



Leveraging SAP Test Automation tool for non disruptive
upgrade at MP Materials

Eric Sanders, Senior Manager, E&Y
Sanjai K, Vice President, SAP
Session ID # 82724

About the Speakers

Speaker Name

Eric Sanders, EY

Senior Manager, Advisory –
SAP. Responsible for S/4HANA
implementation projects.

Product costing expert

Speaker Name

Sanjai K , SAP Labs

Vice President Product
Management with S/4HANA
Cloud. Responsible for Post
Upgrade Test using SAP Test
Automation Tool

Key Outcomes/Objectives

1. Overview of scope and implementation of S/4HANA Cloud at MP Materials
2. Review the functional capabilities of the Test Automation tool
3. Understand how the test automation tool can streamline testing during the implementation phase and during quarterly upgrades

Agenda

- Overview of scope and implementation of S/4HC at MP Materials
- Functional capability of the test automation tool
- Regression testing during Quarterly Upgrade using Test Automation Tool
- Lessons Learned

MP Materials Profile

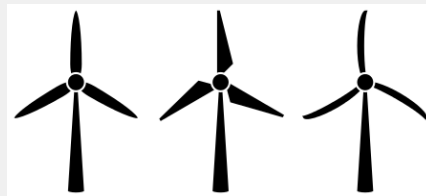
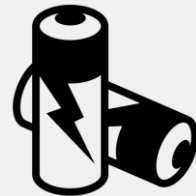
MP Materials owns and operates Mountain Pass, the only Rare Earth mining and processing site in North America

Rare Earths power the modern economy. They are essential components in a wide range of industrial, clean energy and information technology applications.

Mountain Pass' bastnaesite ore is one of the world's highest quality Rare Earth deposits. The mine started production in 1952, and, from the 1960s through the mid-1980s, it was the dominant source of Rare Earth minerals in the world.

Source: <https://mpmaterials.com/about/>

Applications for rare earths:



