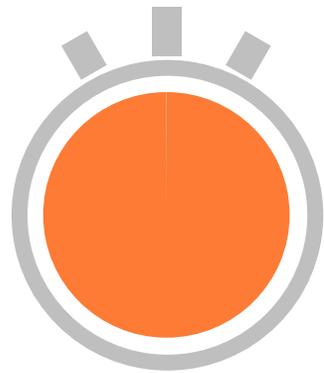








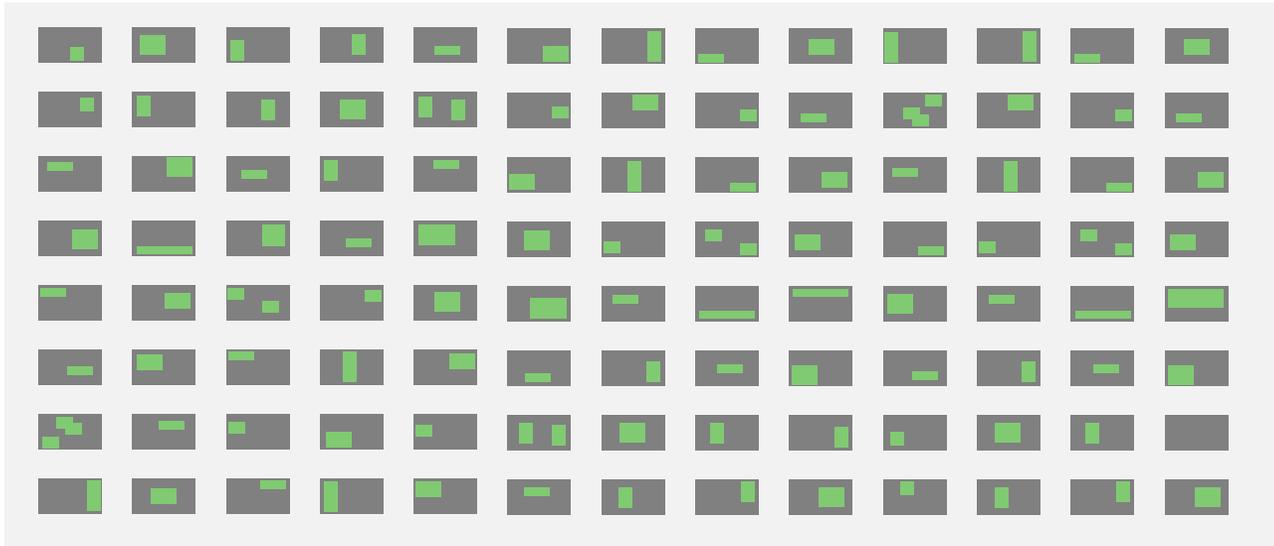




Ziel: Tests in der **Continuous Integration** effizient machen



