



WORLD-WIDE USER SURVEY

2020/2021

www.tmmi.org

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MESSAGE FROM THE CHIEF EXECUTIVE OFFICER



Drs. Erik van Veenendaal

CEO TMMi Foundation management executive

The TMMi Foundation started its journey back in 2005 with the objective to develop and create the TMMi^{®1} model and to facilitate formal assessments and certification for organizations. Today, the TMMi model is recognized as the world's leading model for test process improvement. Many organizations have since been formally certified against the TMMi model. As a non-profit organization with a mission to, “support organizations around the world to improve their software and system testing and achieve higher and sustainable levels of product quality for the systems they are developing and maintaining”, the Foundation believed it was time to reach out to the market for feedback on many aspects related to the TMMi.

From May to September 2020, the TMMi Foundation performed its first worldwide user survey. All previously TMMi assessed organizations were invited to contribute based on their practical experiences using TMMi in a test improvement project. The survey was designed by the TMMi Foundation management executive in close cooperation with representatives from several universities. A key driver for the survey was establishing a more detailed understanding of the benefits of the TMMi, reasons for adopting TMMi, and importantly the problems encountered when applying TMMi.

A high 64% of the 202 previously TMMi assessed organizations responded to the invitation and contributed to the survey. The response rate and population size imply a confidence level of 85% that the real value is within $\pm 5\%$ of the measured/surveyed value. With knowledgeable individuals from within TMMi assessed organizations contributing to the survey and a high confidence level, the results of the survey become a reliable source for understanding how TMMi is performing in the market.

The results of the survey are intended to provide the TMMi Foundation and its community with a better view on how to make TMMi even more successful in the future by addressing market needs and understanding both the benefits of TMMi and its challenges.


I would like to thank all of you who responded to the survey or contributed to the survey in any other way. Your feedback is appreciated very much and it will significantly contribute to the future of the TMMi initiative and model.

¹ TMMi is a registered trademark of the TMMi Foundation, UK


Executive Summary




1 All organizations previously assessed against the TMMi were invited to participate to the world-wide user survey. With a high response rate of 64%, a confidence level of 85% was achieved.



2 TMMi based test improvements can be considered successful with 87% of respondents stating that the achieved results with TMMi fully met or exceeded their expectations.




3 TMMi users come from a wide range of industries but most especially from the financial sector (37%), covering banking and insurance companies, and IT software delivery companies (30%).




4 A majority of the TMMi users apply an Agile lifecycle (78%) for at least part of their projects, DevOps is also prevalent (57%). A majority of organizations (69%) apply multiple lifecycle models.




5 A high 88% of the TMMi users are experiencing benefits in product quality e.g., reduced product risks, and test efficiency (77%), e.g., increased testing productivity.



6 Benefits are also commonly experienced in compliance (84%), e.g., achieved test certification, and regarding the people aspect (77%), e.g., improved test engineering discipline.



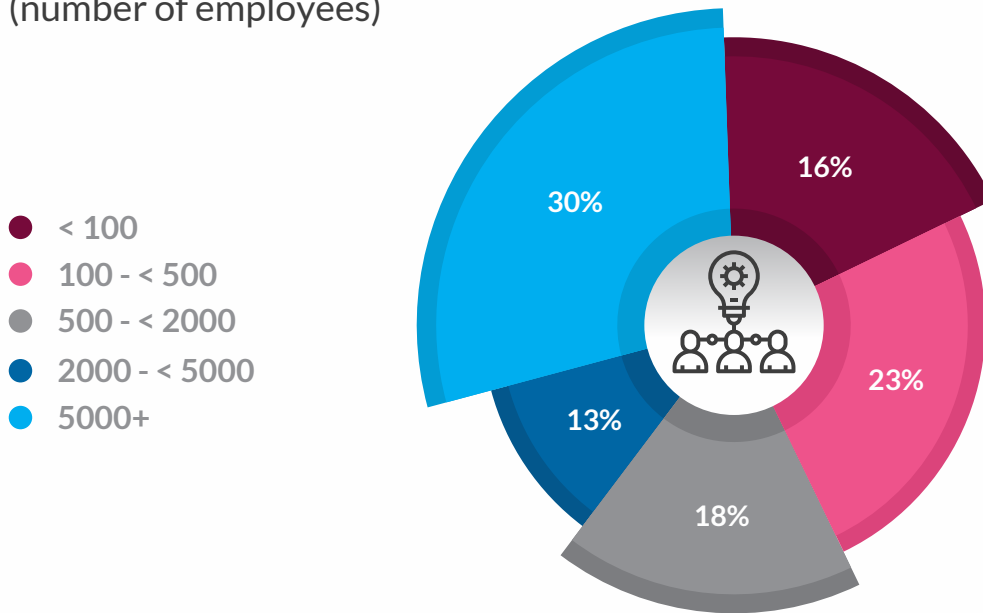
7 TMMi is used across all test levels and many test types. However, it is most popular at system-, system integration- and acceptance test level for improving functional, regression and performance testing.



8 ISTQB is a highly popular scheme (87%) for test training and certification of personnel with TMMi users. CMMI remains widely used (54%) for software process improvement in cooperation with TMMi.

