



# SAP Integrated Business Planning

## HIGH QUALITY – LOW TCO

BELA TOLVAJ  
Head of Engineering  
Digital Supply Chain Planning, SAP  
JANUARY 09, 2020  
SAP The logo for dkom, featuring the word "dkom" in a stylized font where the "d" and "k" are connected, with "SAP" written in smaller letters to the left.

## What are you going to hear about?



### Best practices on

- Managing quality requirements coming from rapid customer growth
- Empowering scrum teams to provide cloud-ready product and service quality
- Creating space for step-by-step cloud engineering transformation and continuous improvement
- Reducing maintenance load and business down situations

# Supply Chain Planning in the Intelligent Enterprise

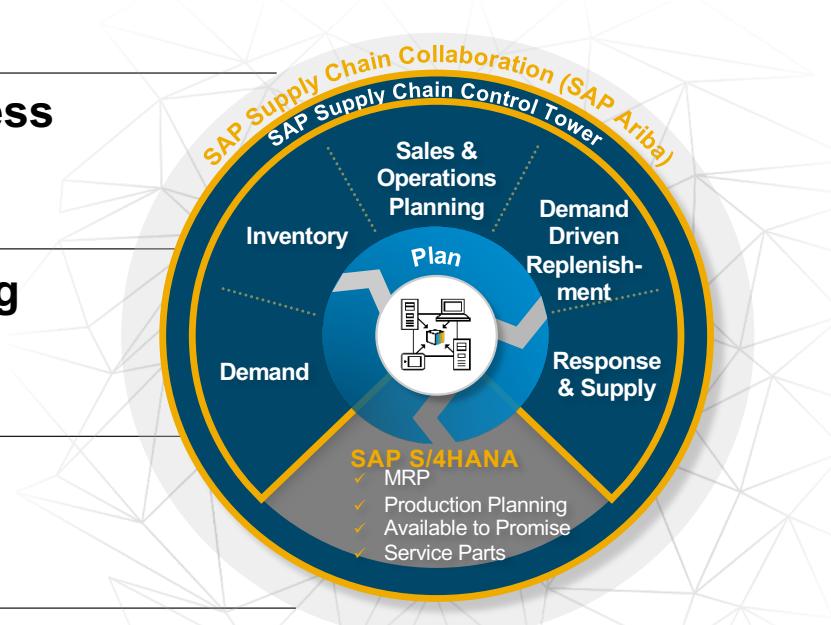
## Cloud-based, real-time supply chain planning powered by SAP HANA

**State-of-the-art business processes**

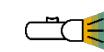
**Synchronized planning processes**

**Leverage end-to-end visibility**

**Faster planning cycles**



 **SAP Integrated Business Planning (IBP)**



Leader position in Gartner's Magic Quadrant for Sales and Operations Planning Systems of Differentiation\*