Trotzdem: Regelmäßig **alle Tests** laufen lassen



Neue Tests immer ausführen



Geänderte Tests immer ausführen



... wenn sich Daten ändern

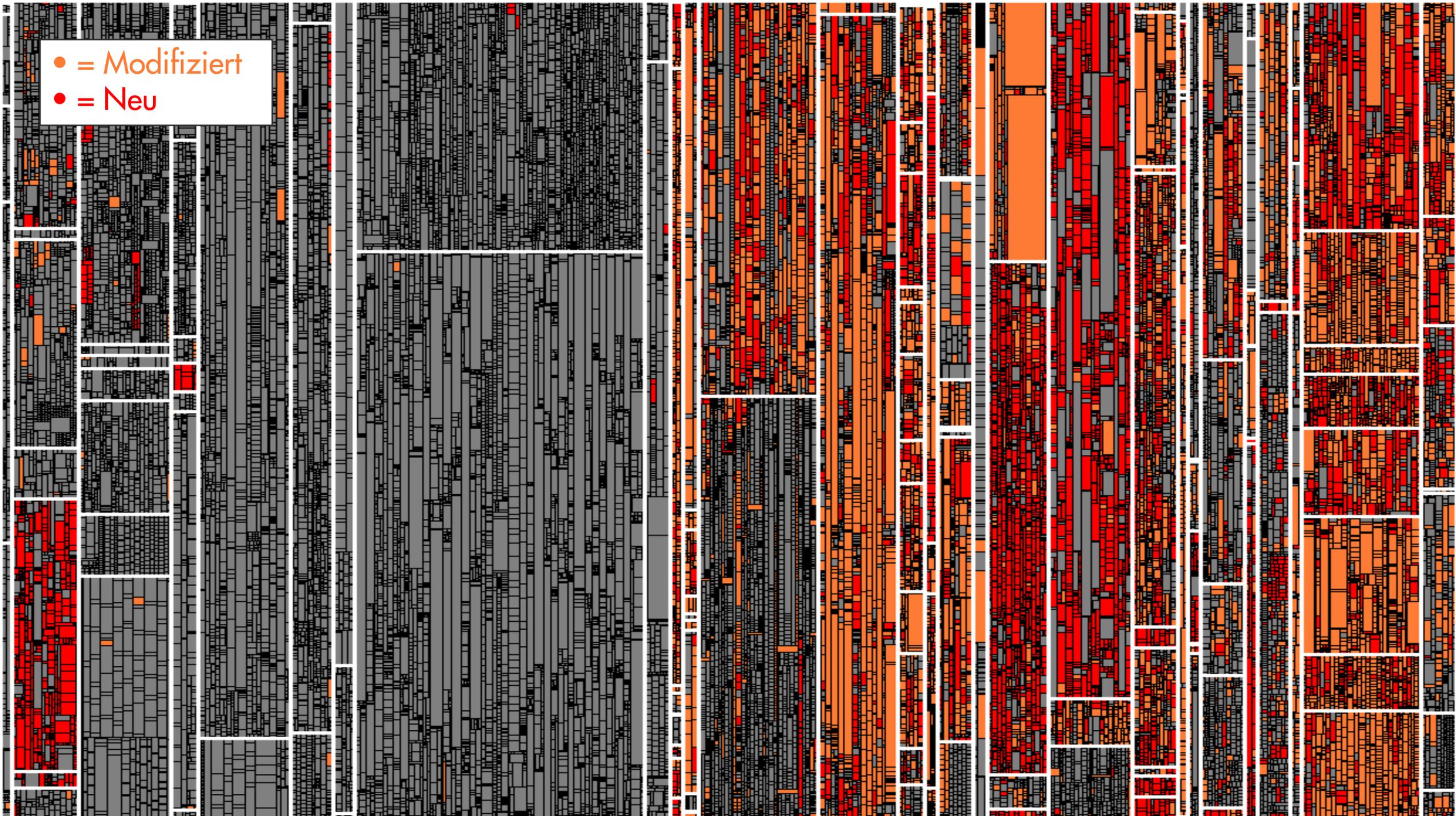


... wenn sich die Konfiguration ändert

Mehr
Effektivität
&
Effizienz

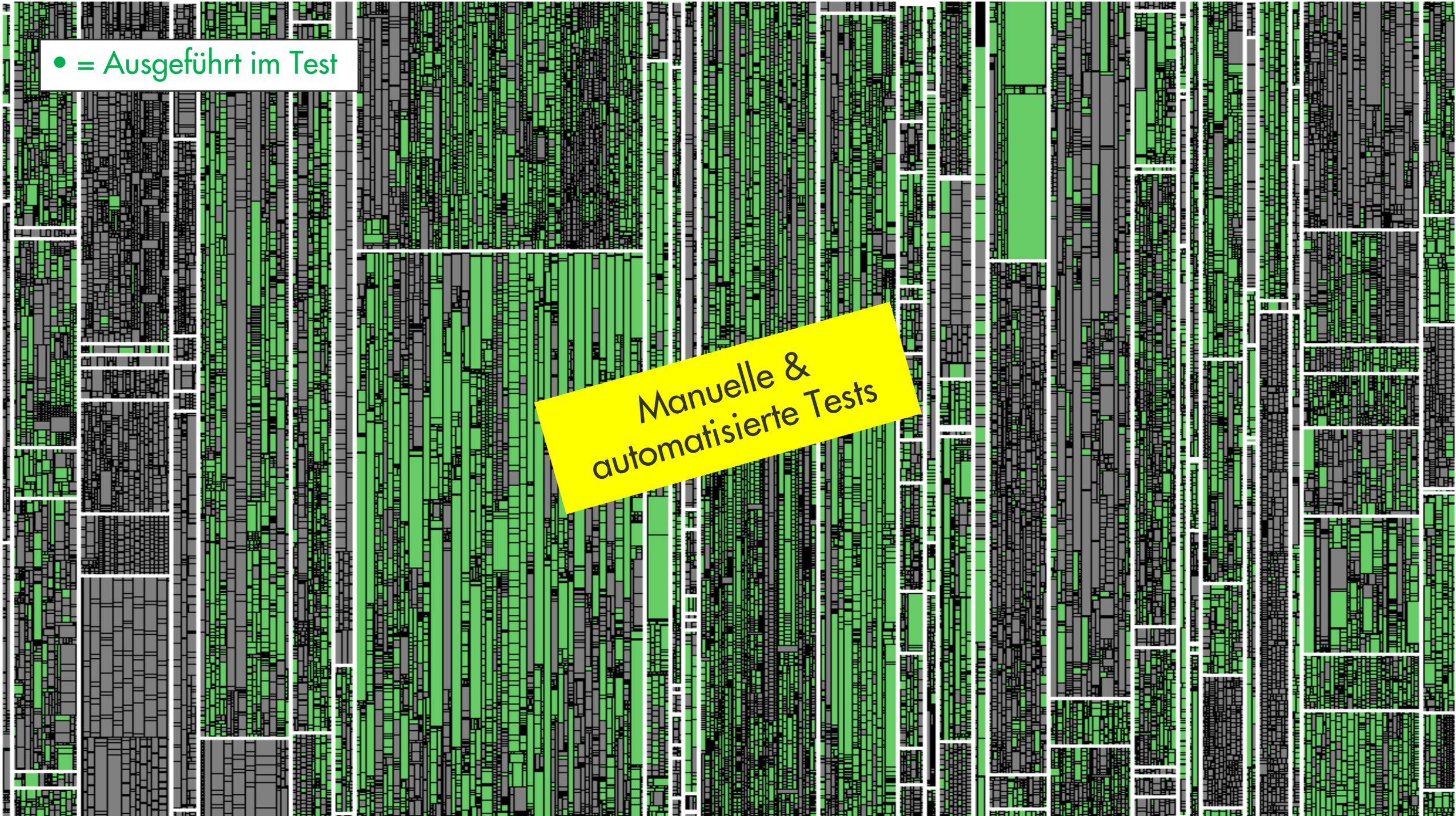