Size of Organizations doing TMMi

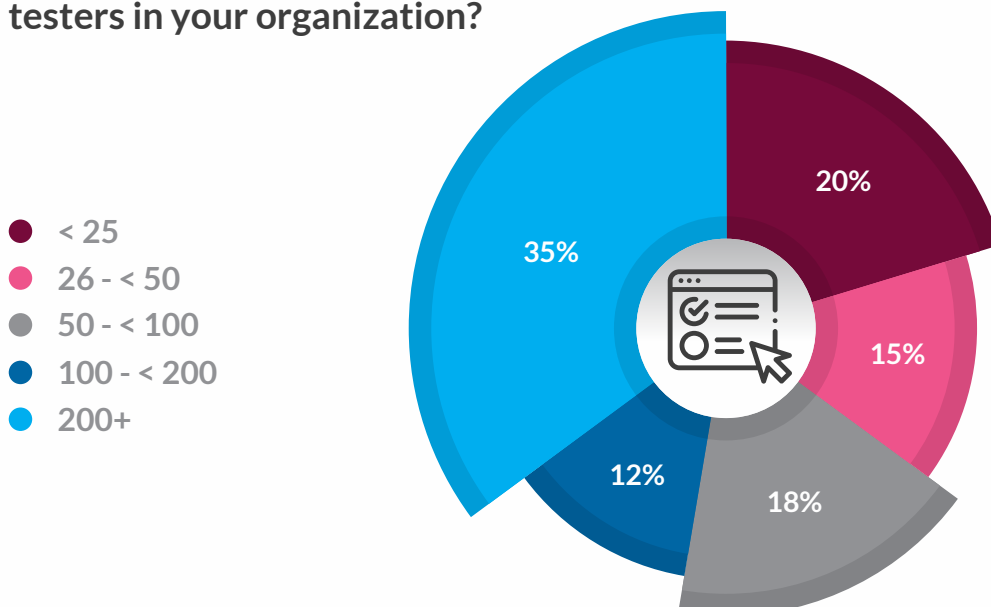
What is the size of your organization?
(number of employees)



The first TMMi user survey collected responses from a diverse set of organizations in terms of sizes, geographic locations and industries. 61% of the organizations that use TMMi are larger enterprise organization with more than 500 employees; 84% of the total number of organizations using TMMi have more than 100 employees. 16% of the TMMi users are smaller organizations (less than 100 employees).

Number of Testers

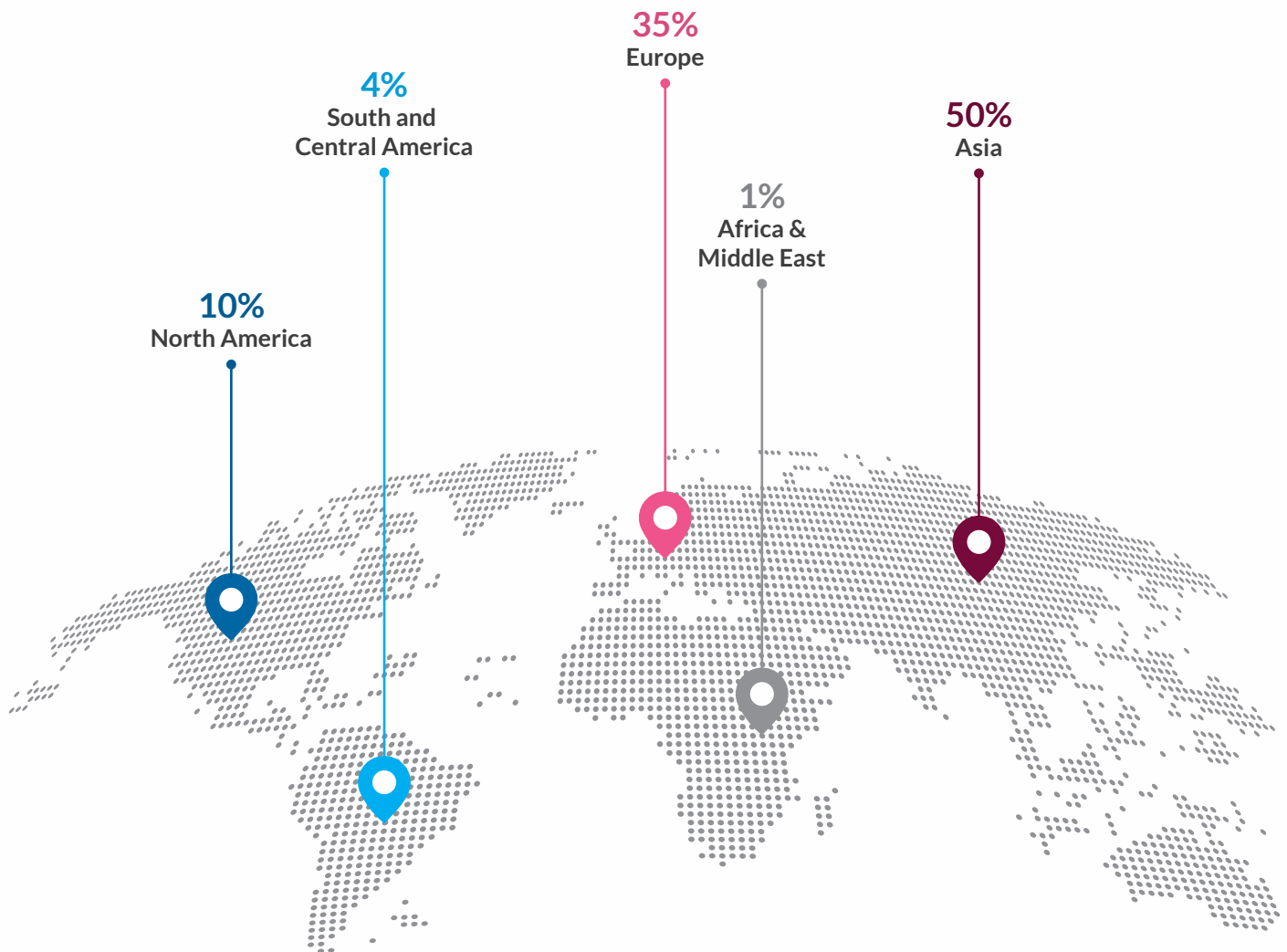
What is the number of testers in your organization?