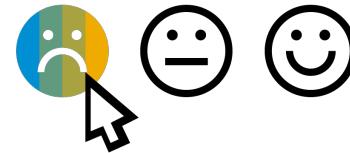


Relevant contributor to SAP's total cloud revenue

## Key stakeholders of quality



Work-life balance  
of people

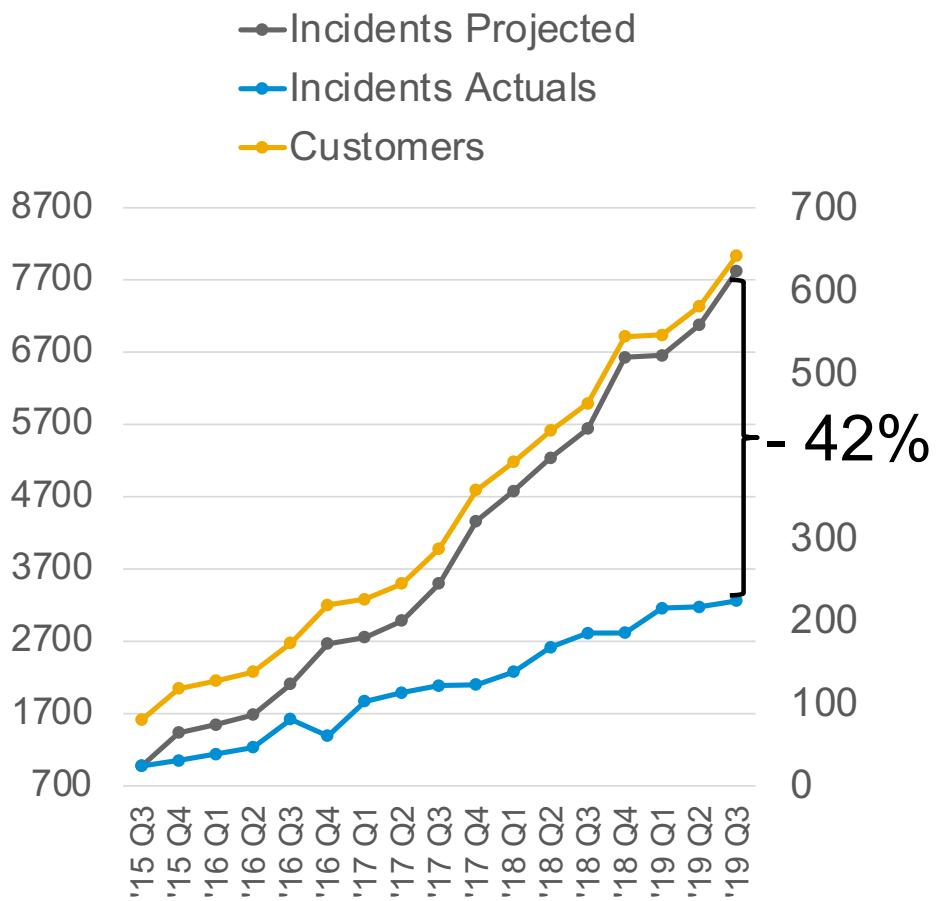


Customer satisfaction  
and churn rate



Total Cost of Ownership  
for SAP

## 4 years of SAP Integrated Business Planning



Licensed  
customers



2015

Customer  
incidents

80

697

Call rate  
up to

975

3260

0.6

0.31

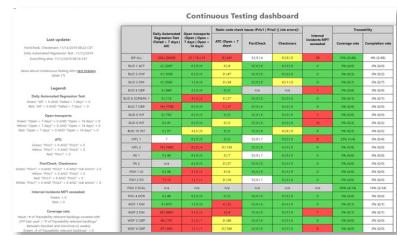
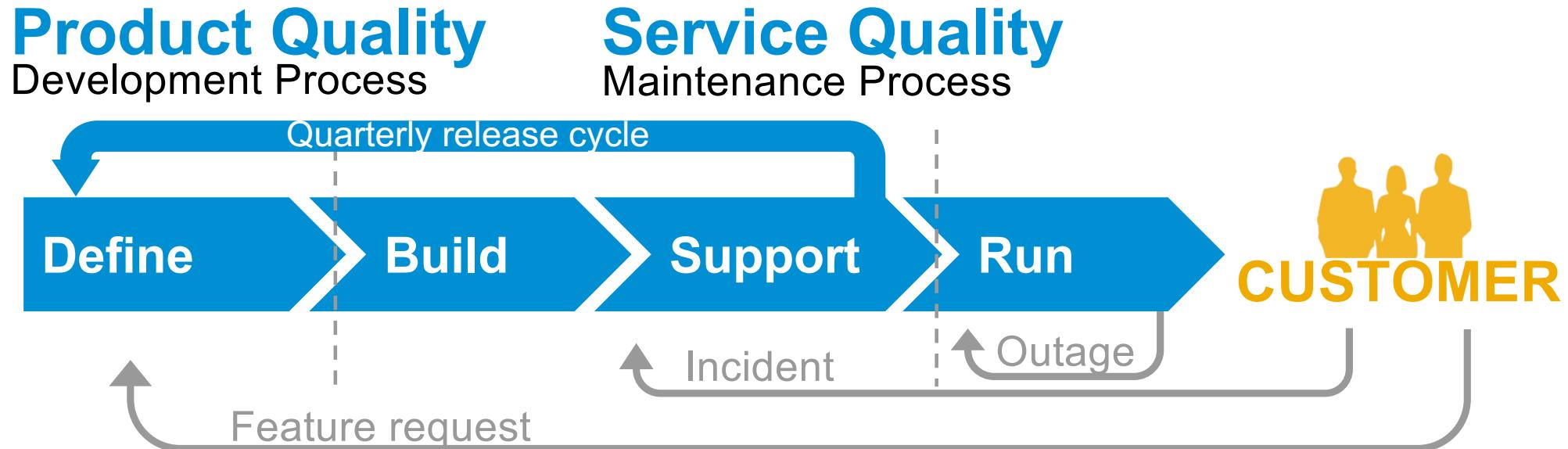
Market success  
and high traction