Industry
Mining



Location
Mountain Pass, CA



<https://www.instagram.com/mpmaterials/>

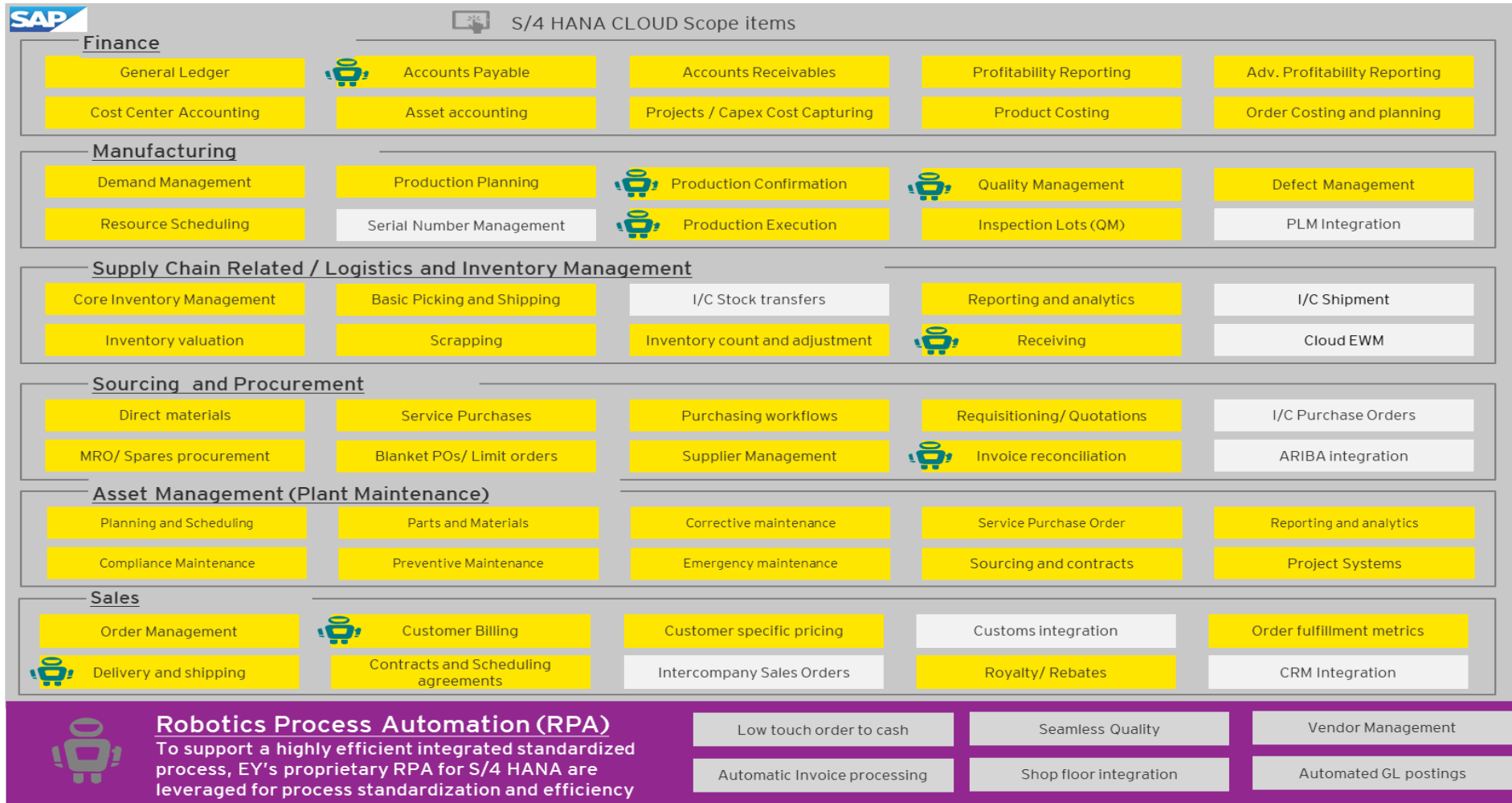


<https://www.linkedin.com/company/mp-mine-operations-llc/>

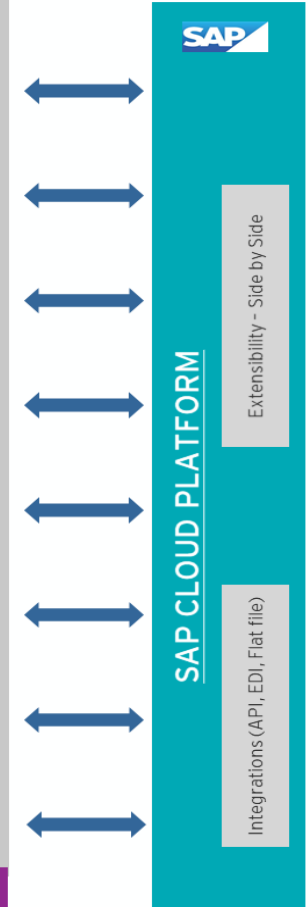
<https://www.mpmaterials.com>



MP Materials Project Profile



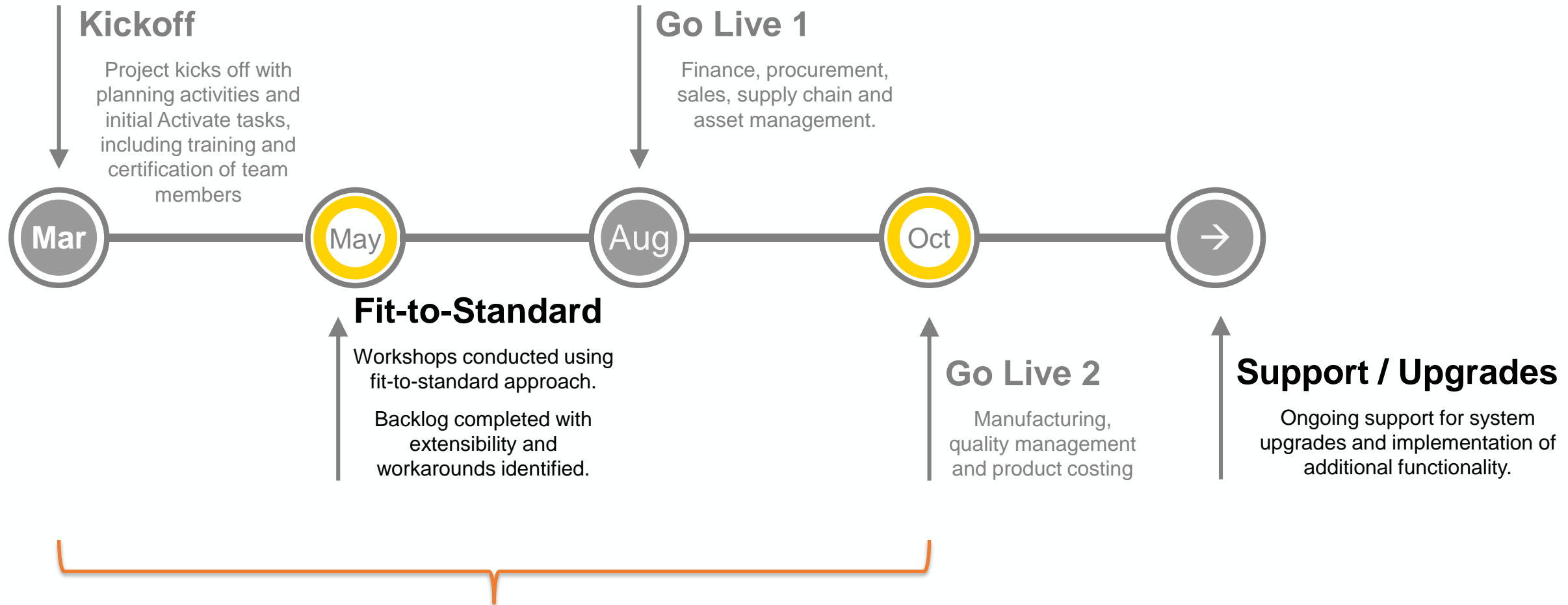
Implemented Not Implemented



BOT Hot spots to enhance efficiency and manage user change



S/4HANA Cloud Project Timeline



7 months for 2 go lives!

Project Key Dates – Automated Testing

Integrated Testing

Build automated test thinking into the planning and execution of test cycles

UAT

Review and update customer specific tests. Execute key automated test to prepare team for first upgrade.

Go Live 1

Finance, procurement, sales, supply chain and asset management.

Upgrade Prep

Update tests for new functionality

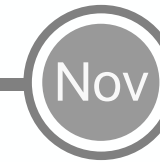
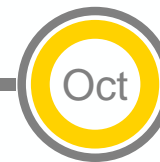
1811 Upgrade

Execute tests for 1811 upgrade



SIT

UAT



Fit-to-Standard

Workshops conducted using fit-to-standard approach.

Backlog completed with extensibility and workarounds identified.

