



# De-Risk the Connected Enterprise

## SAP Quality Assurance Solutions by Tricentis

Oscar Trompe, Director SAP Strategic Sales EMEA

October, 2022







# Duke Energy

Duke delivers on transforming customer experience  
with the move to SAP S/4HANA

## PROJECT BACKGROUND

- Transform the customer experience starting with streamlining internal billing systems for a universally optimized customer experience
- Duke's leadership knew testing would be a critical component to the project's success

## COMPLICATIONS | CHALLENGES

- Consolidating 4 different billing applications into a single system
- Ensure the S/4HANA project did not negatively impact critical business processes
- Automating testing for multiple SAP applications –SAP for Utilities, SAP Marketing, SAP commerce cloud, ICU, C4C, Fiori and Customer recommendation engine

## SUCCESSFUL BUSINESS OUTCOMES

- Test automation is viewed as high quality, high business value
- Advanced from waterfall to weekly SAP releases
- Defects discovered earlier, enabling faster and more efficient defect resolution

**250**

End-to-End Tests  
Run Weekly

**0**

Defect  
Releases

**7**

Months ahead of  
scheduled





# Ensuring successful business outcomes together

## New Business Models

**FASTER**

innovations & transformations



intelligent automation  
accelerating **Time to Market**

## Modernize WITHOUT Risk

**REMOVE**

SAP Transformation blind-spots



focus  
on **risk-avoidance**

## Greater Efficiency

**REINVEST**

savings in future innovations



quality-first mindset  
led by **continuous automation**



# What **impedes** innovation?

## **Quality Assurance**

is the  
#1 barrier  
to agility

- 1 Not knowing what has been impacted
- 2 High frequency of application changes
- 3 Availability of test data and environments
- 4 Are the decisions we are making, correct?
- 5 **Slow** is the new **downtime**





“

We cannot have people spending their time on software testing tasks that can and should be automated. There is much higher-level work to do. We need **future-oriented staff**, and we can't afford to make them suffer by asking them to do needless manual testing.

— *Andreas Kranabitl, CIO SPAR*








# Avoid Innovation Gridlock

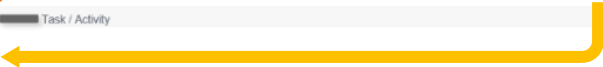
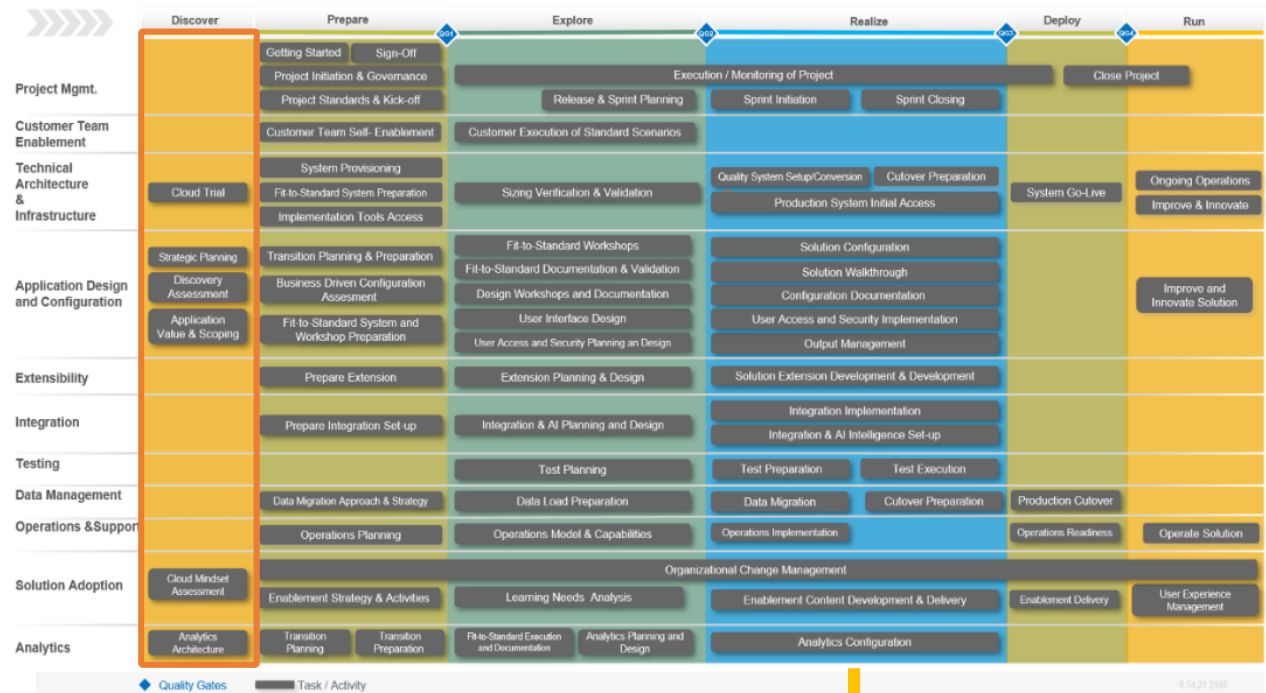




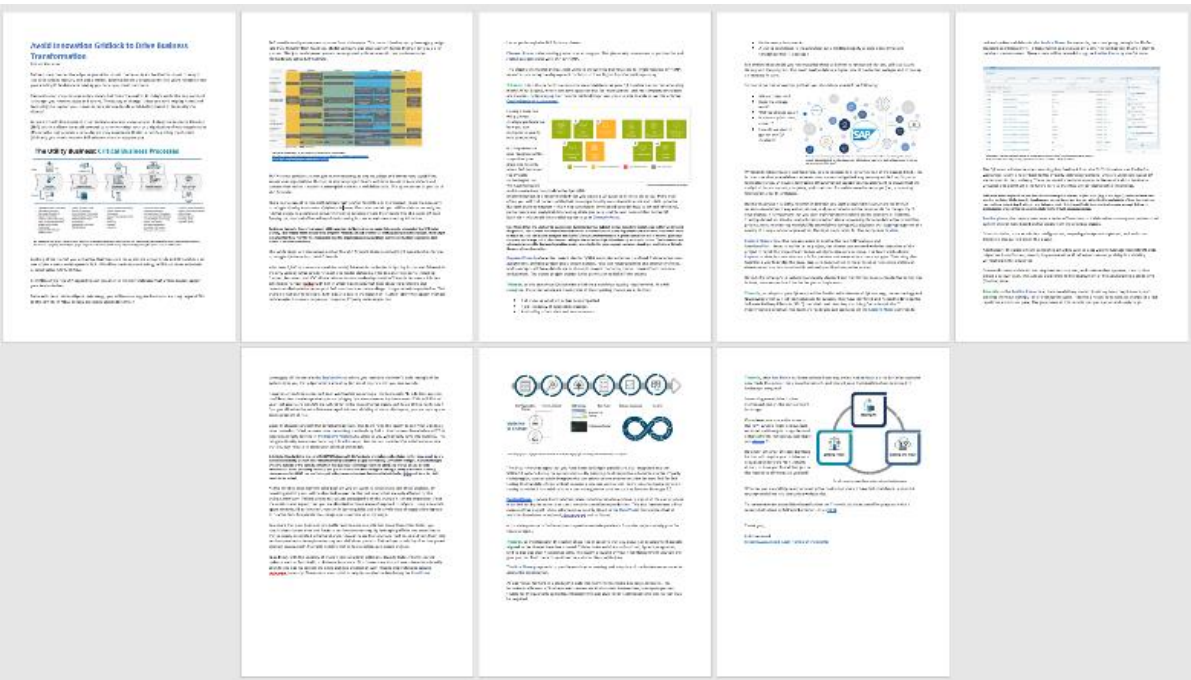
Wherever you are we  
can support you



# Program Implementation Methodology - SAP Activate



Shift earlier in the delivery process



[Avoid Innovation Gridlock to Drive Business Transformation.pdf](#)

Where is the risk?  
Does it work?  
Does it scale?  
Is the data correct?  
Are we ready?





# Application Testing Solutions by Tricentis

Does it **work**?

