

Every organization continuously strives for quality improvement and cost reduction. Shortening time to market in combination with more releases are an important trend. This is only possible with test automation. TI4Automation is a pragmatic approach for successful selection and implementation IT test tools and optimal improvement of test automation.

What is test automation?

ISTQB: “The use of software to perform or support test activities, e.g., test management, test design, test execution and results checking.”

What are the benefits of test automation?

- Quicker feedback because repetitive checks are done faster
- Consistent feedback because the human error factor is taken out of repetitive checks
- Better insight in aspects that are hard to test or check manually
- More coverage because testers have more time for exploratory testing

TI4Automation 2.0

TI4Automation includes stepwise implementation and improvement of test automation within an organization. Through an assessment insight is gained into the current situation and in the required automation maturity. Based on that it provides pragmatic improvement suggestions. The next steps are important while applying TI4Automation:

- **Define realistic goals.** What can and must be achieved, when and by what means?
- **Develop the business case.** To what extent does test automation contribute to achieving the defined objectives?
- **Analyze the context.** Successful test automation fits in with the test, development and maintenance approach.
- **Create an architecture.** Test automation should be in line with the system landscape. A good architecture and pragmatic automation and implementation plan are crucial.
- **Automate and organize.** Implementation and improvement of test automation, including tool selection, require the right skills and expertise.
- **Innovate and renovate.** Test automation is successful when sustainable. Budget and time are needed for this.

In 2016 the TI4Automation model has been updated based on experiences and improvement suggestions. The key areas were put in a different order, the wording of many checkpoints was improved and several checkpoints were added, changed or deleted.

The TI4Automation model

The architecture of the model is similar to many other improvement models. Ten key areas provide the necessary coverage of relevant aspects. Within each key area, growth is expressed by means of the levels *Contributing*, *Adding value* and *Optimizing*. Each next level

builds on the previous one (from left to right). Furthermore the model consists of checkpoints. A checkpoint describes a practice that reflects something of significant value to reach a particular level.

The levels are typified as follows:

- **Forming:** *Set the basis and the first steps towards automated tests.*
- **Norming:** *Facilitate integration of test automation in the test process.*
- **Performing:** *Continuously improve test automation by applying lessons learned.*

Follow the hyperlinks in the matrix to the key areas for details.

Key area	Forming				Norming				Performing			
Automation strategy	1	2	3	4	1	2	3	4	1	2	3	4
Automation architecture	1	2	3		1	2	3	4	1	2	3	4
Automation standards	1	2	3		1	2	3	4	1	2	3	
Automation scripts	1	2	3		1	2	3	4	1	2	3	
Team	1	2	3		1	2	3	4	1	2	3	
Test environments	1	2	3	4	1	2	3	4	1	2	3	4
Test data	1	2	3		1	2	3	4	1	2	3	4
Tooling	1	2	3	4	1	2	3	4	1	2	3	
Tool integration	1	2	3		1	2	3	4	1	2	3	
Planning and estimation	1	2	3		1	2	3	4	1	2	3	

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