1808 Upgrade

Execute tests for 1808 upgrade

Go Live 2

Manufacturing, quality management and product costing

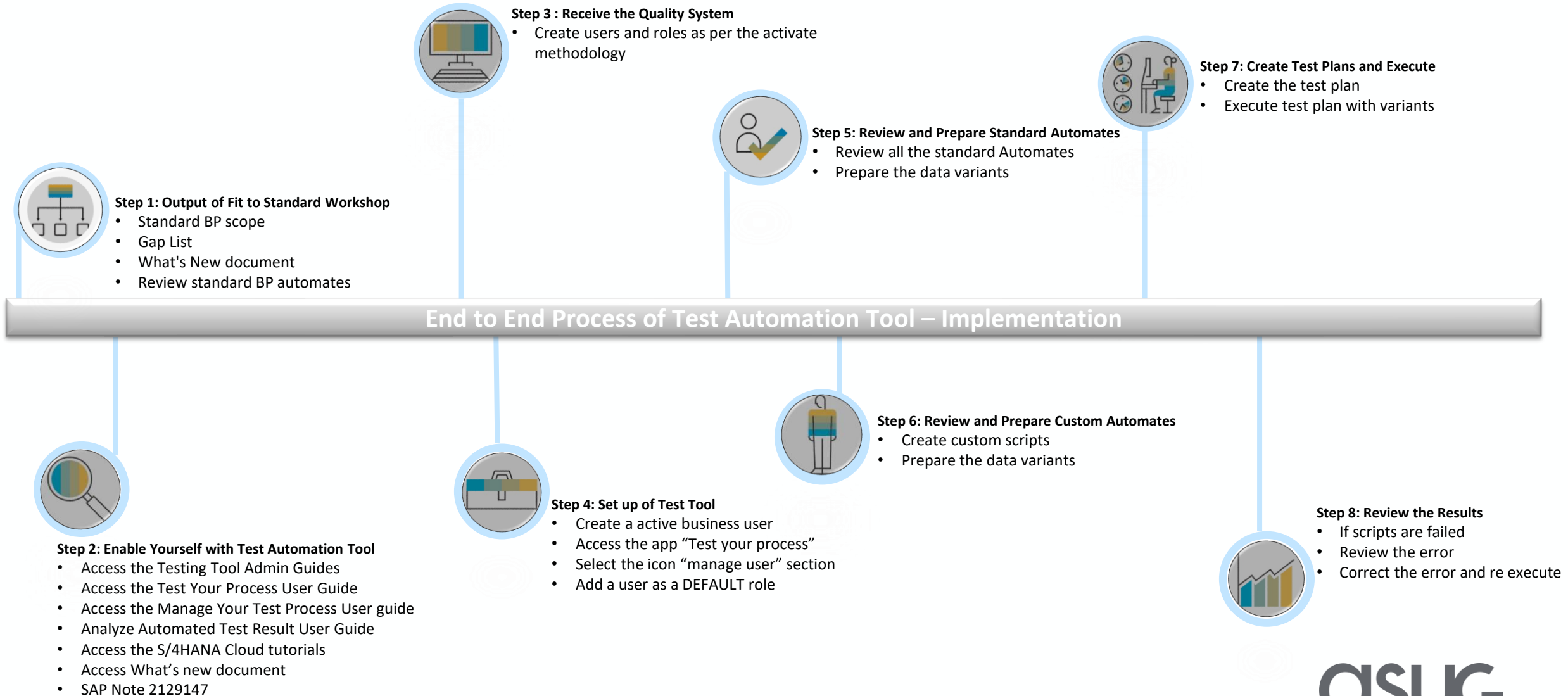
Support / Upgrades

Ongoing support for system upgrades and implementation of additional functionality.