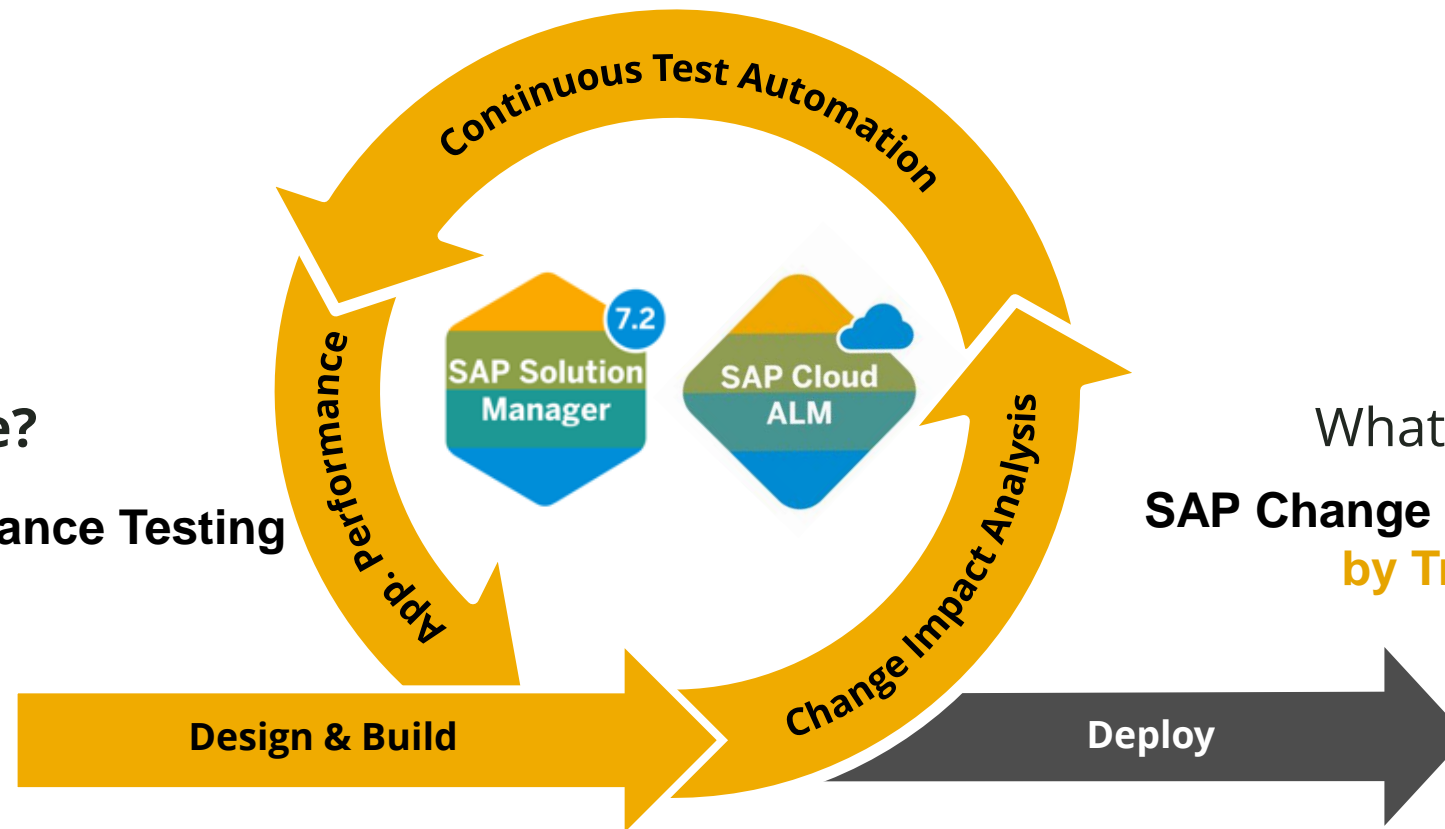
**SAP Enterprise Continuous Testing**  
by Tricentis

Does it **scale**?

**SAP Enterprise Performance Testing**  
by Tricentis

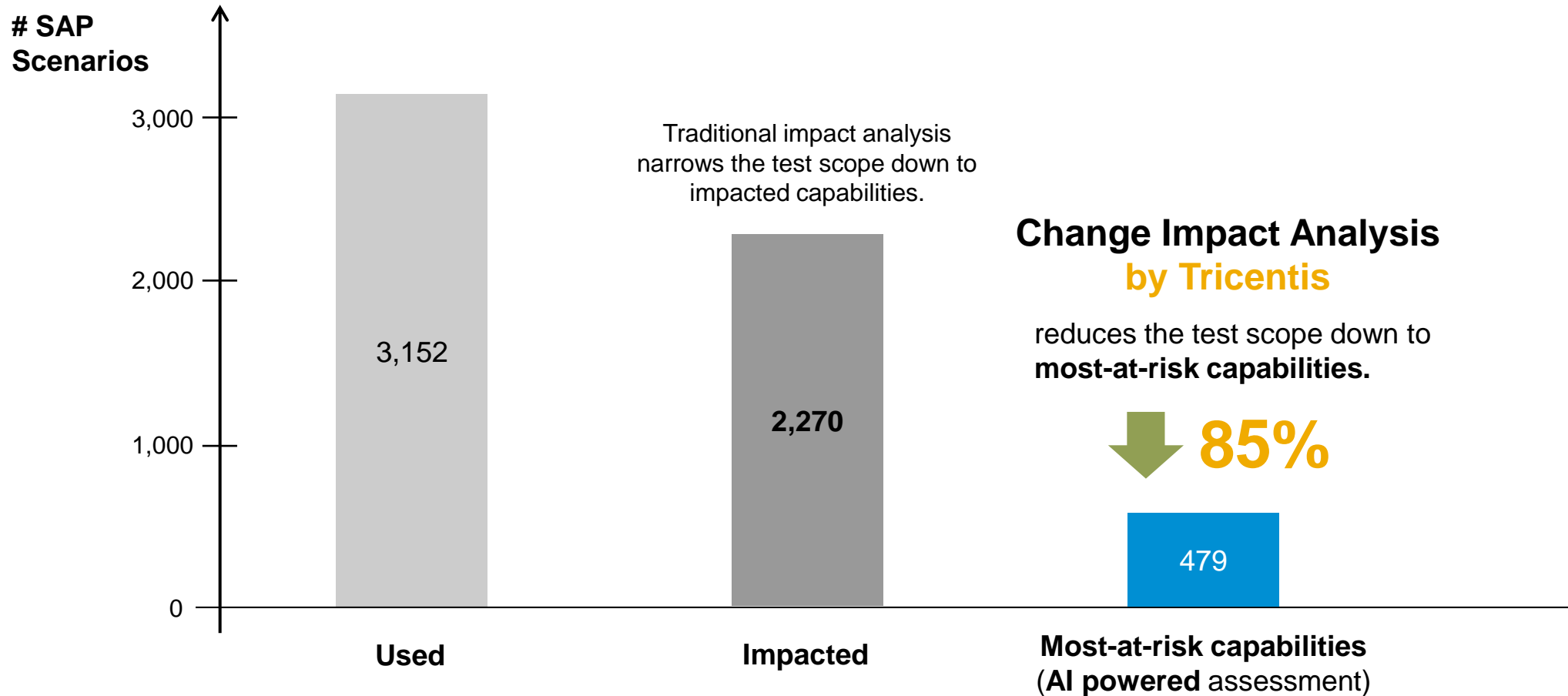
What to **test**?