Survey respondents indicate that 20% of the organizations using TMMi have no more than 25 testers, and 47% have more than 100 testing professionals with 35% having more than 200 testing professionals.

Location

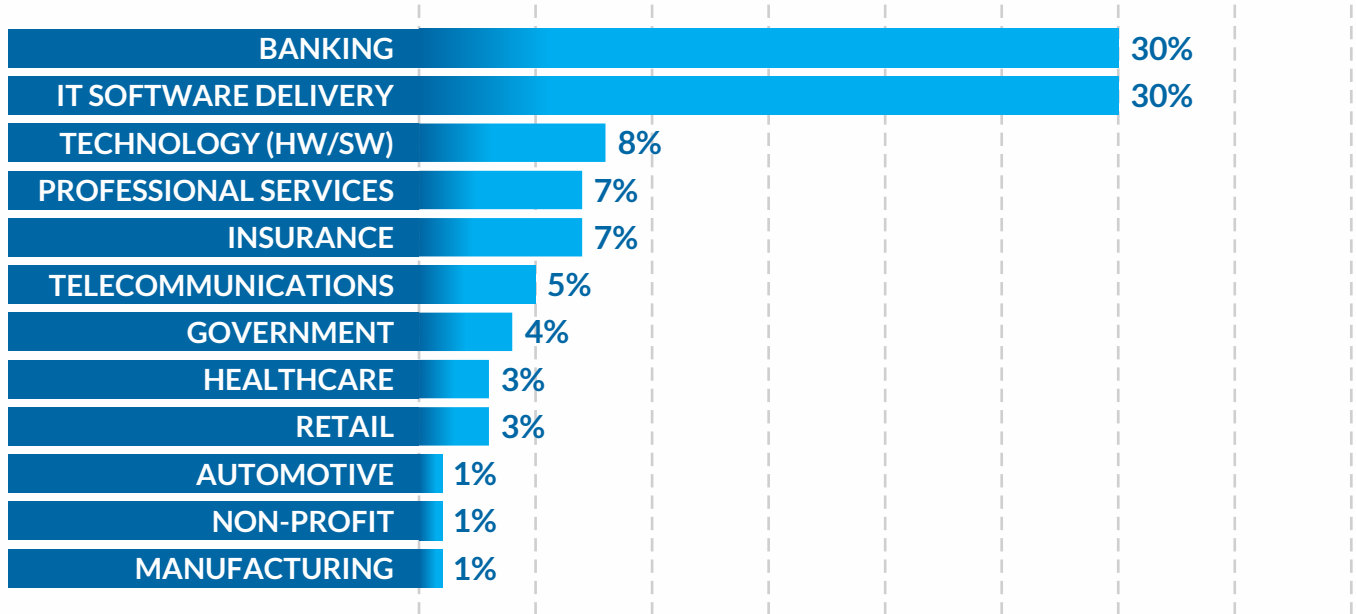
Where is your organization located?



The geographical distribution of survey responses indicates that the largest TMMi user base is currently in Asia and Europe. This is also more or less the case for the distribution of TMMi certified organizations.