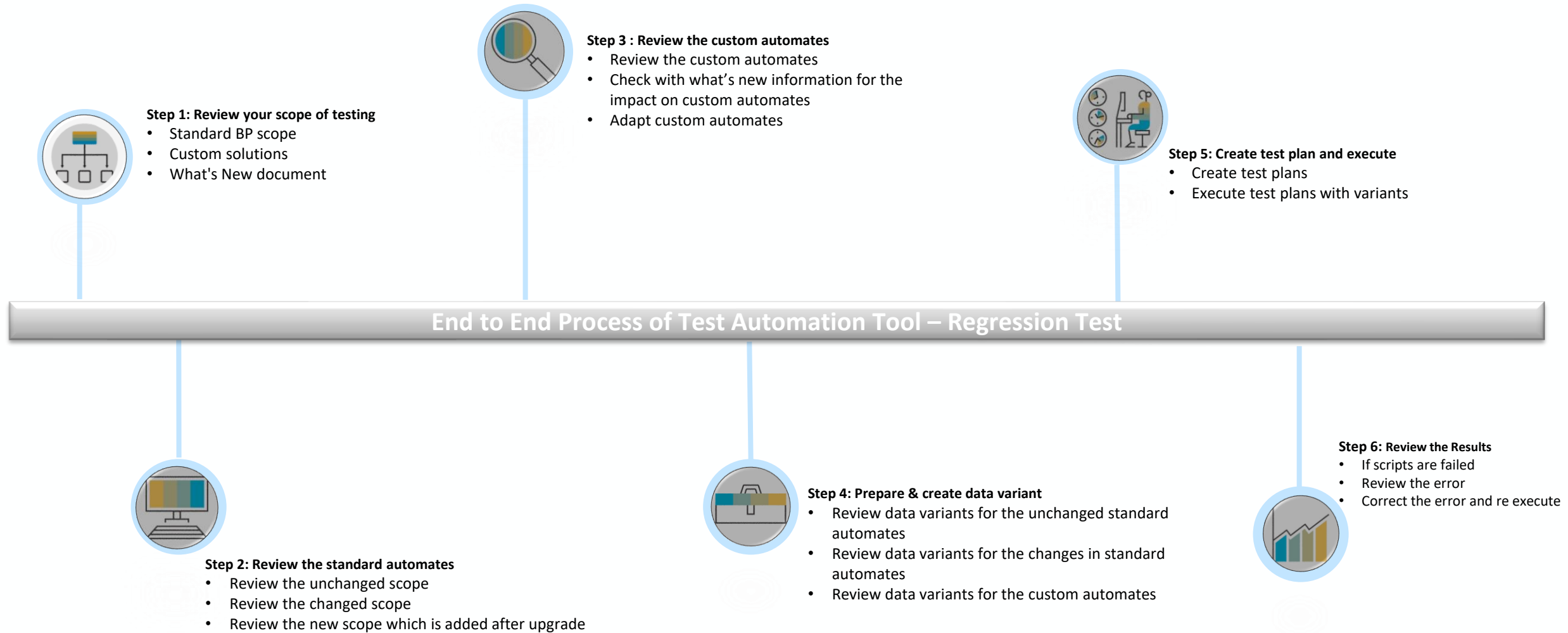
Use Cases for Test Automation Tool

- Implementation
 - System Integration Testing
 - Best paired with some manual testing
 - Creates data
- Regression testing
 - Quarterly upgrades
- Build documentation
 - Test outputs can be used as a basis for end user training
- When not to use:
 - User acceptance testing (UAT)
 - Users must run tests manually to gain full benefit of test cycle