**SAP Change Impact Analysis**  
by Tricentis



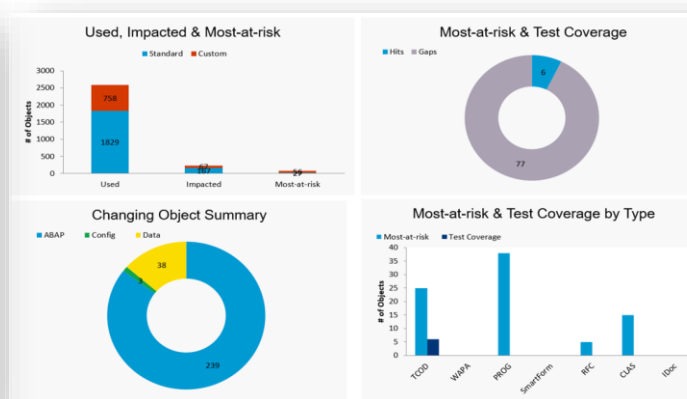
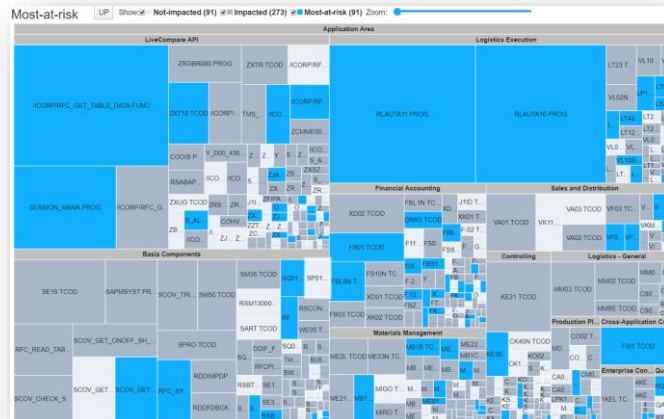
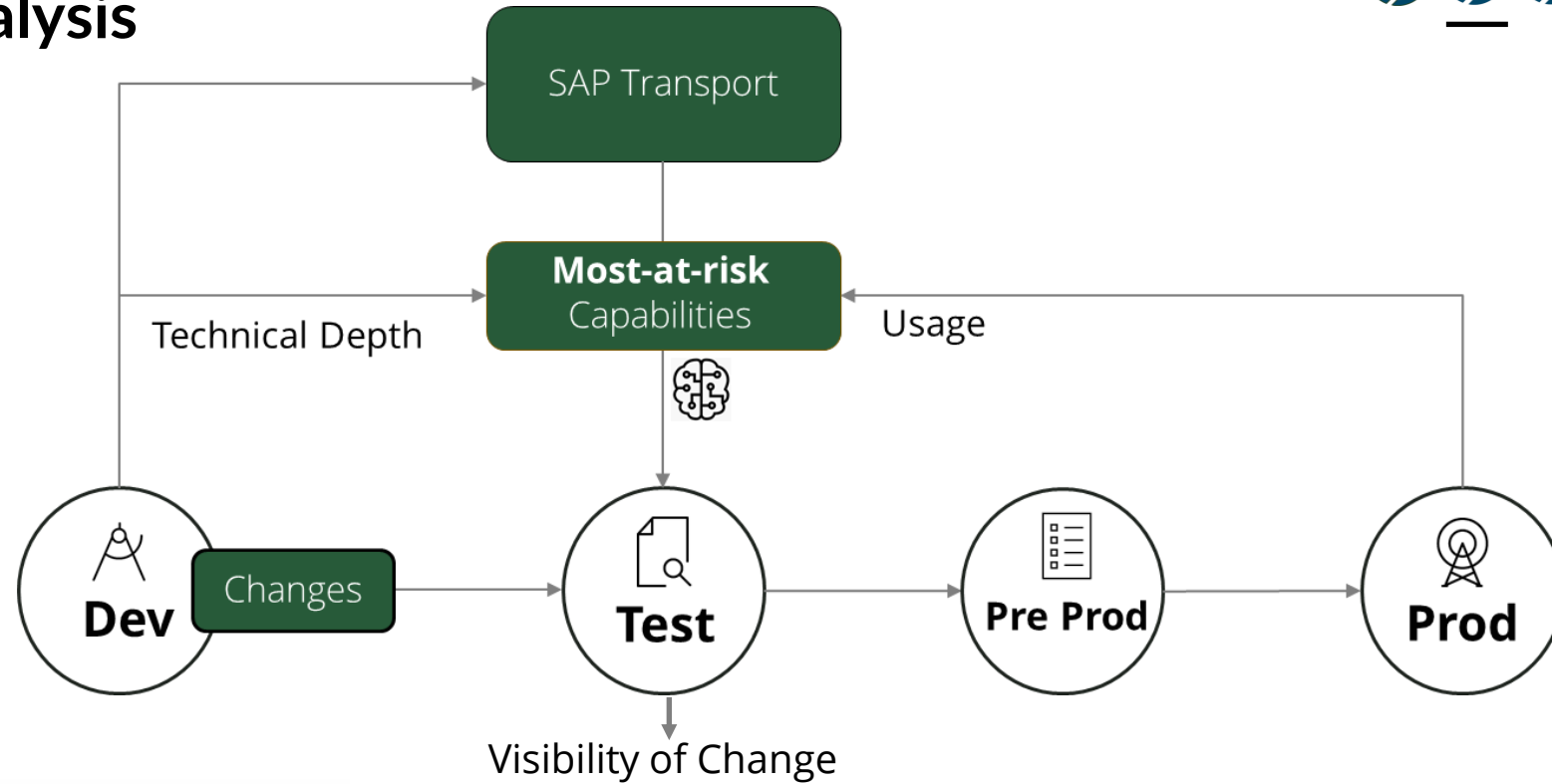


# Bring Acceleration & Cost Avoidance Through Test Scope Reduction





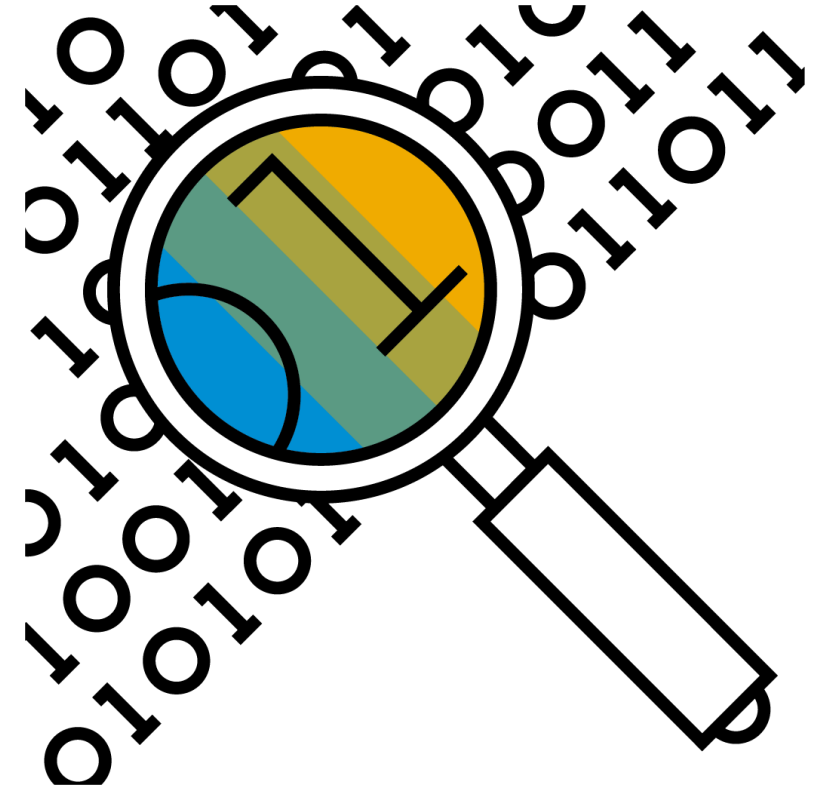
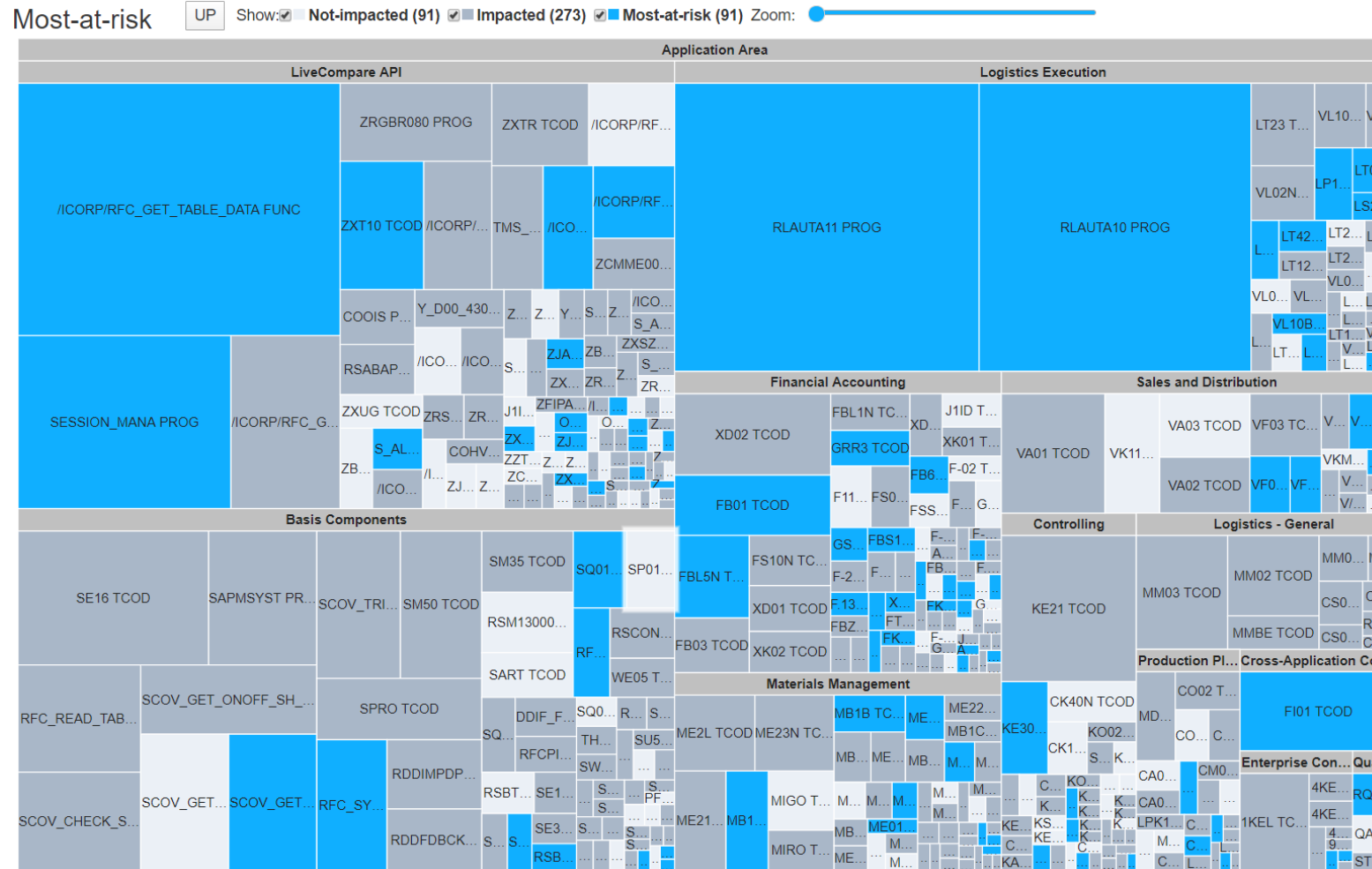
# Change Impact Analysis