Predictable  
environment for  
customers and  
employees



2019

**A cloud vendor has to focus on product quality as well as on service quality**

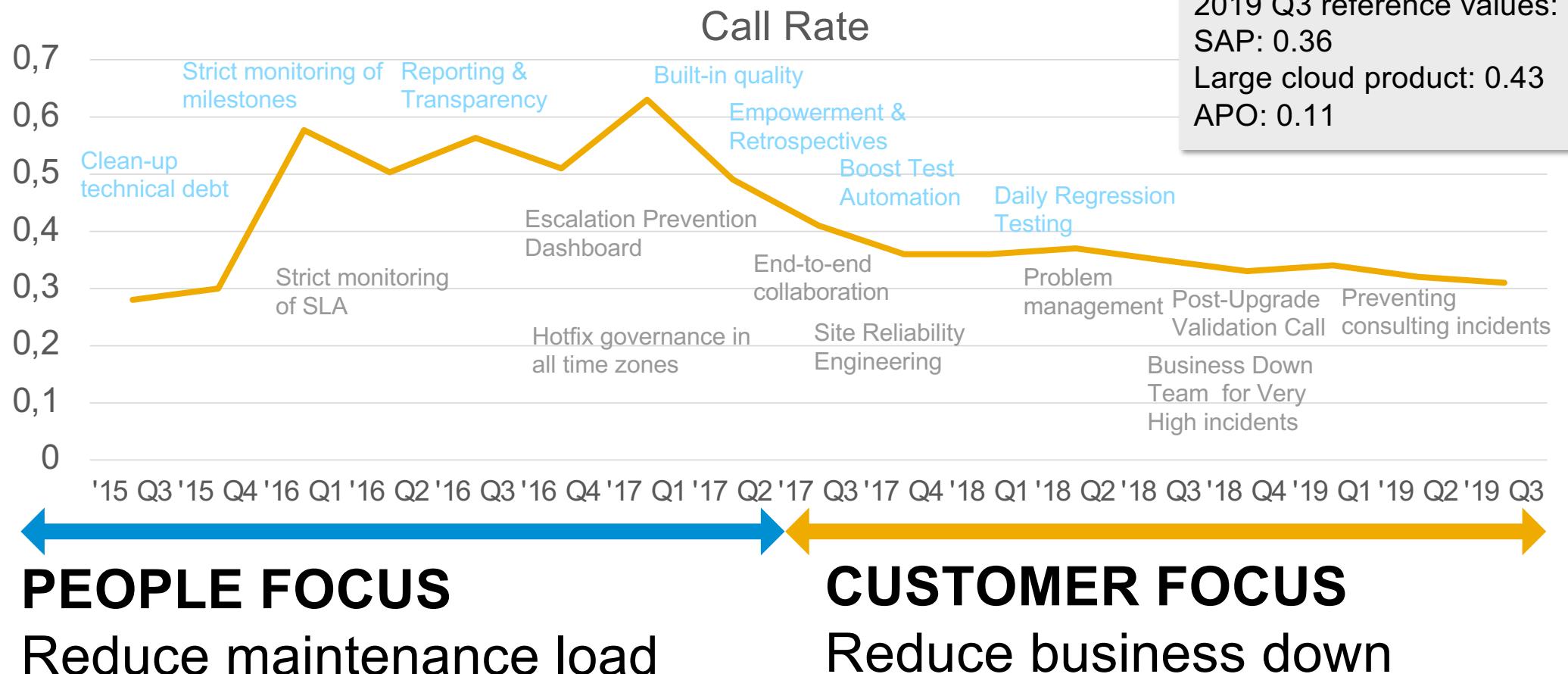


*Continuous Testing Dashboard*



*Escalation Prevention Dashboard*

## Cutting the call rate in half



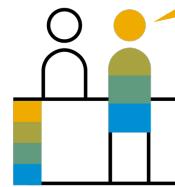
# **REDUCE MAINTENANCE LOAD**

**TRANSPARENCY  
EMPOWERMENT  
CONTINUOUS IMPROVEMENT**

## Quality KPI framework connects scrum teams with customer experience



**Internal KPIs**



Prio #0: Service stability

Prio #1: Added value of functionality

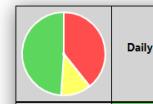
**KPIs perceived by customers**

Internal KPIs of scrum teams are mapped to customer KPIs

# Shift Left by Mapping KPIs to Customer Value

## Product Quality KPI Example

# of defects in ...  
... Continuous Testing  
w/ Test Automation

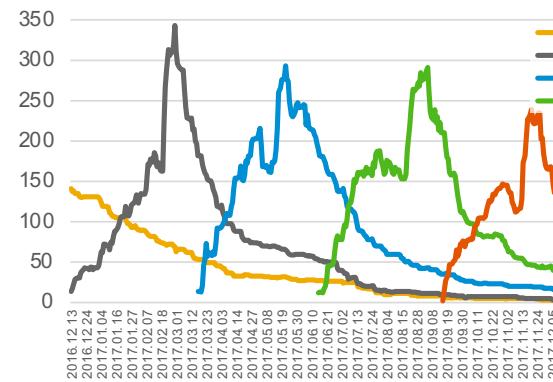


Daily Automated Regression Test (Failed > 7 days   All)		IBP 2002	
Daily Automated Regression Test VCO - HFC02 (Failed   All)		Daily Automated Regression Test FCO - HFC03 (Failed   All)	
BUD 6 SOP&PA 1	0   115	0   81	10   126
BUD 7 OBP	14   1706	4   1686	?
BUD 8 INT	1   752	6   1580	44   428
BUD 9 INT	0   41	1   41	1   41
BUD 10 INT	0   37	?	?
MTL 1	?	99   210	1   1
MTL 2	16   1082	3   1140	?
PA 1	0   46	?	0   29

Why large # of test  
automates are  
broken?

%  
Dev. Close

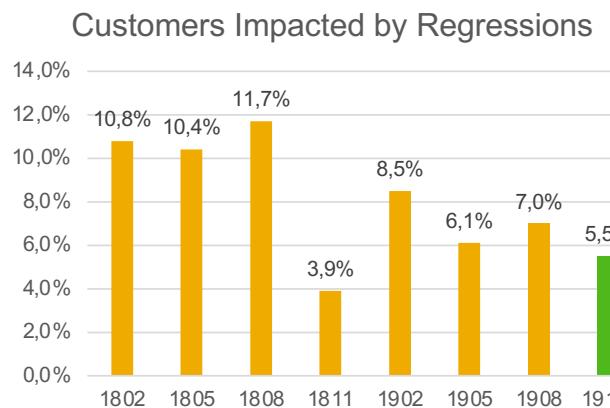
... Release Test



Why did the automated  
or manual tests not  
find the defects?

%  
Upgrade

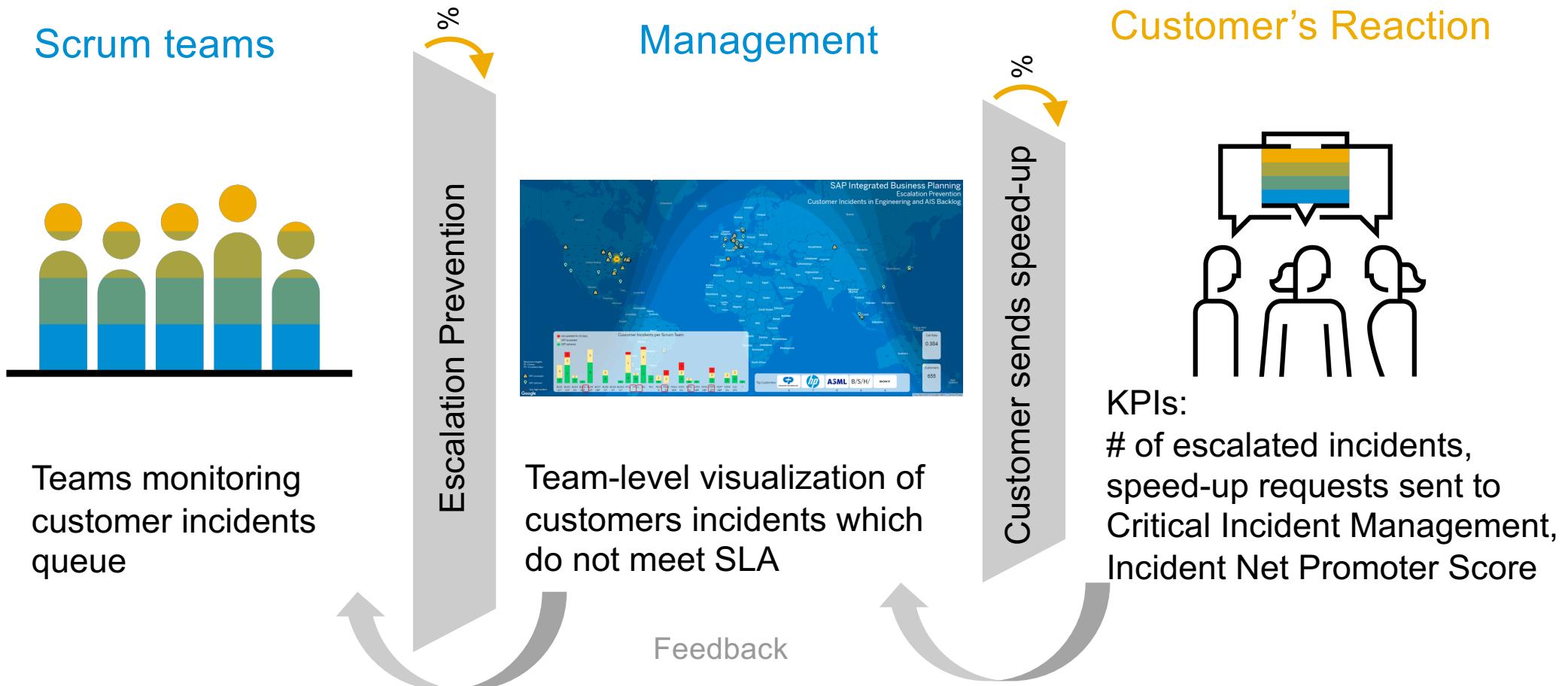
... Customer Systems  
(post-upgrade validation call)