Industries

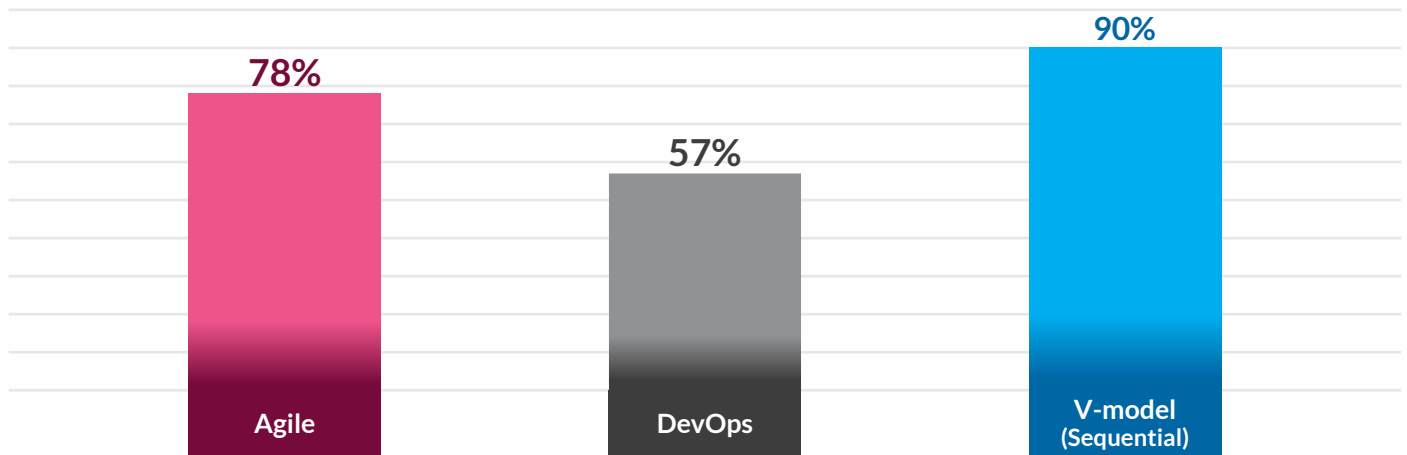
To which industry does your organization belong?



TMMi users come from a wide range of industries. The largest user base (37%) is in the financial services sector (mostly banking but also insurance). 30% come from the IT software delivery market which includes companies that provide quality assurance and testing services.

Software Lifecycle being Used

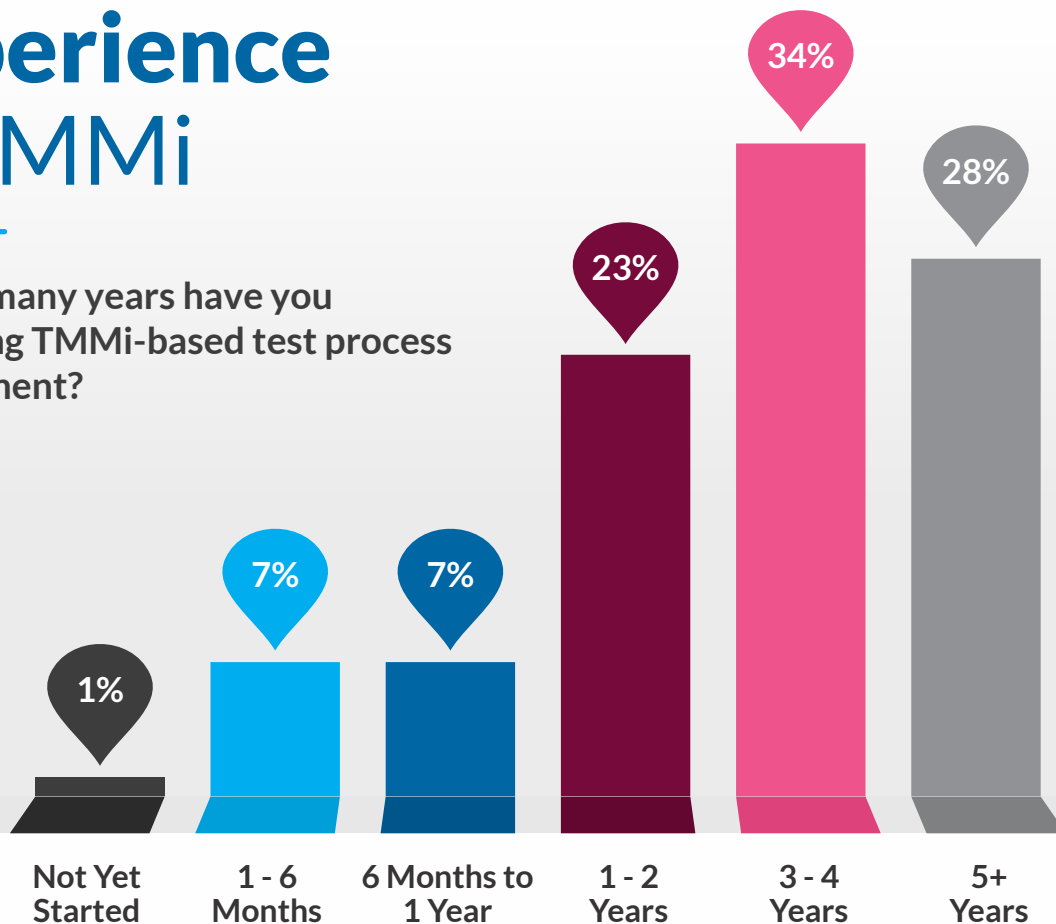
Which software development lifecycle are you currently using?



90% of respondents indicated they are (also) using a sequential lifecycle (e.g., V-model or Waterfall), 78% of the organizations using TMMi are working with an Agile lifecycle and another 57% apply DevOps. No less than 69% of the organizations using TMMi apply multiple types of lifecycle models (e.g., sequential and Agile depending on the type of project and productw

Experience in TMMi

For how many years have you been doing TMMi-based test process improvement?