- = Modifiziert
- = Neu



● = Ausgeführt im Test

Manuelle &
automatisierte Tests

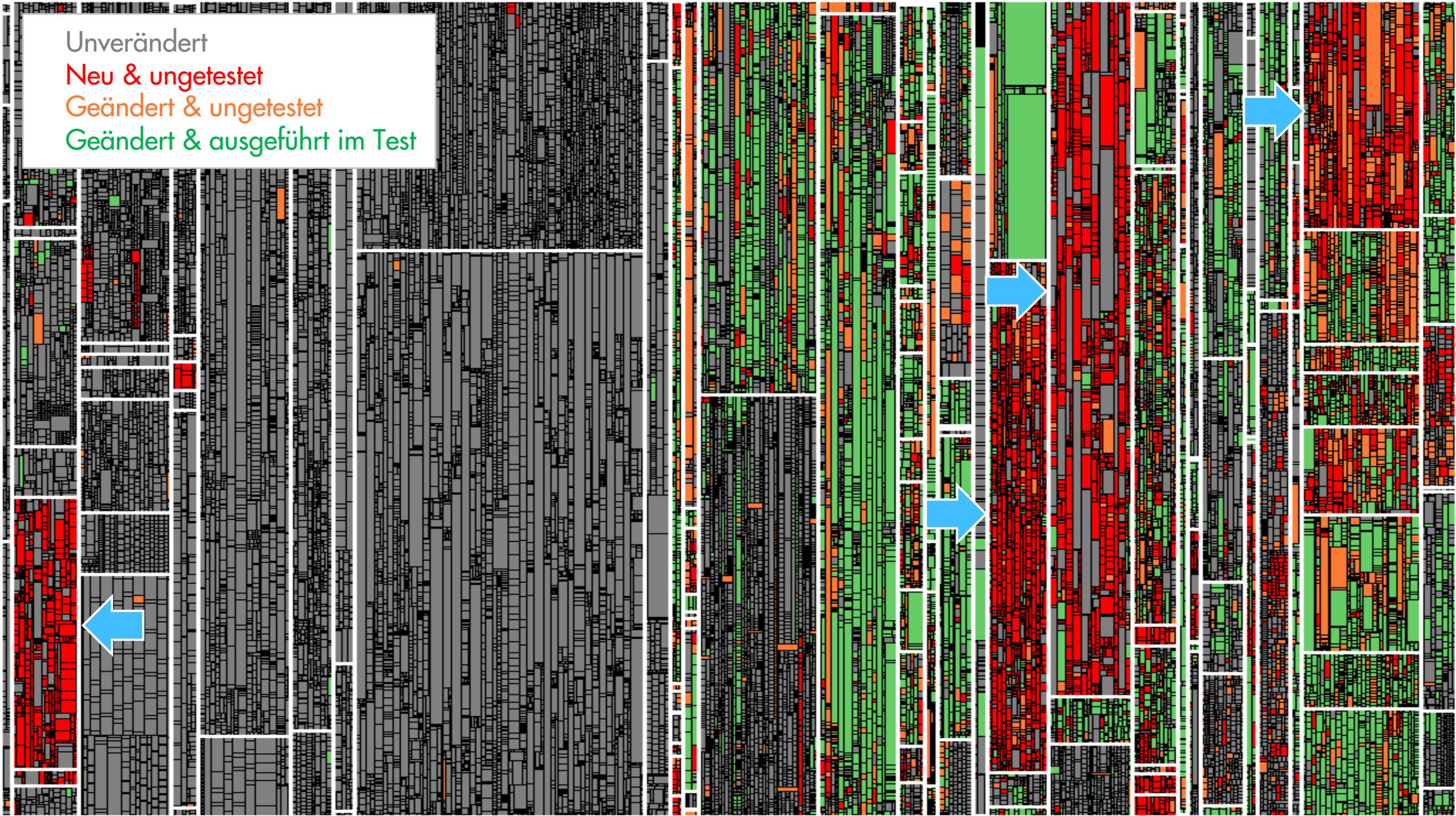


Unverändert