Feedback and Forecast

# Shift Left by Mapping KPIs to Customer Value

## Service Quality KPI Example



# Keep incidents in the process



Quality Error



Manual troubleshooting

%

Delivery



Defect during usage

Standard manufacturing process

Feedback

## Why me?

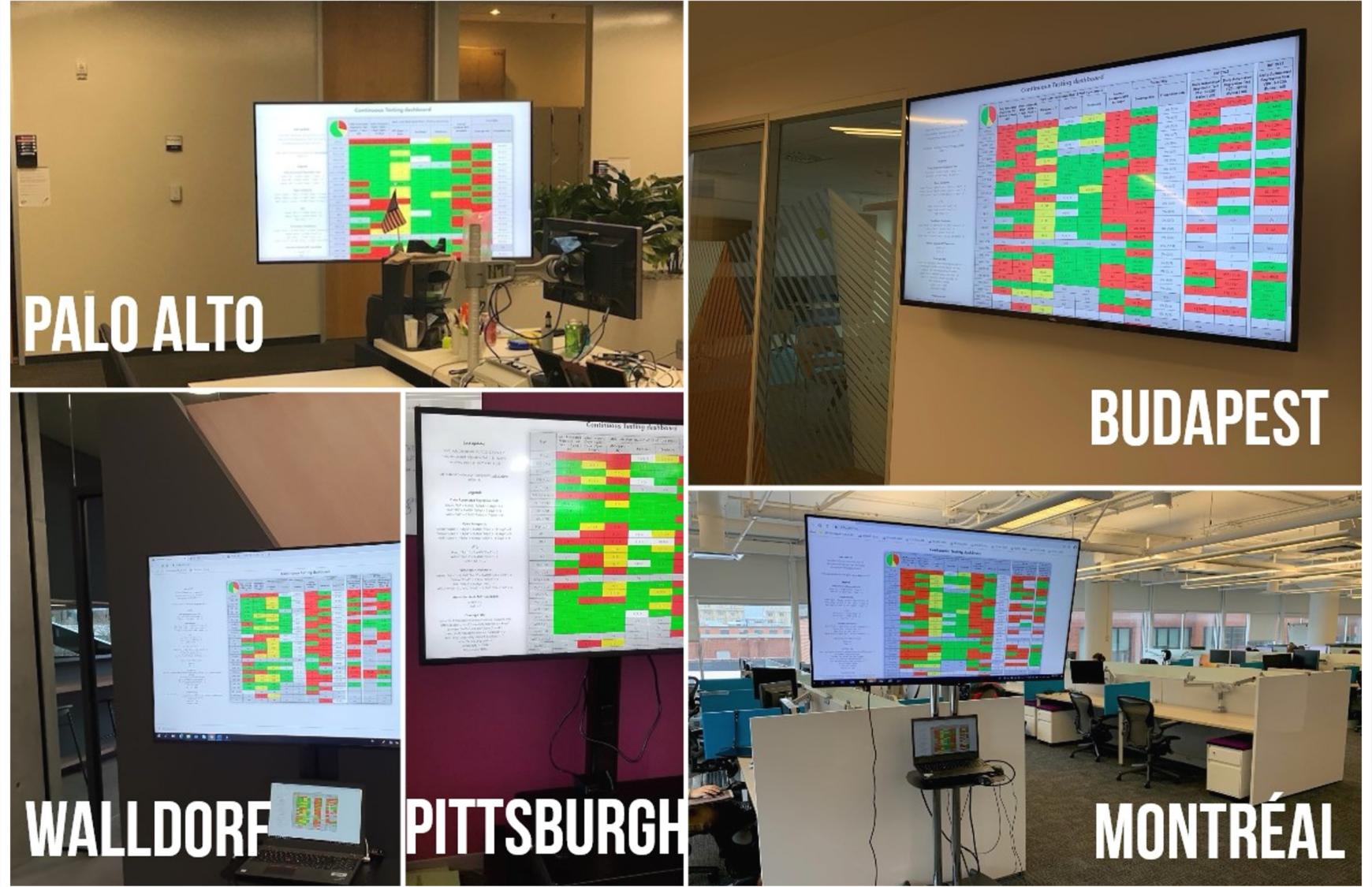
### Chance for success?