Object	Test Coverage	Test Type	Test Result
ABAP	100%	Unit Test	Pass
Config	100%	Integration Test	Pass
Data	100%	Performance Test	Pass
TOOD	100%	Unit Test	Pass
WAPA	100%	Integration Test	Pass
POCO	100%	Performance Test	Pass
Searchterm	100%	Unit Test	Pass
RFC	100%	Integration Test	Pass
CASH	100%	Performance Test	Pass
EDC	100%	Unit Test	Pass



# Most-at-Risk Capabilities – Visualize your focus for testing!



Change Impact Analysis is the **bird's eye view** identifying application areas that are **most-at-risk** from an update



N12																	X		✓		fx	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P						
1	APP_AREA	TYPE	NAME	STATUS	IMPACTFUL_OBJECTS	TEST_HITS	USAGE	USERS	TOP_USER	TOP_USAGE	CUSTOM	BUSINESS_CRITICAL										
2	Sales and Distribution	TCOD	VA01	Most-at-risk	11	4	2343555	295	USER275	291968		Y										
3	Sales and Distribution	TCOD	VA11	Most-at-risk	2		1843170	53	USER940	288435												
4	Sales and Distribution	TCOD	VF01	Most-at-risk	1	2	1290109	408	USERSER	332736												
5	Custom	PROG	/SPE/CL_DLV_DISPATCH=====CP	Most-at-risk	16		44	16	USER338	20												
6	Custom	PROG	ZRISERNR1	Most-at-risk	6		1003	140	USER425	128	Y											
7	Custom	PROG	ZRFREAJDATAADJMCN	Most-at-risk	5		13	10	USER634	2	Y											
8	Custom	PROG	ZRFREISCDCF	Most-at-risk	5		88351	226	USER726	10760	Y											
9	Custom	PROG	ZRFREISRO	Most-at-risk	4		1505	87	USER428	396	Y											
10	Custom	PROG	ZRM06BL00	Most-at-risk	4		224	32	USER321	55	Y											
11	Custom	PROG	ZRFREISBDOA	Most-at-risk	3		57	22	USER282	10	Y											
12	Custom	PROG	ZRM06EHBE	Most-at-risk	3		92	11	USER255	36	Y											
13	Custom	PROG	ZRMCBNERP	Most-at-risk	2		2	1	USERI09	2	Y											
14	Custom	PROG	ZRSSPAM30	Most-at-risk	2		8	2	USERDIC	7	Y											
15	Custom	PROG	ZRVKRED77	Most-at-risk	2		319	1	USERBTC	319	Y											
16	Custom	PROG	ZRWWKLASS	Most-at-risk	2		1	1	USER456	1	Y											
17	Custom	TCOD	ZDELS	Most-at-risk	30		4465	101	USERZH6	441	Y	Y										
18	Custom	TCOD	ZE33K	Most-at-risk	25		367335	628	USER542	15878	Y											
19	Custom	TCOD	ZMB11	Most-at-risk	21		58921	51	USER432	34998	Y											
20	Custom	TCOD	ZE23N	Most-at-risk	4		22139240	1115	USER715	346907	Y											
21	Custom	TCOD	ZVL09	Most-at-risk	3		118802	96	USERO03	89823	Y											
22	Custom	WAPA	Z_BSP_APPLIC_01	Most-at-risk	1	1	87				Y											
23	Custom	WAPA	YAAQ2_WAPA_1	Most-at-risk	1	1	435				Y											
24	Service	PROG	/BDL/SAPLBDL11	Most-at-risk	22		635	3	USERBTC	631												
25	Service	PROG	/BDL/SAPLBDL3	Most-at-risk	5		21394	1	USERBTC	21394												
26	Service	PROG	CNV_CDMC_CA_COLLECT_STAT_700	Most-at-risk	3		13	1	USER040	13												
27	Real Estate Management	TCOD	RERAPP	Most-at-risk	6		3264212	267	USER035	203753												
28	Real Estate Management	TCOD	RECDGOL	Most-at-risk	3		319	13	USER944	119												
29	Real Estate Management	TCOD	REEXSETGENCN	Most-at-risk	2		16	4	USER746	7												
30	Real Estate Management	TCOD	FOSL	Most-at-risk	1		5	2	USERI01	3												
31	Real Estate Management	TCOD	RECPA520	Most-at-risk	1		75893	32	USER447	58170												
32	Real Estate Management	TCOD	RECPA600	Most-at-risk	1		3	2	USER370	2												
33	Real Estate Management	TCOD	REISCOLIBD	Most-at-risk	1		718	26	USER418	493												
34	Real Estate Management	TCOD	REISCOLICN	Most-at-risk	1		1874	21	USER746	1179												
35	Real Estate Management	TCOD	REITORCALC	Most-at-risk	1		2	1	USER363	2												
36	Real Estate Management	TCOD	REMICL	Most-at-risk	1		1	1	USER158	1												
37	Real Estate Management	TCOD	RERAPL	Most-at-risk	1		7138	48	USER302	2386												
38	Real Estate Management	TCOD	RERAPPRV	Most-at-risk	1		174232	158	USER126	34768												



AutoSaveOff

Smart Impact Analysis Details.xlsm

Search

Sign in

FileHomeInsertPage LayoutFormulasDataReviewViewHelp

CutCopyFormat Painter

Clipboard

Calibri11

B I U

Font

Wrap Text

Alignment

General

Number

Conditional FormattingFormat as Table

Styles

NormalBadGoodNeutral

CalculationCheck CellExplanatory...Followed Hy...