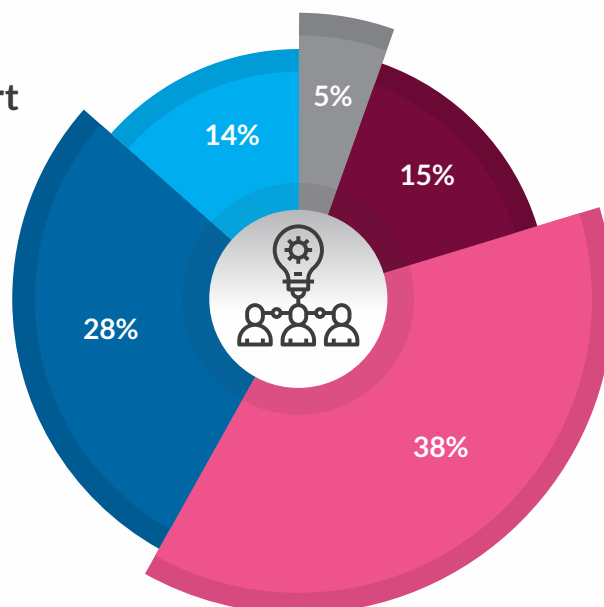


62% of survey respondents have 3 or more years of experience of using TMMi for test process improvement and it could be anticipated that such users have detailed and highly valid insights on TMMi adding a further validity to the survey results.

% Test Effort spent on Test Process Improvement

What percentage of the total test effort is spent on test process improvement?

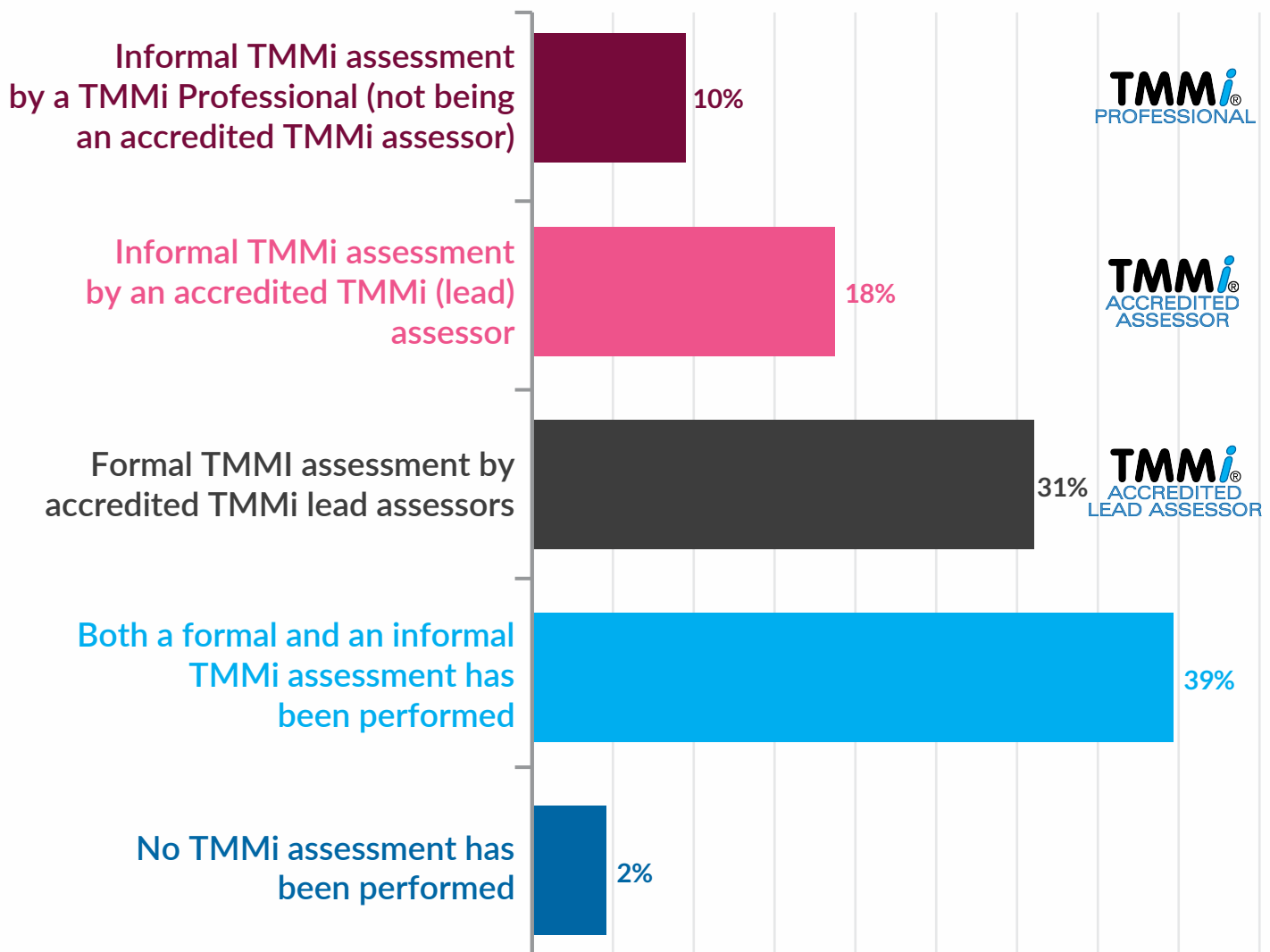
- Less than 1%
- 1 to 3%
- 3 to 5%
- 5 to 10%
- > 10%



To achieve the results reported hereafter, at least 42% of the TMMi users surveyed indicated that more than 5% of their total test effort is spent on test process improvement with at least 14% allocating more than 10%.