- Early detection and meaningful threshold to allow 100%

Example:

#### Daily Automated Regression Test:

**Green**: Failed > 7 days is 0



# DEMO

Class Builder Class /IBP/CL\_CONFIG\_CLEANUP\_UTIL Display

Class Builder Class /IBP/CL\_CONFIG\_CLEANUP\_UTIL Display

Repository Browser    Repository Information System    MIME Repository    ATC Result Browser (Checkman)

Class / Interface    /IBP/CL\_CONFIG\_CLEANUP\_UTIL

Object name    Description

- Attribute
  - MT\_ACT\_PARAM
  - MT\_MDTYPE
  - MT\_PLAREA
  - MT\_TIMEPROFILE
  - MT\_WHITELIST
  - MV\_ACTIVATE
  - MV\_MOTYPE
  - MV\_TESTRUN
  - MV\_TSTTO
- Methods
  - CLEAR\_BUFFER
  - COLLECT
  - CONSTRUCTOR
  - DELETE
  - GET\_COLLECTED\_DATA
  - ACTIVATE
  - COLLECT\_MDTYPE
  - COLLECT\_PLAREA
  - COLLECT\_TIMEPROFILE
  - DELETE\_MDTYPE
  - DELETE\_PLAREA
  - DELETE\_TIMEPROFILE
  - READ\_WHITELIST
- Types
  - MO\_DATA\_STR
  - MO\_DATA\_TAB

Method    DELETE\_TIMEPROFILE    Inactive

```

1 METHOD delete_timeprofile.
2
3   DATA:
4     lt_tp_header      TYPE /ibp/t_dm_tp_tplist,
5     lt_tp_levels      TYPE /ibp/t_mu_timeprofile_level,
6     lt_tp_levels_attr TYPE /ibp/t_mu_timeprofil_at_tp_sapso,
7     ls_tp_header      LIKE LINE OF lt_tp_header,
8     ls_act_param      LIKE LINE OF mv_act_param.
9
10  IF mt_timeprofile IS INITIAL.
11    RETURN.
12  ENDIF.
13
14  LOOP AT mt_timeprofile ASSIGNING FIELD-SYMBOL(<ls_orphan_tp>).
15    " prepare time profile headers for deletion
16    IF <ls_orphan_tp>-active <> /ibp/cl_act_const>gc_act_status-pending_for_deletion.
17      MOVE-CORRESPONDING <ls_orphan_tp> TO ls_tp_header.
18      ls_tp_header-operation = /ibp/cl_act_const>gc_act_operation-delete.
19      APPEND ls_tp_header TO lt_tp_header.
20    ENDIF.
21  ENDLOOP.
22
23  IF lt_tp_header IS NOT INITIAL.
24    " delete time profiles
25    /ibp/cl_model_factory>get_timeprofile_model( )->write_model(
26      EXPORTING
27        it_tp_list = lt_tp_header
28        it_tp_levels = lt_tp_levels
29        it_tp_levels_attr = lt_tp_levels_attr
30      ).
31  ENDIF.
32
33 ENDMETHOD.
```

Scope: \METHOD delete\_timeprofile\IF    ABAP    Ln 12 Col 11

SAP

PD6 (1) 001 | lalipd6 | INS | HUN | 14:51 | 2020.01.06.

# Continuous Testing dashboard

## Last update:

FioriCheck, Checkmarx: 10/12/2019 08:35 CET

Daily Automated Regression Test : 10/12/2019

Everything else: 10/12/2019 08:54 CET

More about Continuous Testing KPIs: [test strategy](#)  
(slide 17)