Cells

AutoSumFillClear

Sort & FilterFind & Select

Editing

ShareComments

Analyze Data

Analysis

M4

X✓fx

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	APP_AREA	TYPE	NAME	STATUS	IMPACTFUL_OBJECTS	TEST_HITS	USAGE	USERS	TOP_USER	TOP_USAGE	CUSTOM	BUSINESS_CRITICAL				
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38	Real Estate Management	TCOD	RERAPPRV	Most-at-risk	1		174232	158	USER126	34768						

DashboardHelpHomeImpactful ObjectsImpacted DYNPsImpacted UsersTest Hits & GapsTest Hit DetailsTest Data

Ready

100%



Change Impact Analysis

LiveCompare Technical Analysis

localhost/livecompare/reports/\_APP\_Smart%20Impact%20Analysis%20(for%20EMEA%20SA)%204.1\_162/Object%20Comparison\_20210514\_110455/Tier2/INCL461.htm

Apps

Tricentis CIA

Reading list

Include : MV45AFZZ

General

Header

Code

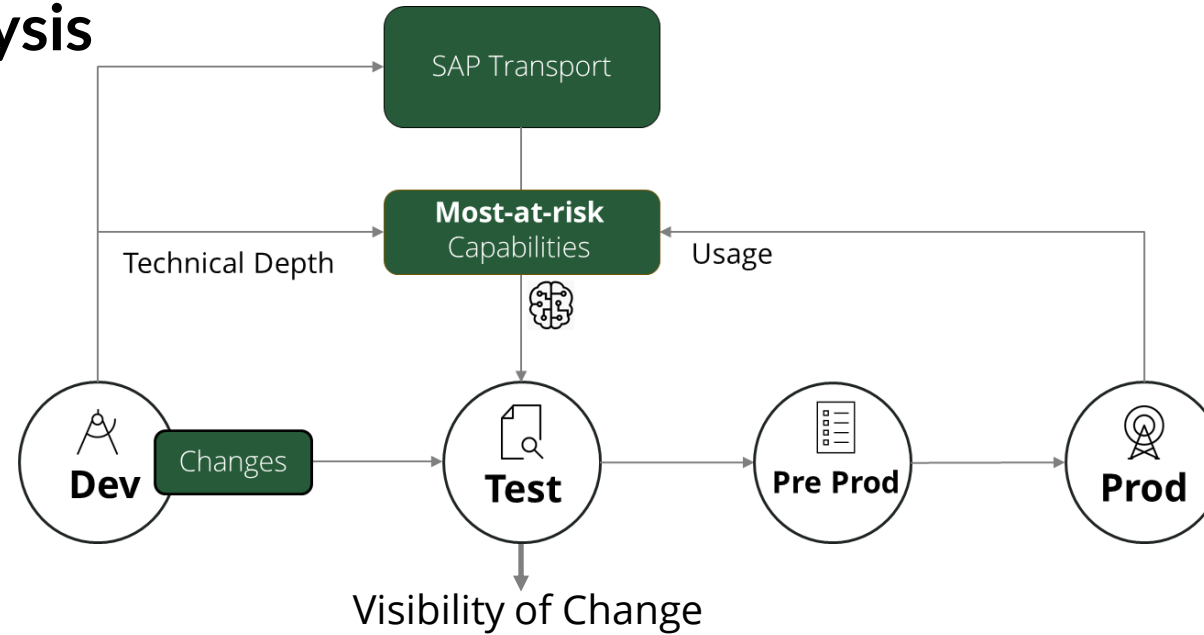
1 FORM USEREXIT\_DELETE\_DOCUMENT.  
2 ENDFORM.  
3 FORM USEREXIT\_FIELD\_MODIFICATION.  
4 ENDFORM.  
5 FORM USEREXIT\_MOVE\_FIELD\_TO\_VBAK.  
6 ENDFORM.  
7 FORM USEREXIT\_MOVE\_FIELD\_TO\_VBAP.  
8 ENDFORM.  
9 FORM USEREXIT\_MOVE\_FIELD\_TO\_VBEP.  
10 ENDFORM.  
11 FORM USEREXIT\_MOVE\_FIELD\_TO\_VBKD.  
12 ENDFORM.  
13 FORM USEREXIT\_NUMBER\_RANGE USING US\_RANGE\_INTERN.  
14 ENDFORM.  
15 FORM USEREXIT\_PRICING\_PREPARE\_TKOMK.  
16 ENDFORM.  
17 FORM USEREXIT\_PRICING\_PREPARE\_TKOMP.  
18 -DATA: LV\_ADRNR LIKE VBPA-ADRNR.  
19 -DATA: WA\_XVBAP LIKE VBAP.  
20 -IF VBPA-AUART = 'ZZOR' OR  
21 - VBPA-AUART = 'ZZQT' OR  
22 - VBPA-AUART = 'ZZSC'.  
23 - TKOMP-KVGR2 = VBPA-KVGR2.  
24 - LOOP AT XVBPA  
25 - WHERE PARVW = 'ZV'.  
26 - TKOMP-ZZPORCIT = XVBPA-LIFNR.  
27 - TKOMP-ZZPORLAND = XVBPA-LAND1.  
28 - ENDOLOOP.  
29 - LOOP AT XVBPA  
30 - WHERE PARVW = 'ZW'.  
31 - TKOMP-ZZPODCIT = XVBPA-LIFNR.  
32 - TKOMP-ZZPODLAND = XVBPA-LAND1.  
33 - ENDOLOOP.  
34 - LOOP AT XVBPA  
35 - WHERE PARVW = 'YV'.  
36 - TKOMP-ZZLOADPORT = XVBPA-LIFNR.  
37 - ENDOLOOP.  
38 - LOOP AT XVBPA  
39 - WHERE PARVW = 'YV'.  
40 - TKOMP-ZZDISCHPORT = XVBPA-LIFNR.  
41 - ENDOLOOP.  
42 - ENDIF.  
43 - IF NOT VBAP-HEADS IS INITIAL AND

1 FORM USEREXIT\_DELETE\_DOCUMENT.  
2 ENDFORM.  
3 FORM USEREXIT\_FIELD\_MODIFICATION.  
4 ENDFORM.  
5 FORM USEREXIT\_MOVE\_FIELD\_TO\_VBAK.  
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10 ENDFORM.  
11 FORM USEREXIT\_MOVE\_FIELD\_TO\_VBKD.  
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16 ENDFORM.  
17 FORM USEREXIT\_PRICING\_PREPARE\_TKOMP.

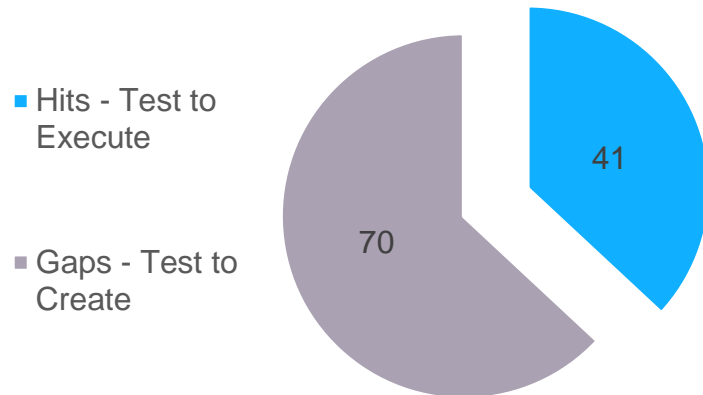
Copyright 1994-2020 Tricentis US Corp.



# Change Impact Analysis



## Most-at-risk Test Hits & Gaps







# Application Testing Solutions by Tricentis

Does it **work**?