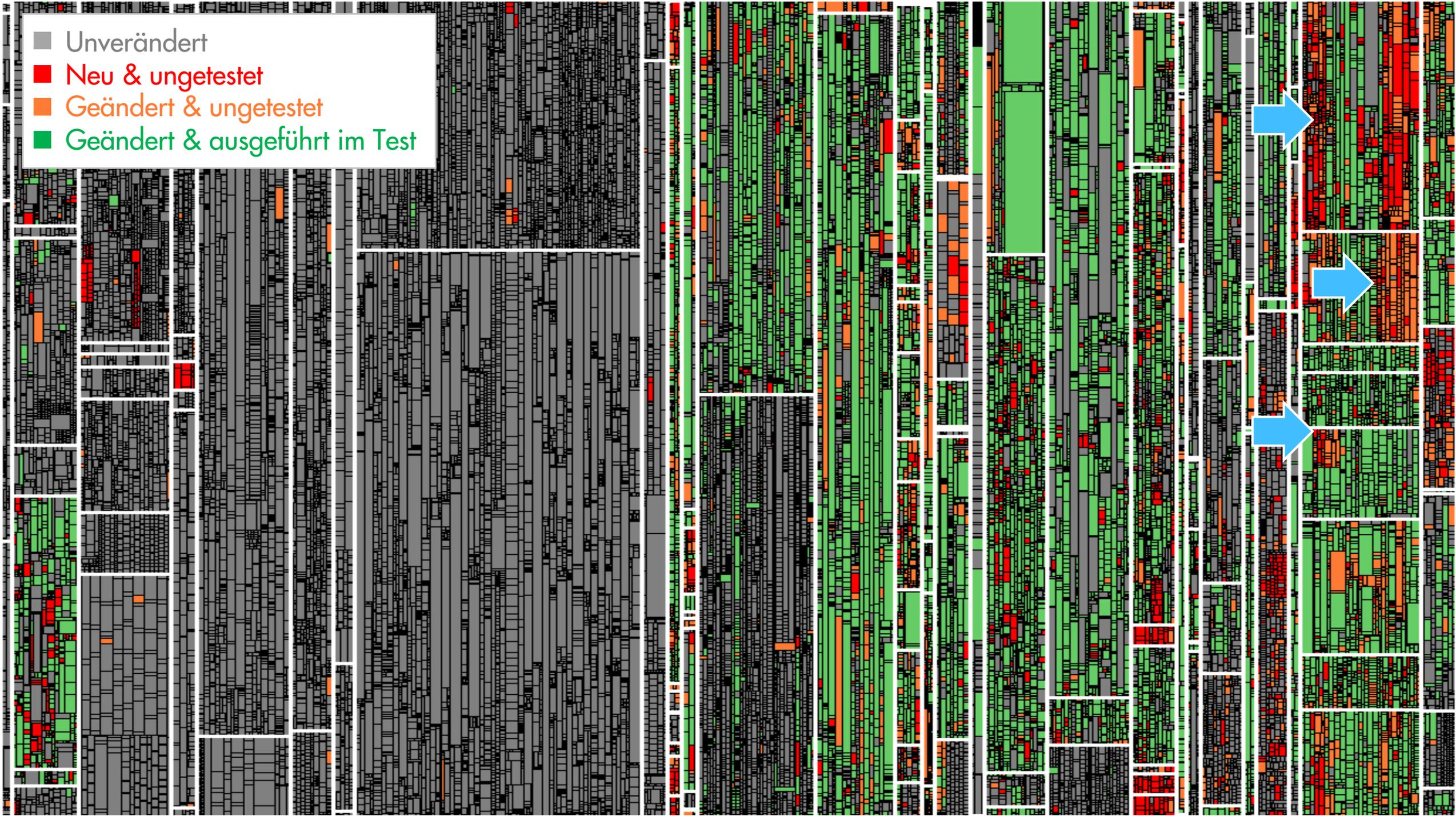
Neu & ungetestet

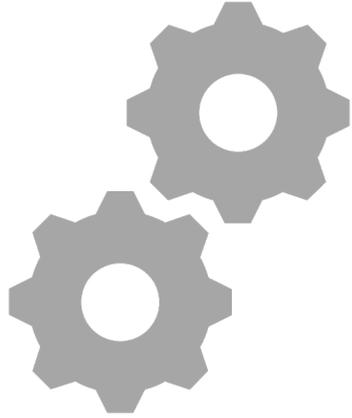
Geändert & ungetestet

Geändert & ausgeführt im Test

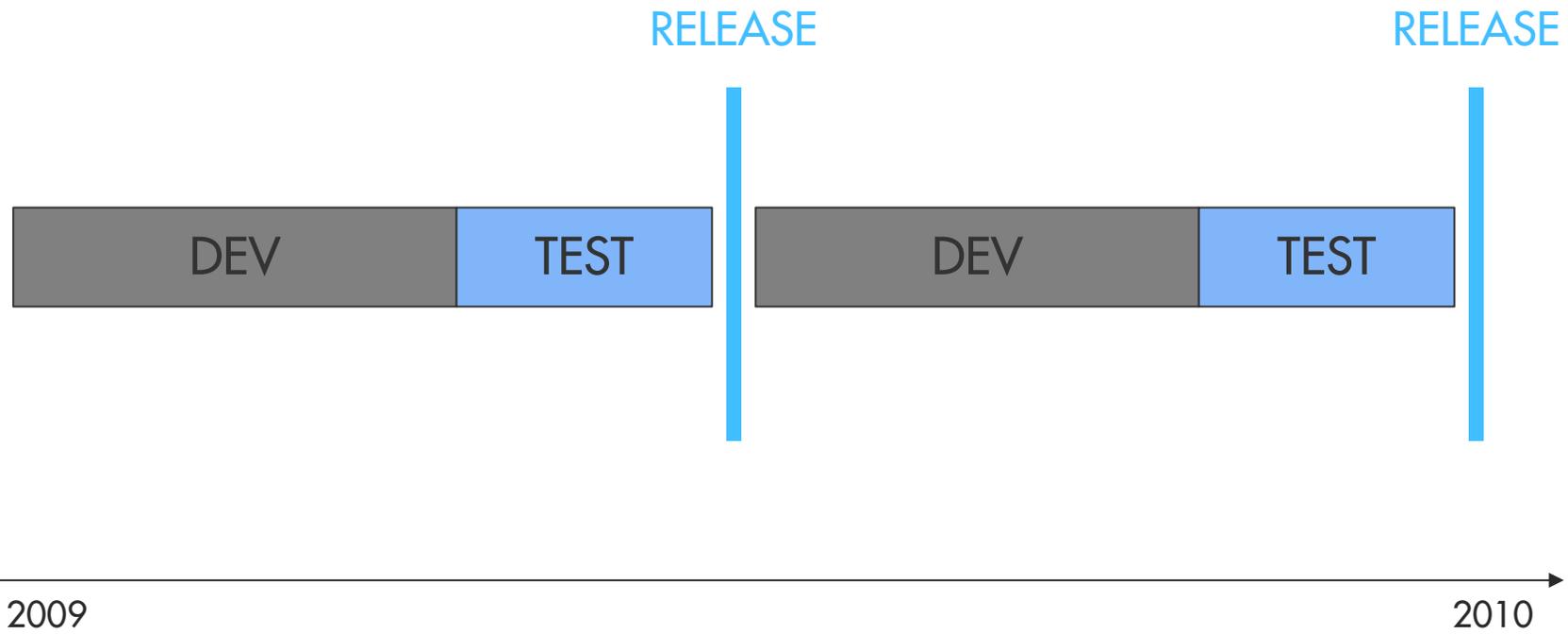