Assessments Performed

Have you had a TMMi assessment performed on your test processes?



The survey results indicate that 68% of respondents prepared for TMMi certification by having a formal TMMi assessment performed by an accredited TMMi lead assessor. At least 34% have had both an informal and formal TMMi assessment performed on their test processes. 64% of the respondents had an informal assessment on their test processes, either by an accredited TMMi (lead) assessor or TMMi Professional, to identify their testing strengths and weaknesses/areas to improve.

Most important Process Areas

Which areas were identified as being most important for improving at the start of the TMMi-based test process improvement project? ?

TMMi level 2 process areas



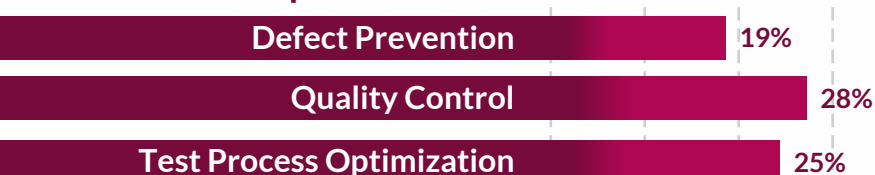
TMMi level 3 process areas



TMMi level 4 process areas



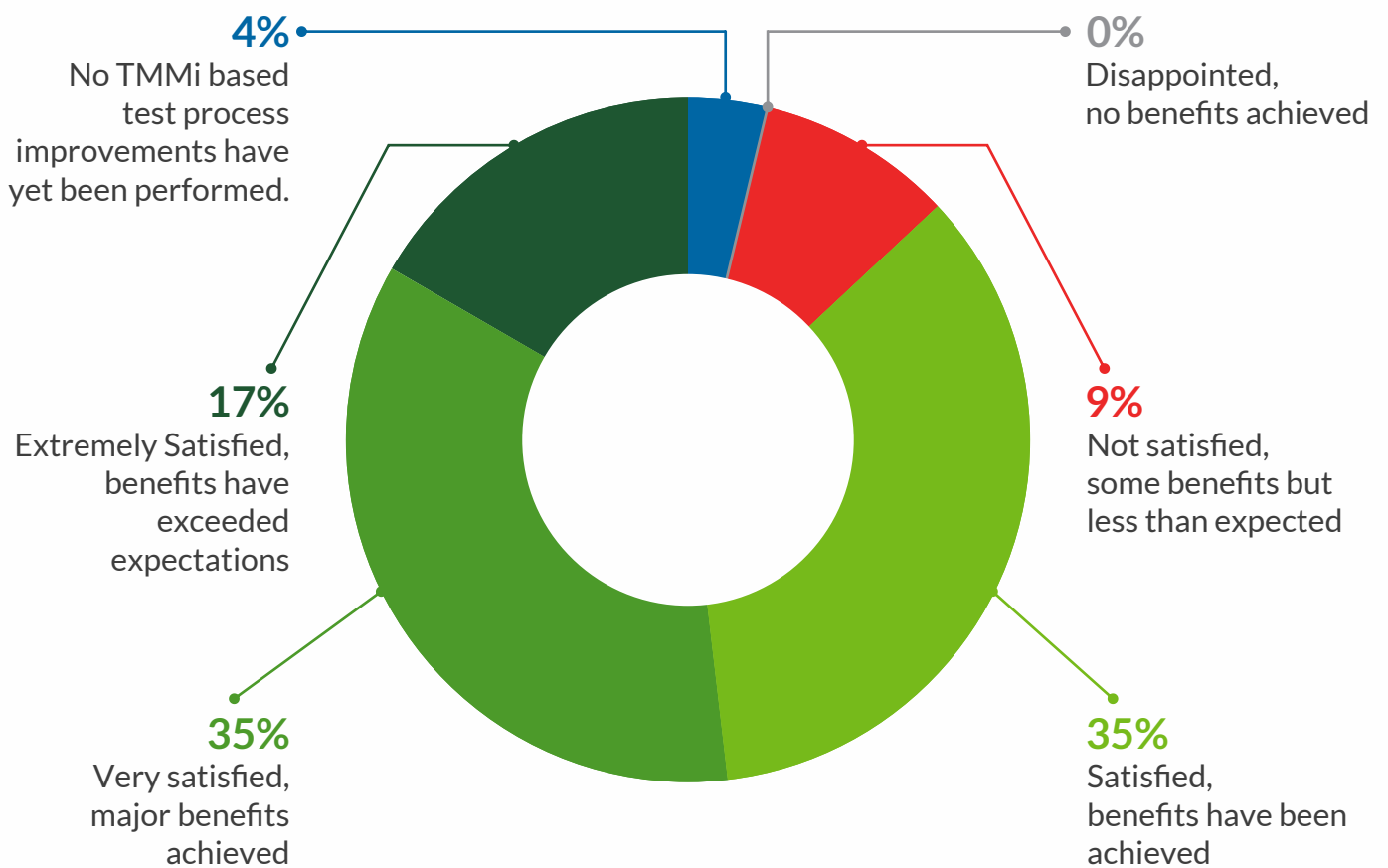
TMMi level 5 process areas



The TMMi level 2 process areas Test Policy and Strategy (73%), Test Planning (60%) and Test Monitoring and Control (57%) were clearly identified as being the most important process areas at the start of a TMMi-based test process improvement project. Test Policy and Strategy serves to define objectives for testing and test process improvement and achieve business alignment, whereas Test Planning and Test Monitoring and Control have the goal to bring testing under control.