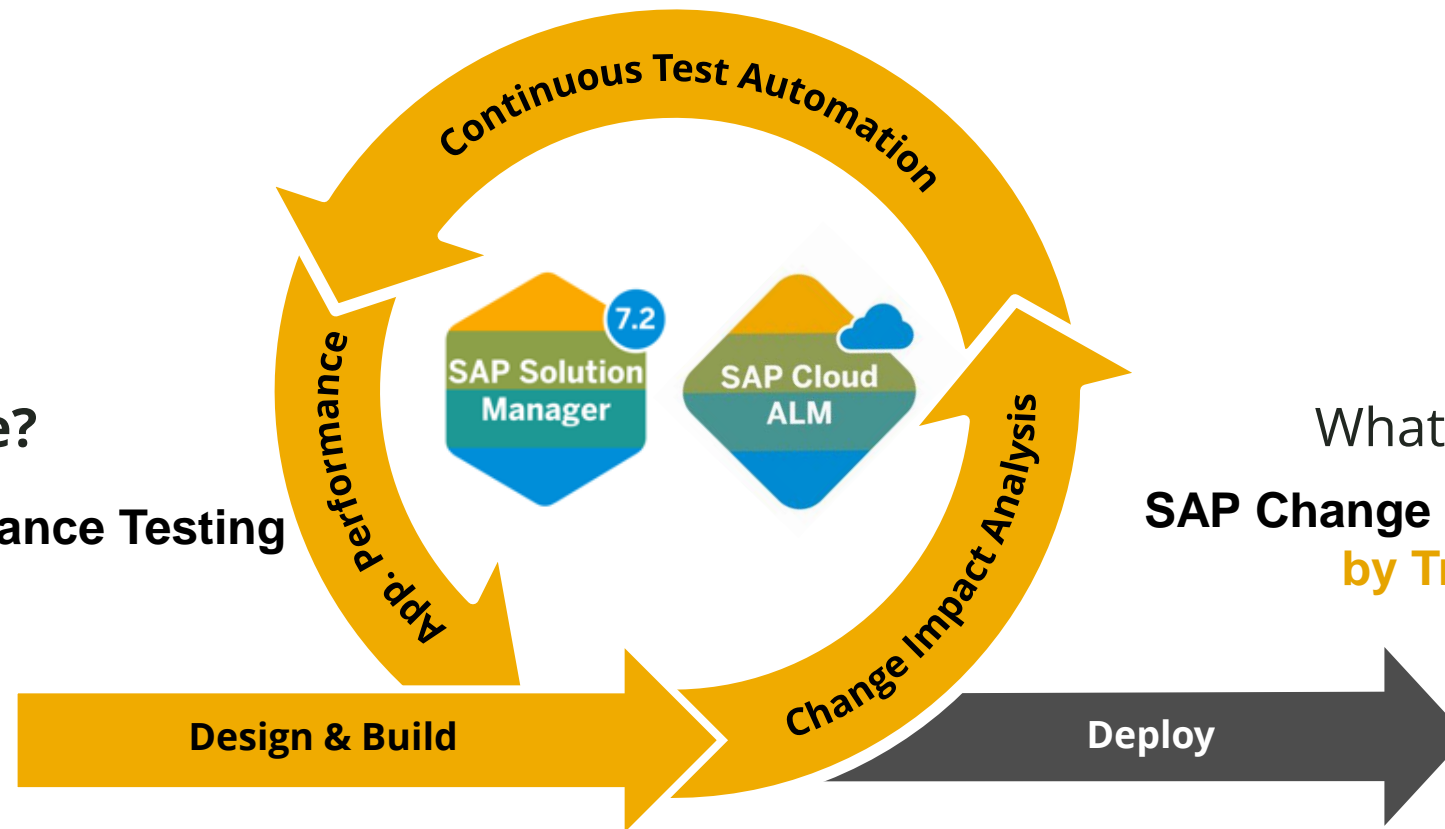
**SAP Enterprise Continuous Testing**  
by Tricentis

Does it **scale**?

**SAP Enterprise Performance Testing**  
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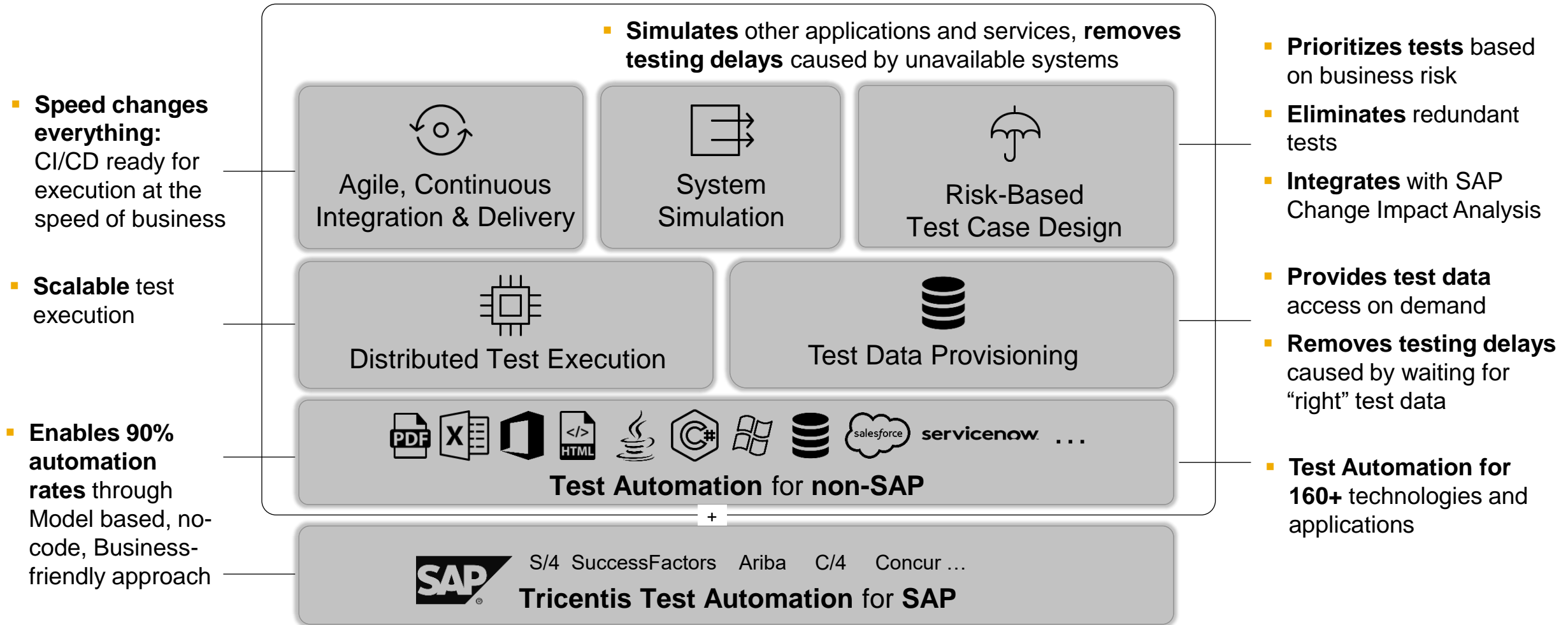
What to **test**?