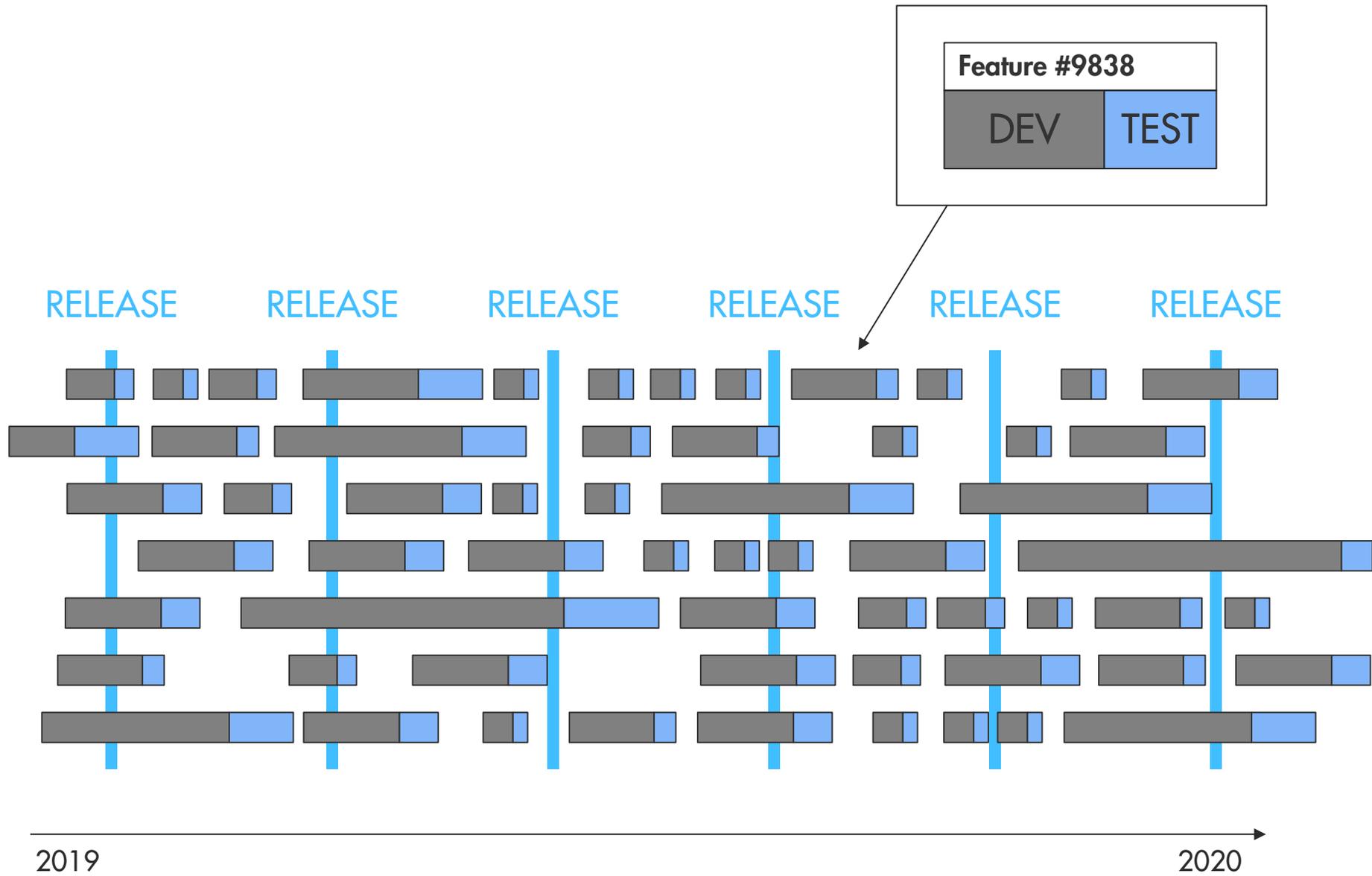
- Unverändert
- Neu & ungetestet
- Geändert & ungetestet
- Geändert & ausgeführt im Test