## Legend:

### Daily Automated Regression Test:

Green: "All" > 0 AND "Failed > 7 days" = 0

Red: "All" > 0 AND "Failed > 7 days" > 0

### Open transports:

Green: "Open > 7 days" = 0 AND "Open > 14 days" = 0

Yellow: "Open > 7 days" > 0 AND "Open > 14 days" = 0

Red: "Open > 7 days" > 0 AND "Open > 14 days" > 0

### ATC:

Green: "Prio1" = 0 AND "Prio2" = 0

Yellow: "Prio1" = 0 AND "Prio2" > 0

Red: "Prio1" > 0

### FioriCheck, Checkmarx:

Green: "Prio1" = 0 AND "Prio2" = 0 AND "Job errors" = 0

Yellow: "Prio1" = 0 AND "Prio2" > 0

Red: "Prio1" > 0 AND "Prio2" > 0

White: "Prio1" = 0 AND "Prio2" = 0 AND "Job errors" > 0

### Internal incidents MPT exceeded:

Green: = 0

Red: > 0

### Coverage rate:

	Daily Automated Regression Test (Failed > 7 days   All)	Open transports (Open   Open > 7 days   Open > 14 days)	Static code check issues (Prio1   Prio2    Job errors)			Internal incidents MPT exceeded	Traceability	
			ATC (Open > 7 days)	FioriCheck	Checkmarx		Coverage rate	Completion rate
IBP ALL	208   20409	21   15   13	8   341	0   0   4	0   9   0	39	10% (5/48)	4% (2/48)
IBP - SAP	0   2287	0   0   0	0   6	0   0   0	0   0   0	0	0% (0/0)	0% (0/0)
IBP - CLOUD	0   1039	0   0   0	0   47	0   0   0	0   0   0	0	0% (0/2)	0% (0/2)
IBP - DEV	0   3583	1   0   0	0   24	0   0   0	0   1   0	0	0% (0/7)	0% (0/7)
IBP - QA	0   880	2   0   0	0   0	n/a	n/a	1	0% (0/6)	0% (0/6)
IBP - OPS	0   115	3   2   2	0   27	0   0   0	0   0   0	0	0% (0/1)	0% (0/1)
IBP - FIN	14   1706	0   0   0	1   17	0   0   0	0   0   0	0	0% (0/0)	0% (0/0)
IBP - HR	0   752	0   0   0	0   0	0   0   0	0   0   0	1	0% (0/0)	0% (0/0)
IBP - R&D	0   41	0   0   0	0   5	0   0   0	0   0   0	13	0% (0/2)	0% (0/2)
IBP - SUPPLY	0   37	3   2   0	0   0	0   0   0	0   8   0	0	0% (0/2)	0% (0/2)
IBP - MFG	?	0   0   0	0   0	0   0   1	0   0   0	9	25% (1/4)	0% (0/4)
IBP - CLM	16   1082	6   5   4	0   133	0   0   0	0   0   0	0	0% (0/0)	0% (0/0)
IBP - CUST	0   46	0   0   0	0   7	0   0   1	0   0   0	0	0% (0/0)	0% (0/0)
IBP - FIN	n/a	0   0   0	0   27	0   0   0	0   0   0	0	0% (0/0)	0% (0/0)
IBP - OPS	0   36	3   2   2	0   9	0   0   0	0   0   0	0	0% (0/0)	0% (0/0)
IBP - DEV	10   13	1   1   1	0   16	0   0   1	0   0   0	0	0% (0/0)	0% (0/0)
IBP - QA	n/a	n/a	n/a	n/a	n/a	n/a	29% (4/14)	14% (2/14)
IBP - FIN	0   49	0   0   0	0   0	0   0   0	0   0   0	0	0% (0/0)	0% (0/0)
IBP - OPS	0   670	1   0   0	4   23	0   0   0	0   0   0	0	0% (0/1)	0% (0/1)
IBP - MFG	20   14991	5   2   2	2   4	0   0   0	0   0   0	7	0% (0/1)	0% (0/1)







## **Clear boundaries enable empowerment**

### **Quality KPIs**



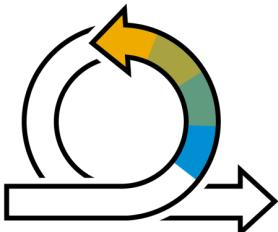
What is the customer value?

Why me?

Chance of success?



**EMPOWERMENT**



# Continuous Improvement Framework in DSC Planning Engineering, driven by the Cloud Process Team

- Collecting inefficiencies through the scrum master community
- Space for change
- Scrum-based transparent problem resolution
- Members: Development Managers and Process/Program Experts

→ **Process and People responsibility in one hand**



## Achievements

### Hotfix Process

- 6300 hotfixes by 1000+ developers in S/4HANA and IBP
- Tool/process improvement **saves 1200+ PD annually**

### Logon to cloud system on HANA via STFK

- Number of clicks: 33 → 13
- Logon time: 5 min → 2 min
- 113k logons per year
- **Saving per year: 3 million clicks & 700 PDs**

# Test Automation Framework Team: Mission and Tasks

**Test automation  
INFRASTRUCTURE**



Designs, implements, monitors **test automation infrastructure** and framework

**Test automation  
PRODUCTIVITY**

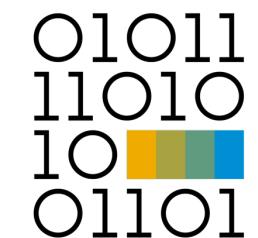
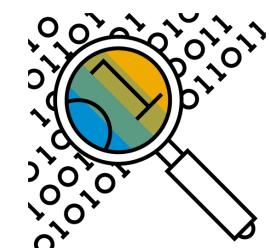
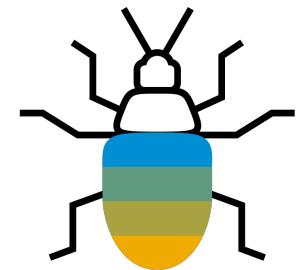


Designs and implements **test automation productivity** applications

**Test automation  
PLAN**



Provides consulting support across the IBP program including framework enhancements, **test automation plan** evaluation and providing technical solutions



# **IBP Boot Camps for SAP consultants to improve usability and to reduce consulting incidents**



**Multiple bootcamps per year for internal and external consultants**

**E.g. 4<sup>th</sup> IBP Boot Camp for SAP-internal consultants**

**65 attendees from 17 SAP subsidiaries**

**16 presentations &  
29 roundtable sessions**

# **REDUCE BUSINESS DOWN**

**SITE RELIABILITY ENGINEERING  
POST-UPGRADE VALIDATION CALL  
PROBLEM MANAGEMENT**

## **Site Reliability Engineering builds bridge between engineering and operations**

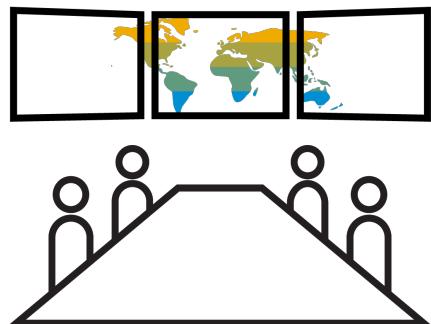
- 1. Restore** IBP Cloud Service in shorter timeframe in case of application-related outages
- 2. Stop reoccurrence** within 24 hours
- 3. Prevent** future outages through long-term solution



## Example about Site Reliability Engineering to prevent reoccurrence within 24 hours until Hotfix is delivered

```
invalidSessions=$(hdbsql <credentials, other parameters> "select SESSION_NAME from
SYS.M_DEV_PLE_SESSIONS where is_valid = 'FALSE';")
if [[ -n "$invalidSessions" ]]; then
    echo "we have invalid sessions"
    for i in "$invalidSessions"; do
# if there are multiple lines, you either have to reference $invalidSessions within
quotes "", or without to properly loop thru the lines
        hdbsql <params> "ALTER PLANNING SESSION \"$ADMIN\" WITH PARAMETERS (
'action='close_all_sessions', 'object'='$i', 'host'=<HOSTNAME>, 'port'='30203' );"
        if [[ $? -ne 0 ]]; then
            echo -n "failed"
        else
            echo -n "succeded"
        fi
        echo "to clear invalid session: $i"
    done
else
    echo "no invalid sessions are present"
fi
```