**SAP Change Impact Analysis**  
by Tricentis





# SAP Enterprise Continuous Testing (ECT) by Tricentis

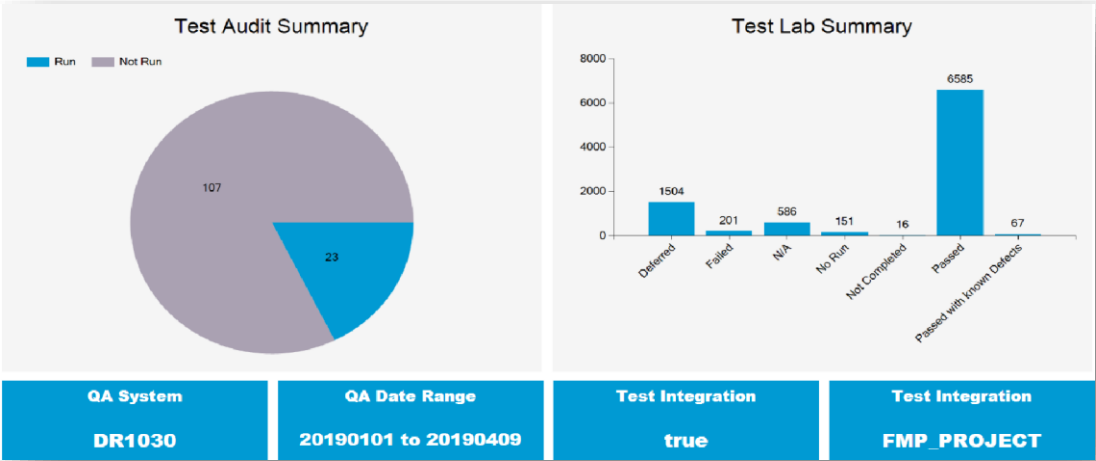


Integrated with





# Test Audit



## Has everything been tested?

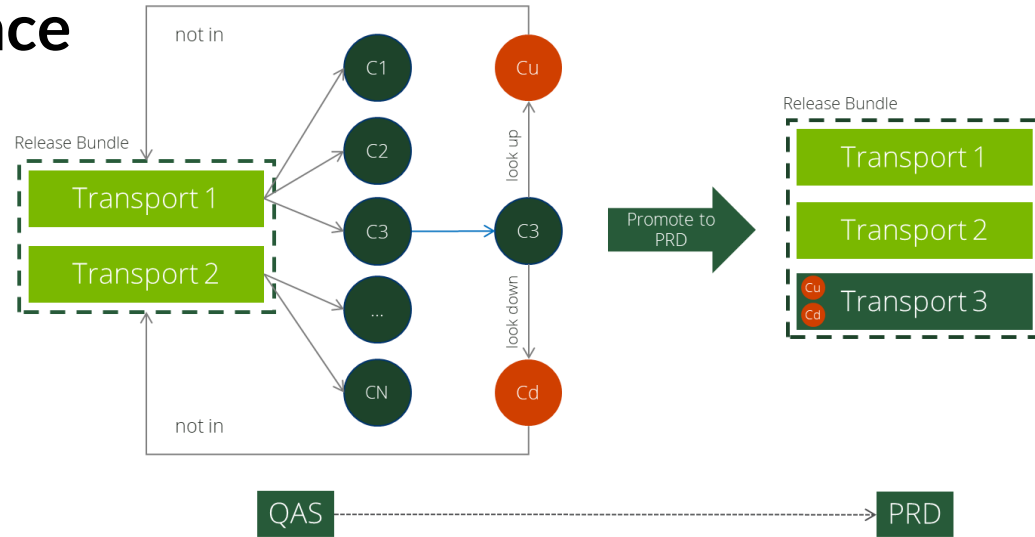
Verifies if your tokens actually have been executed in a certain test timeframe, and if the testcases have been executed.

To make sure nothing is forgotten and you are ready to move forward.

APP_AREA	EXECUTABLE	DESCRIPTION	QA_STATUS	QA_COUNT	PRD_COUNT	PRD_USERS	PRD_TOP_USER	PRD_TOP_USAGE
Logistics Execution	RVV50R10C	Deliver Documents Due for Delivery	Run	1	14	5	E5L101	10
Financial Accounting	SAPF110S	Payment Program	Run	29	226	8	CHST01	100
Basis Components	SAPLCRFC	RFC Administration	Run	331	239210	6	SM_SM2	174672
	SAPLMCEX		Not Run					
SAP Business Warehouse	SAPLRSaos		Run	2	2378	1	ALEREMOTE	2378
Basis Components	SAPLRSAP	Reporting Server: Service API	Run	57	20374	1	ALEREMOTE	20374
Basis Components	SAPLSEEF_UPGRADE		Not Run		4	1	FLORESG	4
	SAPMKEI2		Not Run					
Basis Components	SBIE0001	Data extraction using SUBMIT_JOB as batch process	Run	4	2500	1	ALEREMOTE	2500
Cross-Application Components	ZAIF_DASHB_PRE_PLANT_OVERVIEW	Handheld Integration Dashboard	Not Run		38	3	RQHF01	36
	ZFIP_PBS_LOAD_SUMMARY	Load PBS By Summary	Run	4	2470	5	BGB001	2149
Financial Services	FNVS	Display Contract	Run	217	409	4	EY1401	328
Financial Accounting	FSE3	Display Financial Statement Version	Not Run		241	5	BGB001	108
Logistics - General	MCSI	Call Standard Analyses of Sales	Run	93	217	4	RPZ401	112
Materials Management	ME21N	Create Purchase Order	Run	51	4727	23	V7YO01	3542
Materials Management	ME57	Assign and Process Requisitions	Not Run		385	4	V7YO01	664
Sales and Distribution	VA01	Create Sales Order	Run	631	84681	52	OPS	99756
	VL10A		Run	72				
Logistics - General	XK02	Change vendor (centrally)	Run	159	18459	14	JLW00001	15363
	ZFI055	Distributor Statements	Run	114	7568	25	SAW00001	1717
	ZFI062	Turn Around Report - Foodservice	Run	18	790	5	PD7A01	693
	ZFI064	Distr. & Thrift Store Clearing	Not Run		499	6	CHST01	212
	ZFI101	Transfer Distributor AR to Master	Not Run		368	8	BRINSONF	121
	ZFI102	Clear Master Distributors	Not Run		119	3	CHST01	68
	ZFI161	Payment Medium: Creation	Run	47	783	5	CHST01	483



# Release Assurance



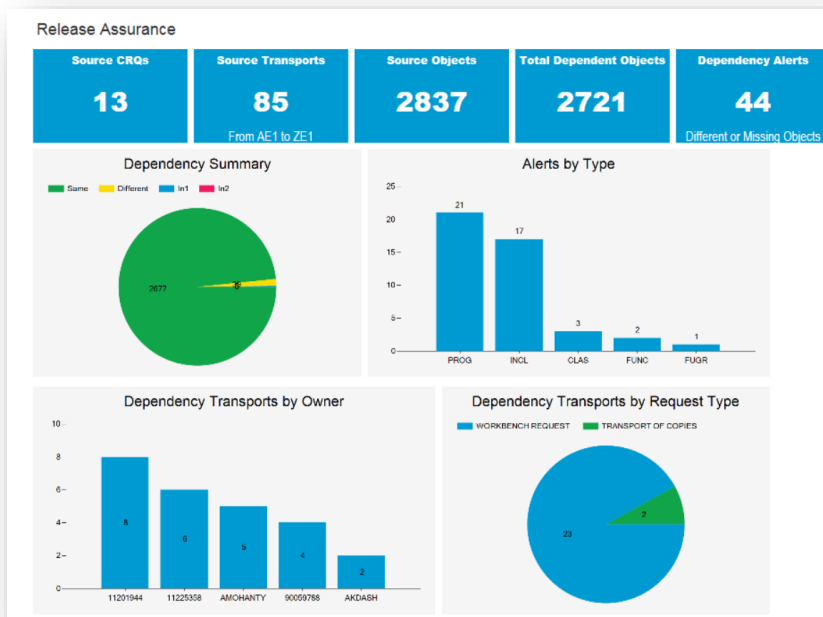
## Is it safe to release to production?

Finds a set of **changed or missing dependent objects** that may cause errors when the transports are imported from the QA system into the production environment. These objects should be reviewed for inclusion in the release.

Dependent objects are those that either:

- **Parent** - Use the objects from the input transports directly (parent objects)
- **Child** - Are used by the objects from the input transports directly (child objects).

- **Confidence** to go to production
- **Reduce Defects** in production







# Application Testing Solutions by Tricentis

Does it **work**?

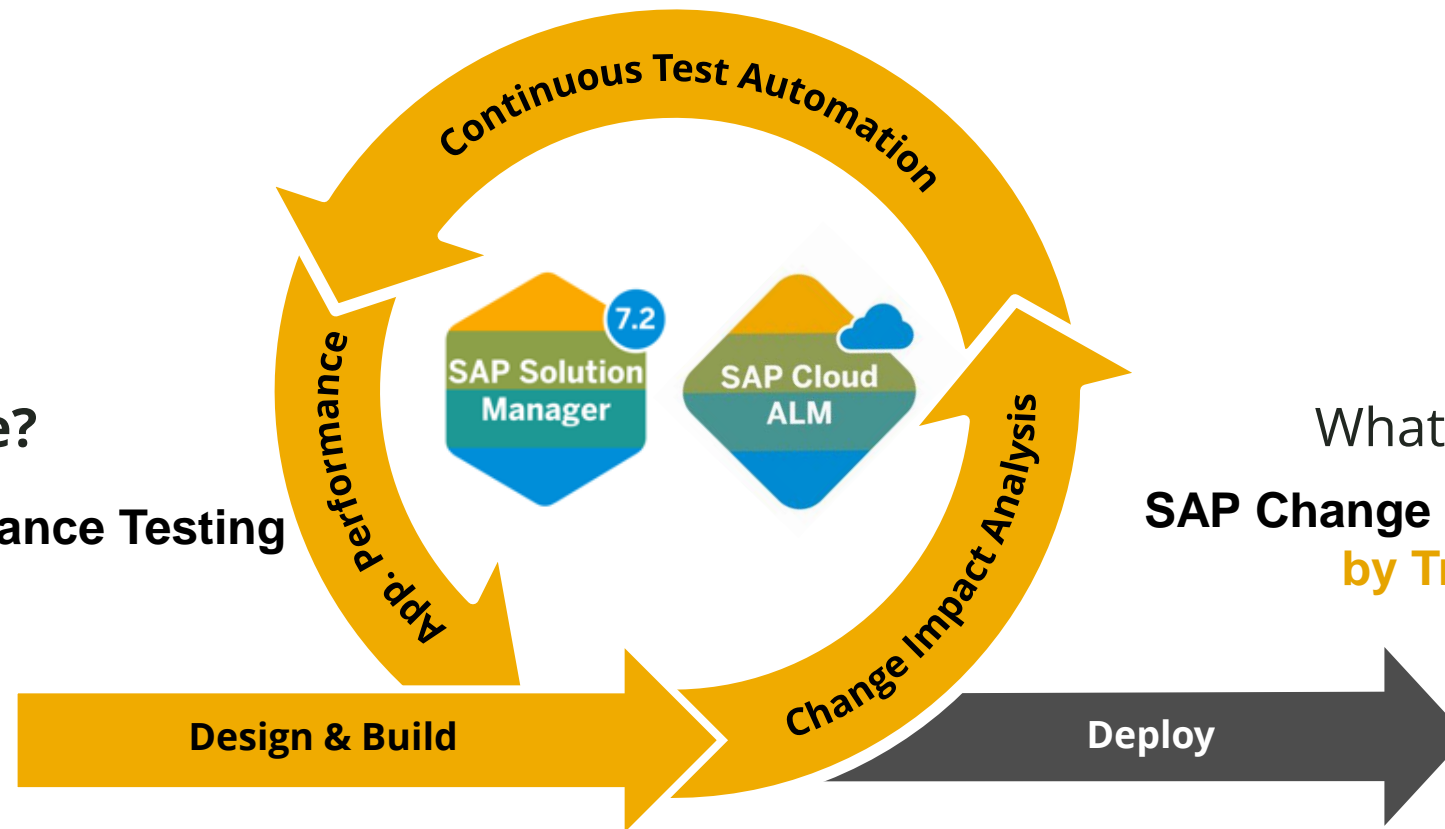
**SAP Enterprise Continuous Testing**  
by Tricentis