End to End Process of Test Automation Tool – Implementation



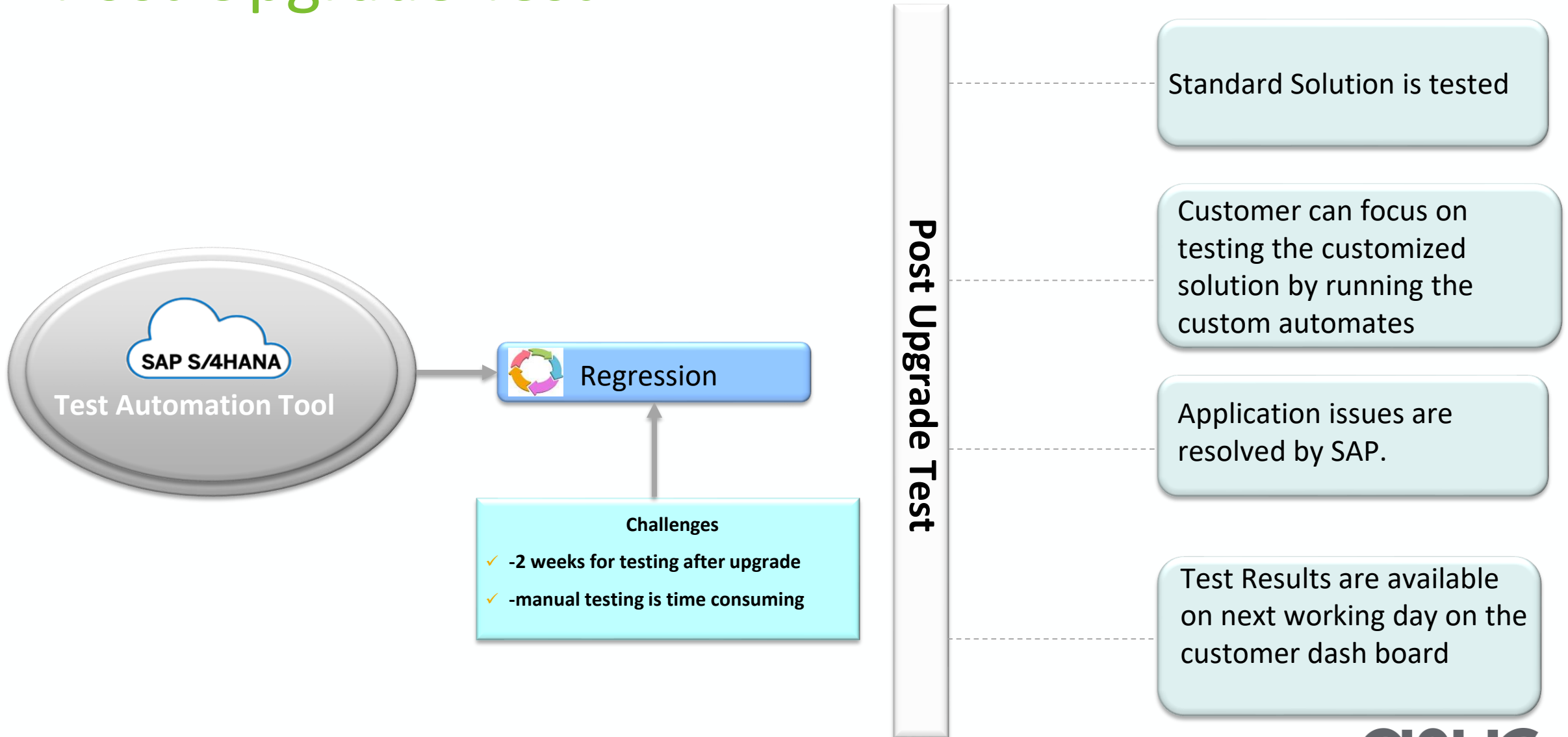
End to End Process of Test Automation Tool – Regression Test



OVERVIEW / TYPES OF TESTS

- Post Upgrade Tests
 - Provided by SAP for all standard processes / best practices
- Customer Tests
 - Created by customer for processes that deviate from standard

Post Upgrade Test



Test Automation Tool – Standard Best Practice Tests

Best Practice Manual Testing

Standard Best Practice Test Scripts

Manual Testing of each scope item

Maintain roles, master data

Execute step by step for different set of test data

Manual testing after every upgrade

Best Practice Test Automation Tool

Standard Best Practice – Post Upgrade Tests

Create Test Plans for each scope item

Select the standard automates for scope item

Create Variant to test different data set

Execute the test plan and view result

Execute the test plan during regression testing

A variant can be different data sets like testing with multiple company code, sales order, purchase order