# Post Upgrade Validation Call



Participants:

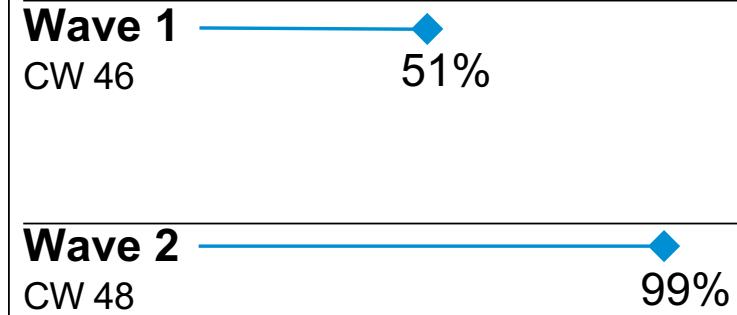
*Customer Office,  
Product Support,  
Cloud Operations,  
AIS,  
Engineering  
Critical Incident Management,  
Mission Control Center*

Daily situational room from the start of the upgrade to the end of week n+2

**Goal:** Ensuring that upgrade-related incidents are resolved with priority, before additional customers would be affected

IBP 1911 release

## Upgrade of customer systems



# Harmonized Problem Management Process

**Goal:** Prevent incidents from reoccurring and minimize the impact of incidents that cannot be prevented.

## Problem Categories

**Outages**

**Upgrade issues**

Escalated Incidents

Performance issues

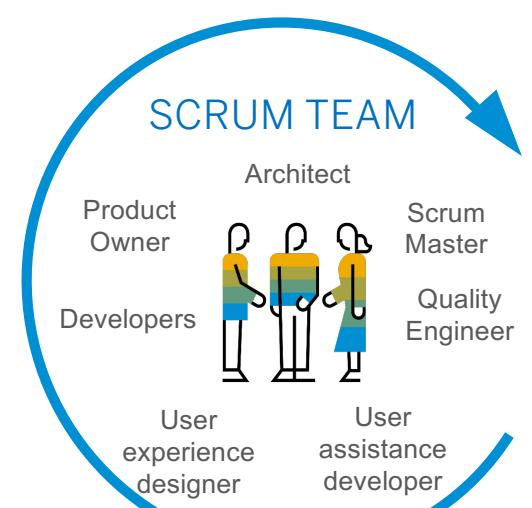
Consulting issues

Any other recurring

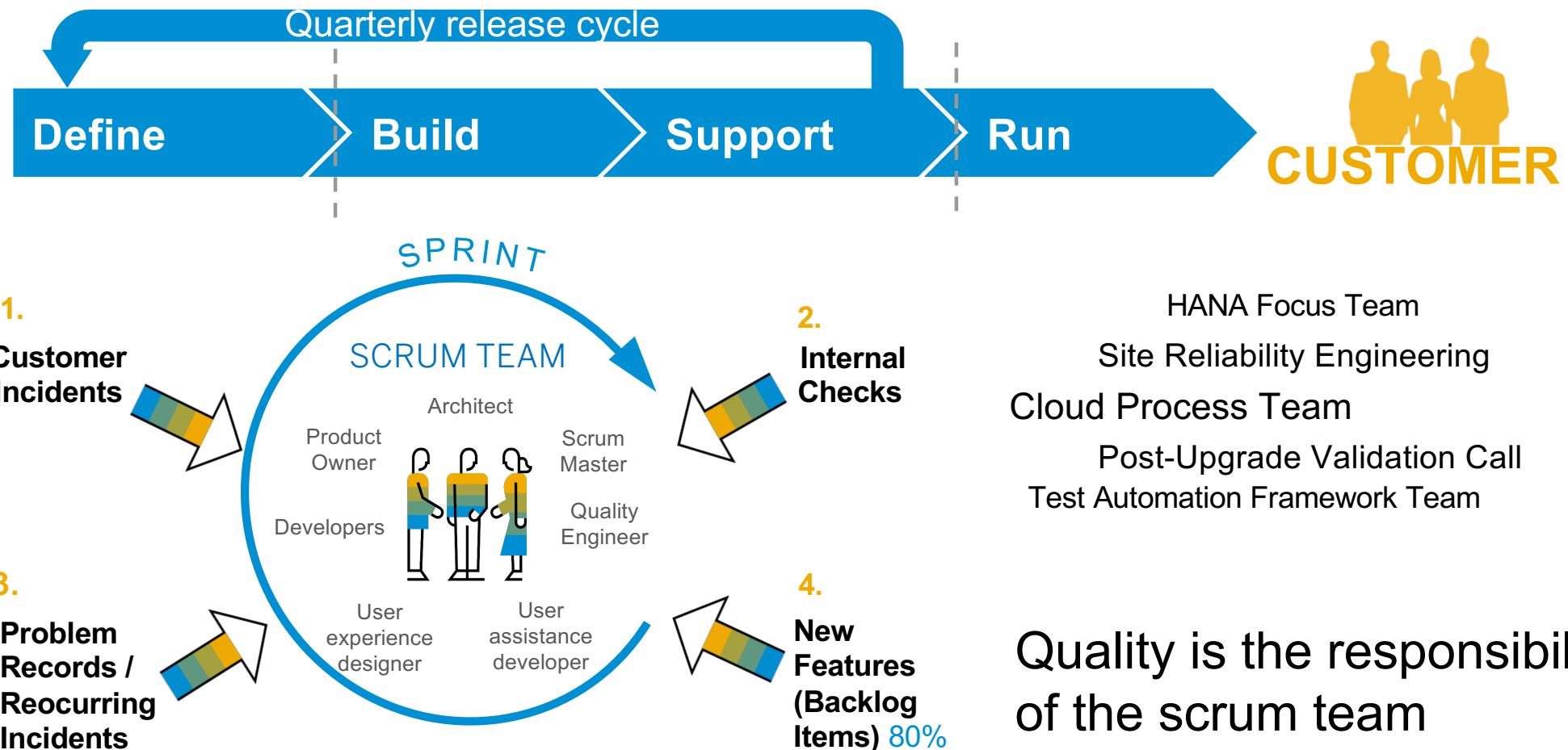
## Accountable

- SITE RELIABILITY ENGINEERING
- POST-UPGRADE VALIDATION CALL

UNIFIED PROBLEM MANAGEMENT PROCESS



## A day in the life of a scrum team: Priorities

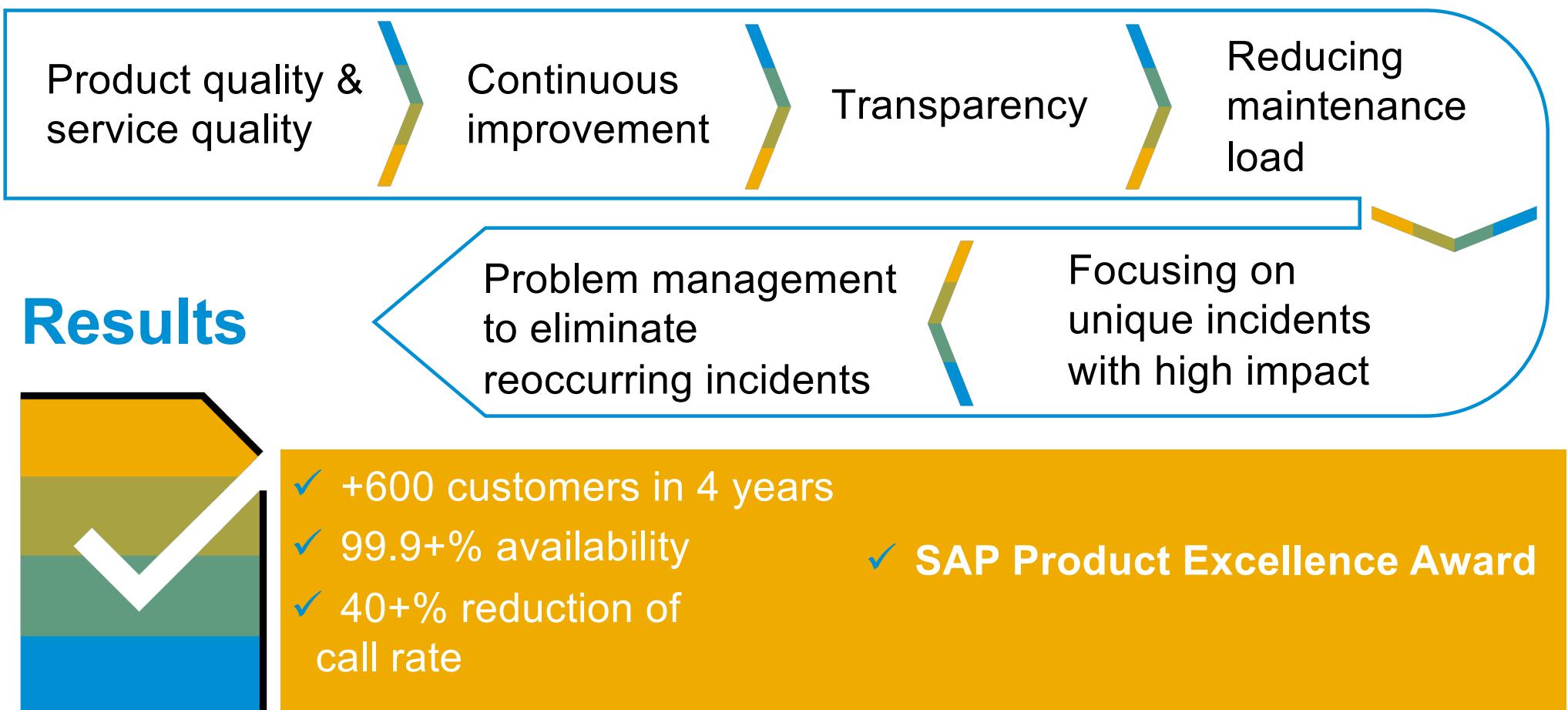


## Outlook

- Further reduce upgrade regressions
- Accelerate RCAs
- Infra cost: rollout multi-tenancy, elastic scaling, (fair) usage-based sizing
- Shorten release stabilization period