Does it **scale**?

**SAP Enterprise Performance Testing**  
by Tricentis

What to **test**?

**SAP Change Impact Analysis**  
by Tricentis





# ONE Test Definition

Convert any ECT web, SAP GUI or API functional test script into a performance script, with one-click.

The image displays two software interfaces side-by-side, illustrating the process of converting a functional test script into a performance script.

**Tosca Commander (Left):** The interface shows a project named "DemoNeotys" with a tree view of test cases. The "Create Sales Order" test case is selected. The "Details" tab is active, showing a table of test steps and their parameters. A yellow arrow points from the "Create Sales Order" test case in the tree to the "VA01" action in the NeoLoad interface.

Name	Details
*** Recovery Scenarios ***	
SAP Login	
SAP Login	
Start VA01 transaction	
Create Sales Order: Initial Screen	
Save order	
Verify success	
Exit	
TBox Wait	
Close SAP Logon	

**NeoLoad (Right):** The interface shows a project named "neoload\_sap\_demo\_proj\_v71". The "Design" tab is active, showing a list of actions. The "VA01" action is selected, and its details are shown in the "Definition" and "Settings" panels. The "Settings" panel shows the "Play all elements sequentially" option selected.

The "Definition" panel shows the following details:

- Name: VA01
- Description:

The "Settings" panel shows the following options:

- ☒ Play all elements sequentially
- ☐ Play all elements randomly
- ☐ Play 1 element(s) randomly
- ☐ Advanced mode

The "Pacing" panel shows the following options:

- ☒ No pacing
- ☐ Pacing duration: 0 sec.
- ☐ Pacing duration between: 0 sec. and:



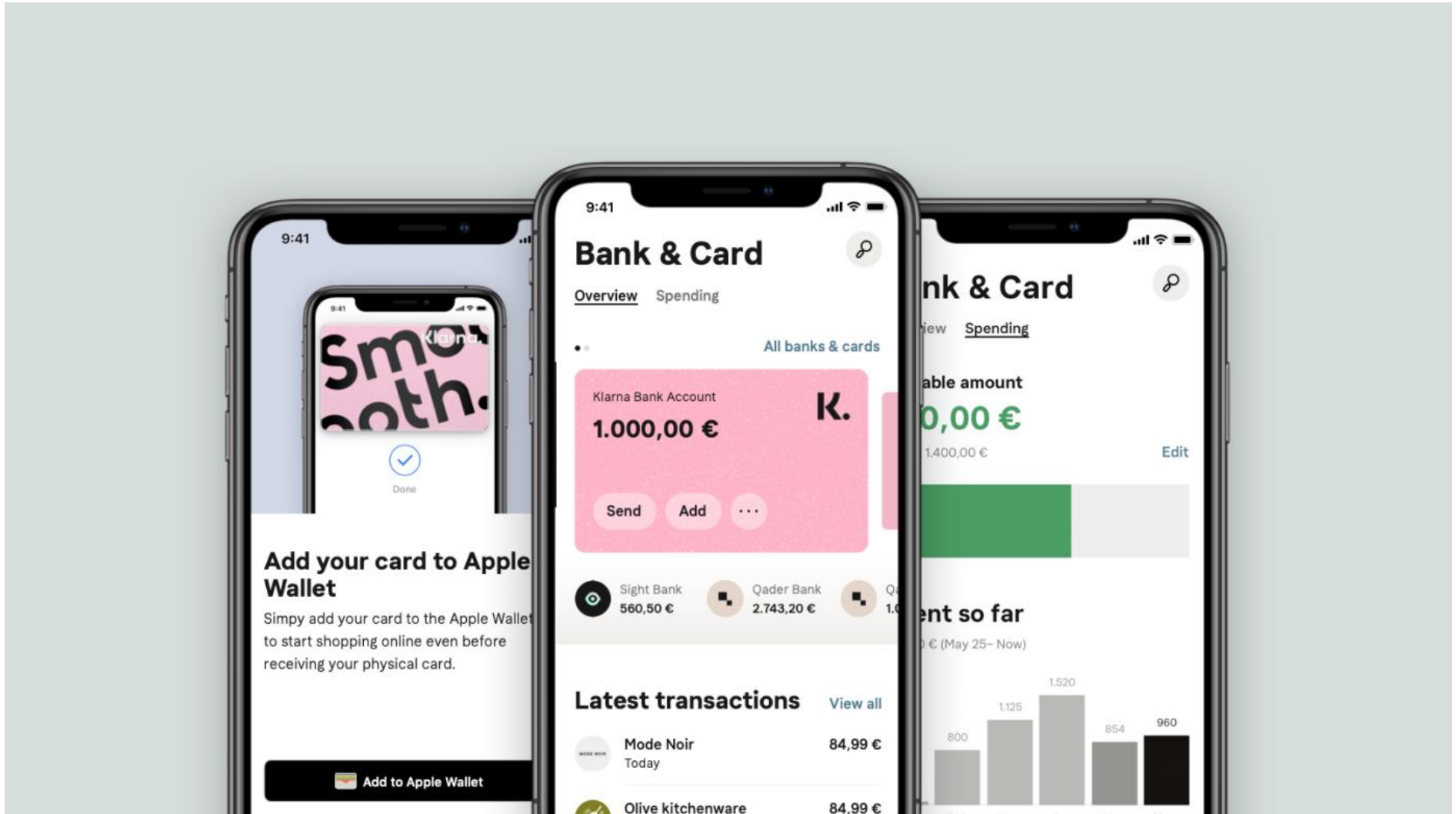
What do customer say?























# MERCK

“

I have more automation in my **coffee maker** than most enterprises have in their testing processes. This **lack of automation** is not only **expensive**; it also **holds back innovation**.

*—Clark Golestani, previously Merck President of Emerging Businesses and Global CIO, presently the Managing Director of C Sensei Group*







W r a p u p



# The Total Economic Impact™

## SAP Application Testing Solutions by Tricentis

Through customer interviews and data aggregation, Forrester concluded that SAP application testing solutions by Tricentis have the following three-year financial impact.

### Tricentis Business Assurance Quantified Benefits

Total Benefits:

**\$7.8 million**



“

When you put it all together, the benefits are clear: less test condition, less effort, less errors.

ERP principal test manager, telecommunications

#### BENEFITS

**Accelerate** innovation and software release cycles.

**Reduce** risks to critical business processes.

**Increase** transparency and support real-time insights.

**Lower** costs by reducing manual test efforts and complexity.

**Empower** business users and better decision-making.

**334%**

ROI and six months payback

**300%**

Improvement in application release rate

**84%**

Reduction in testing scope, and 78% reduction in production errors

**99.4%**

Reduction in performance test maintenance costs







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