Standard Automates

Scope ID : e.g. J11

Standard Model data

Process Steps

Create Project

Assign work package

Create Test Plan for J11

Select Scope ID J11

Execute with Variants

View Result

Service Organization
Cost Center
Profit Center

Add work package with different calendar date

Add work package with different contract type

V1

V1

V1



Test Automation Tool – Customer Tests

Requirement to add standard fields/custom fields

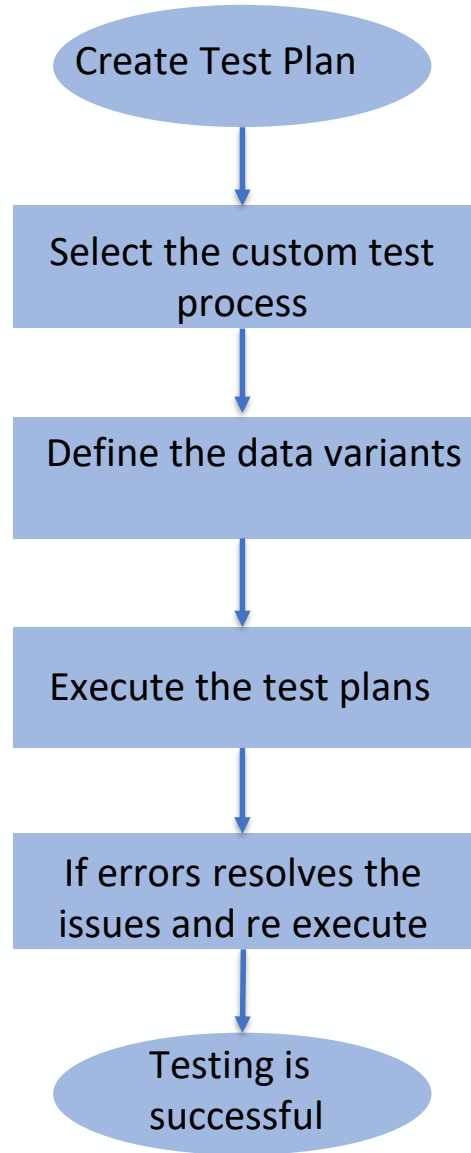
Requirement to make standard fields/custom fields optional