- ...

# **SUMMARY**

## A successful transformation journey



SAP dkom

**PLEASE PROVIDE  
YOUR FEEDBACK**

**IN THE EVENT APP JUST GO  
TO THE SESSION AND  
SCROLL DOWN**



# Learn more about the SAP Digital Supply Chain (DSC), S/4HANA, Industry 4.0 and Design-to-Operate Strategies

## SAP DSC Strategy Whitepaper

- [Digital Supply Chain](#)

## SAP Industry 4.0 Strategy

- [Industry 4.0](#)

## SAP DSC Executive Overview Deck (L0)

- [English Version](#)
- [German Version](#)

## SAP Design-to-Operate Strategy Whitepapers

- [Supply Chain Planning and Delivery](#)
- [Digital Manufacturing](#)
- [Intelligent Asset Management](#)

## DSC Jam Pages for Latest Materials

- [Digital Supply Chain Jam Page](#)
- [Design-to-Operate Jam Page](#)

## S/4HANA Jam Pages for Latest Materials

- [SAP S/4HANA at a Glance](#)
- [SAP S/4HANA Manufacturing & SCM Solution Management](#)
- [SAP S/4HANA Manufacturing & SCM Product Management](#)
- [Planet S/4HANA Cloud for Discrete Industries, Mill Products & Mining](#)



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YOU**

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by scanning the QR-Code

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