Satisfaction with TMMi results

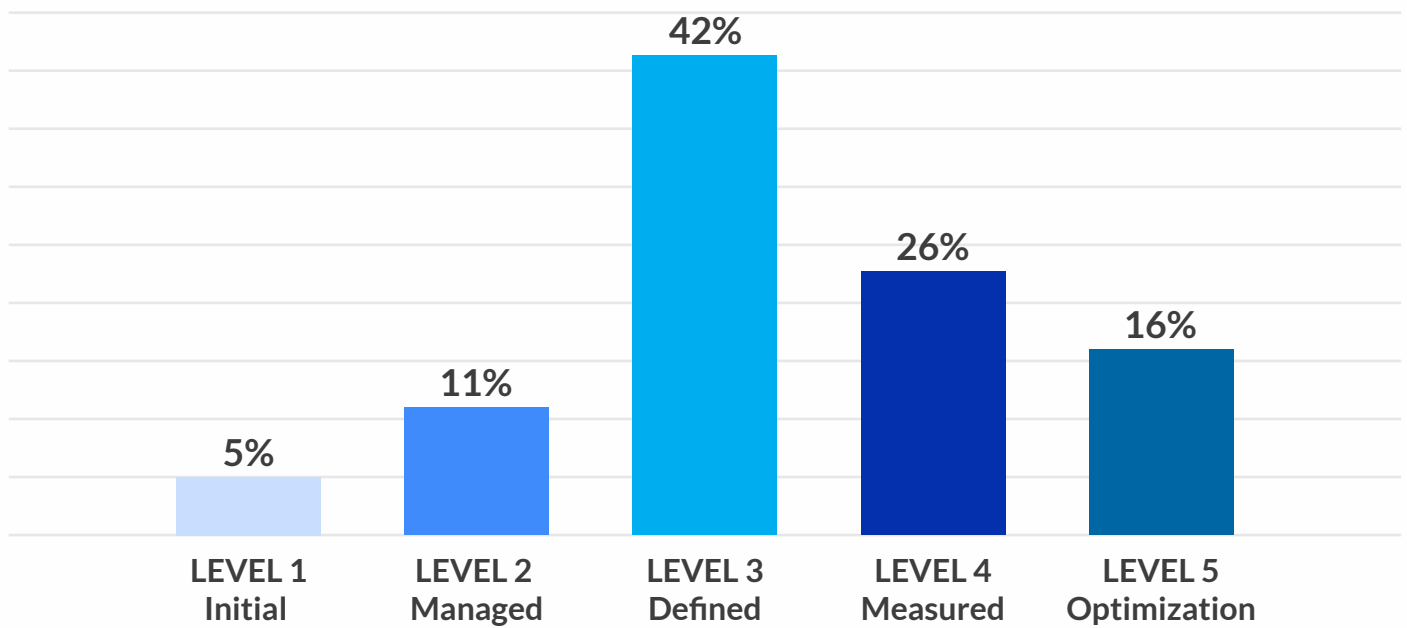
In general, have the TMMi-based test process improvement efforts been successful?



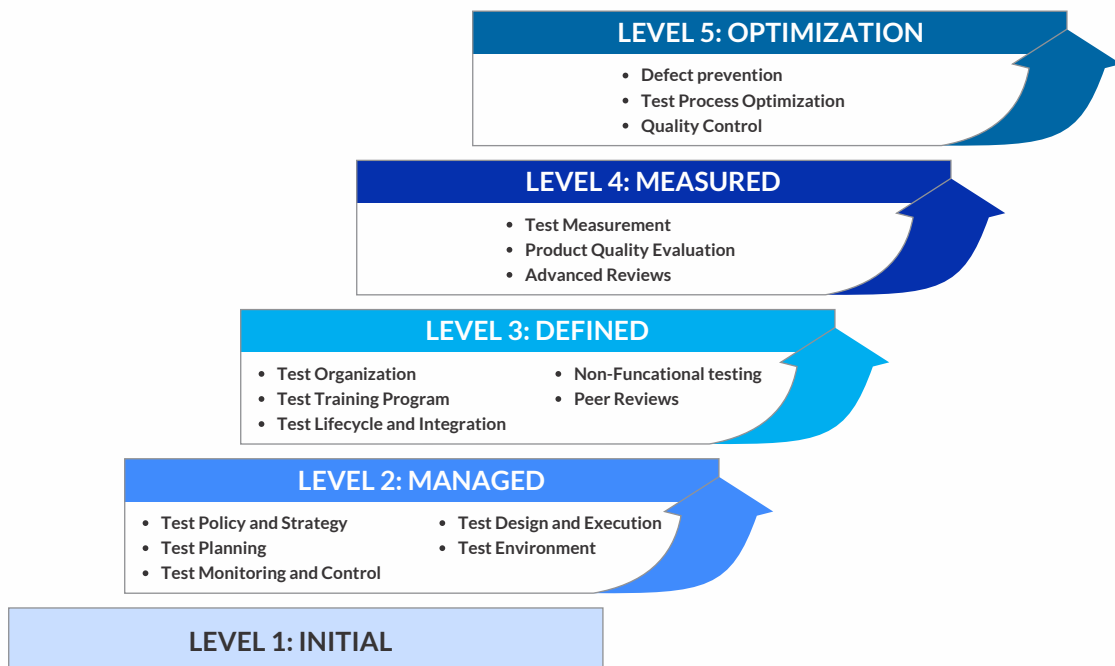
87% of respondents stated that TMMi fully meets or exceeds their expectation; they are either satisfied, very satisfied or extremely satisfied with benefits achieved or exceeded. This indicates an overall high satisfaction ratio. Only 9% of the respondents indicated that less benefits were achieved than expected.