Test-Gap Analyse





Issue # ▼	Subject	Done		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-12050	Tool for transferring findings blacklists and tasks	Done		50% 
🔗 TS-12262	Cannot set or alter alias without reanalysis	Done		0% 
🔗 TS-13151	Fetch parent relationship of TFS work items	Done		0% 

Issue # ▾	Subject		Test Gap
TS-14421	Get rid of TestGapSynchronizer block	Done 	0% 
TS-14733	Remove Dataflow blocks	Done 	22% 

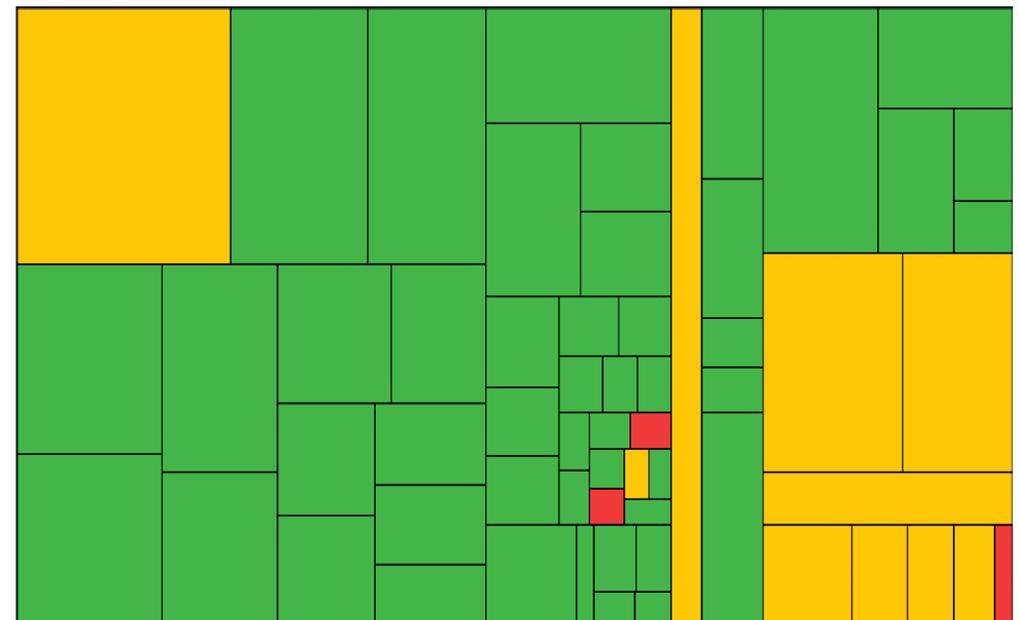
Done Issue TS-14733 - Remove Dataflow blocks

Creator:  (on Apr 06 2018 19:44) Last update: Aug 24 2018 09:32

Assignee: 

Project	Type	Priority	Resolution	Fix Version
TS	Maintenance	Normal	Green	Teamscale 4.5
Component	Labels	Affected Version	Customer	Customer Issue
Backend	Performance			
Epic Name	Freshdesk URL	Merge Request		
		https://git.cqse.eu/cqse/teamscale/3621		