Requirement to merge some standard process or deleted few standard process

Requirement to add a custom process steps in standard process

Need to complete a new process

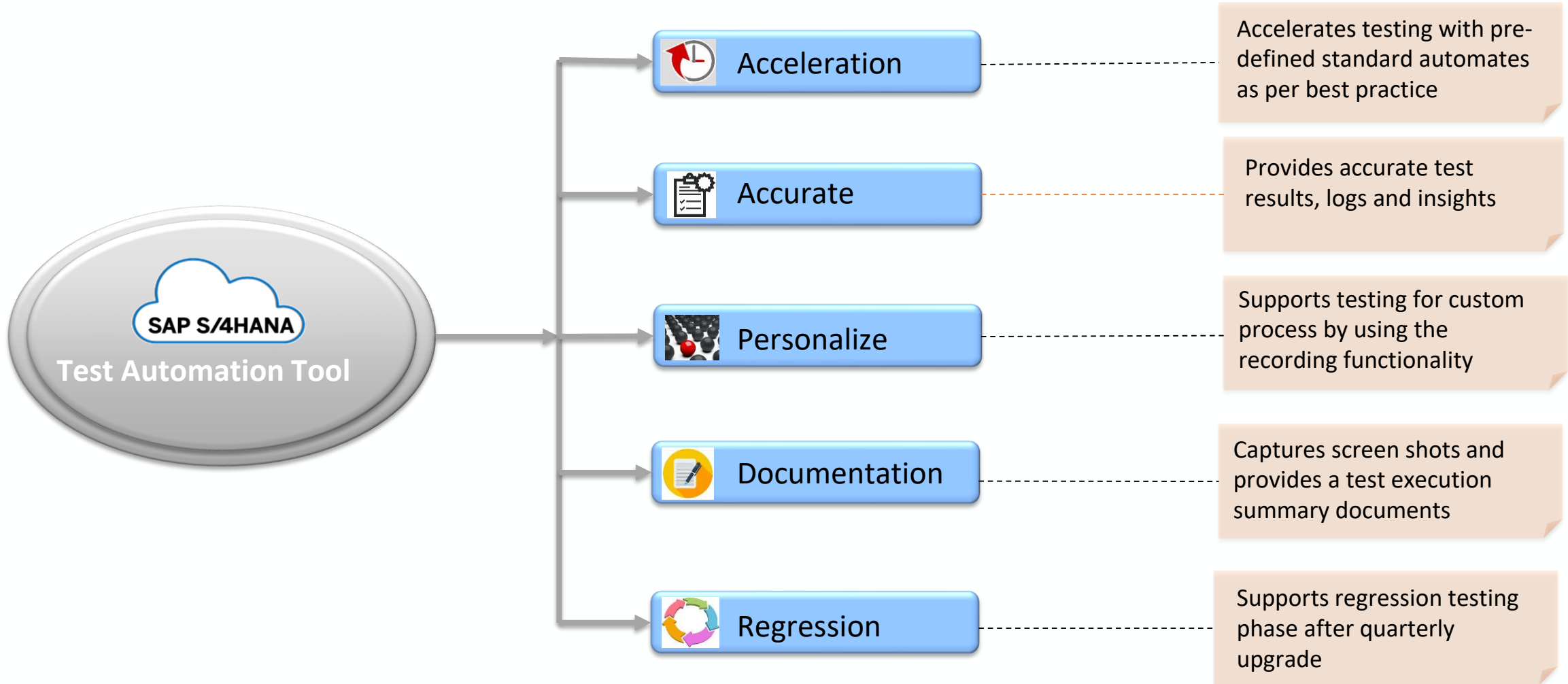
Custom Scripts



MP Materials - Customer Tests Use Cases

- Deviations to business process
 - Different use of fields from standard test script
 - Extensibility: User fields on standard objects
- Custom business object testing
 - Form created through extensibility options

Test Automation Tool - Benefits



Lessons Learned

What did automated testing miss?

Accounting for UI changes

- New screens with changed layouts
- Unable to click buttons/enter fields no longer in the same place.

Not having enough raw materials in stock

- Test scripts that were dependent on the availability of raw materials failed to execute.

Screenshot captures were inconsistent

- Many steps would show blank screens, due to screens loading slower than screenshot captures.

What could we have done to catch the “misses”?

Review all UI-related change details with upgrade

- Review notes for all SID's that were changed/updated.

Ensuring enough raw materials are in stock

- Add a step to ensure that processes that depend on the availability of raw materials can execute.

Adjust speed of certain steps

- Each process step in a test script can be adjusted to execute after a specified delayed period of time.

Tips for a Smooth Upgrade



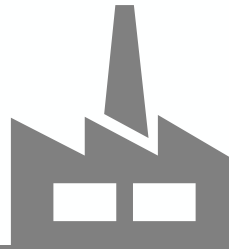
Transport configurations

Remember to transport all configuration change(s), if any, before the Quality System upgrades



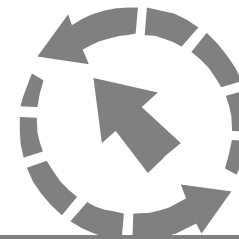
Review variants

Ensure all variant values are valid with each upgrade



Materials in stock

Ensure that sufficient material inventory is in stock for dependent tests



Re-executing failed tests

Re-execute failed test scripts from the start; don't resume from point of failure



Processes

Test all new processes added since last upgrade. They can be entirely new scope ID's or functionality inside existing scope ID's.

Take the Session Survey.

We want to hear from you! Be sure to complete the session evaluation on the SAPPHIRE NOW and ASUG Annual Conference mobile app.



Presentation Materials

Access the slides from 2019 ASUG Annual Conference here:

<http://info.asug.com/2019-ac-slides>

Q&A

For questions after this session, contact us at eric.sanders@ey.com and sanjai.k@sap.com

Let's Be Social.

Stay connected. Share your SAP experiences anytime, anywhere.

Join the ASUG conversation on social media: **@ASUG365 #ASUG**