Aug 15 2018 12:37–Now | Test Gap: 22%

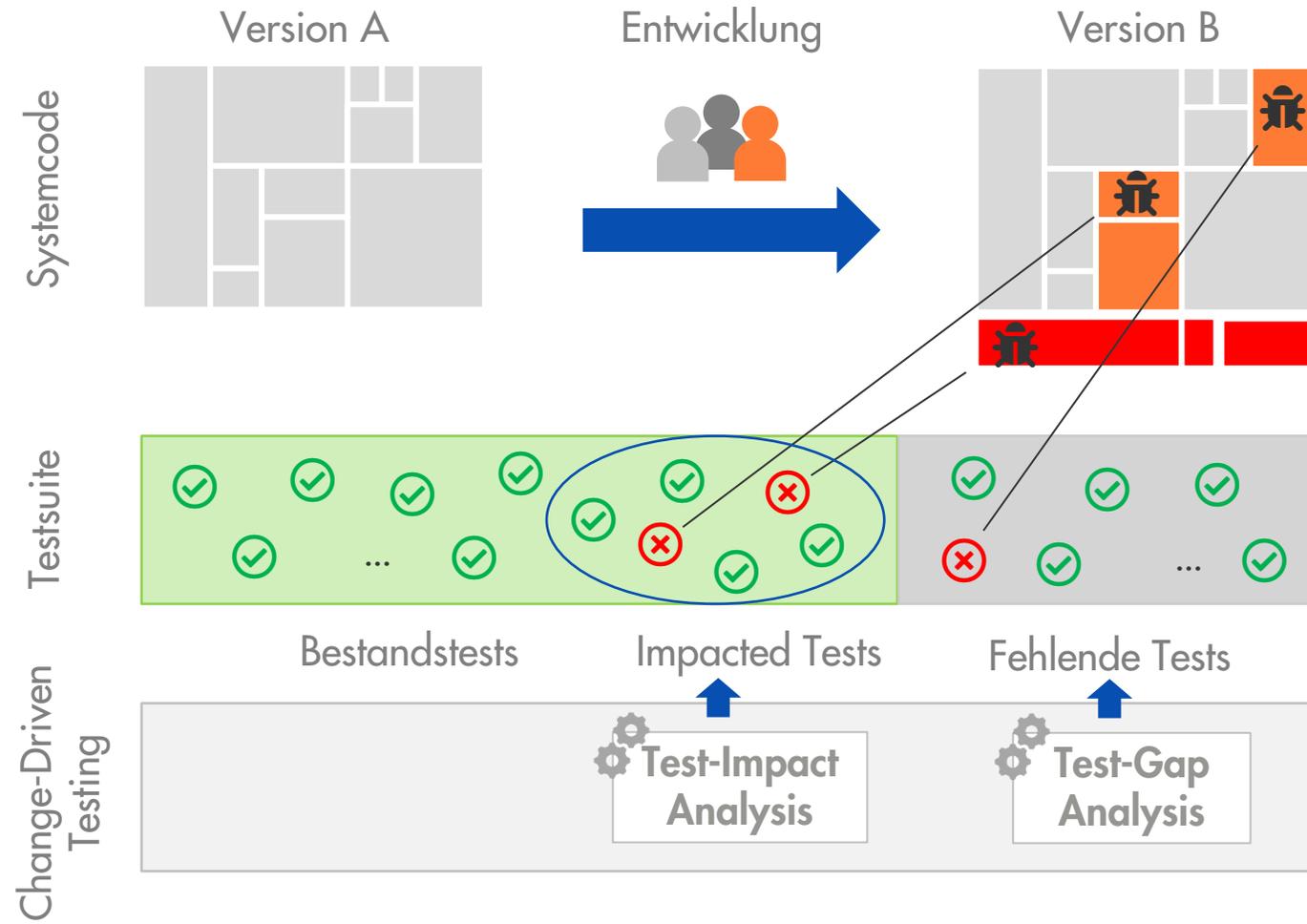


Mehr
Effektivität
&
Effizienz





Change-Driven Testing



Weiterführende Informationen

iSQI / Springer: Change-Driven-Testing



cqse.eu/jugda-cdt

Objektspektrum: Test-Impact-Analyse



cqse.eu/jugda-cdt-tia

Objektspektrum: TGA & Issue Test Gaps



cqse.eu/jugda-cdt-tga

CQSE Webinar: Test-Gap-Analyse



cqse.eu/jugda-cdt-tga-webinar

Kontakt – Ich freuen mich auf Diskussionen 😊



Dr. Sven Amann · amann@cqse.eu · +49 172 1860063

CQSE GmbH
Centa-Hafenbrädl-Str. 59
81249 München