TMMi Maturity Level

According to you (based on either informal or formal assessments), which TMMi maturity level are you currently at?

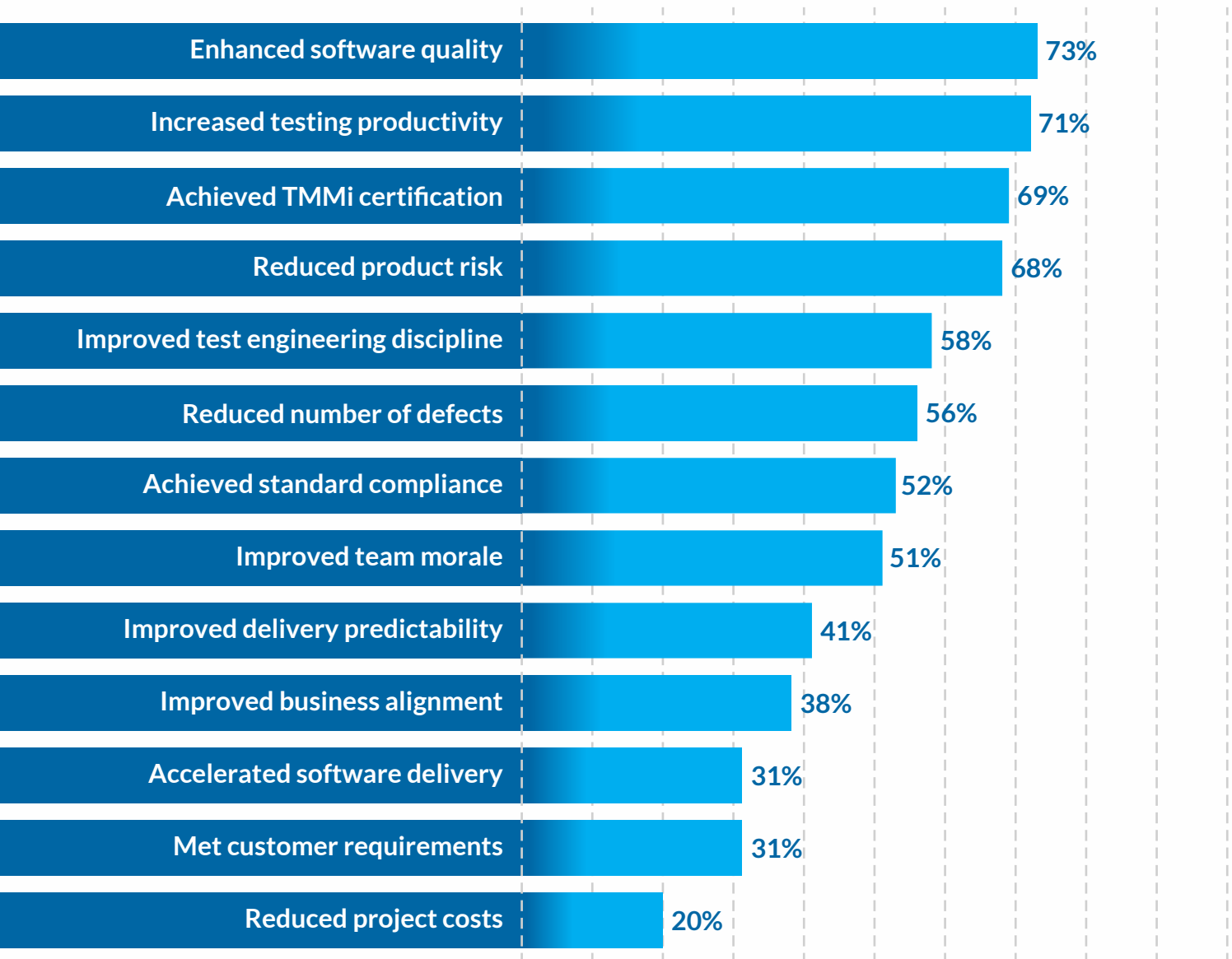


Most of the TMMi users are at TMMi level 3 - Defined (42%). At least 42% are at either TMMi level 4 or TMMi level 5; both represent an impressive high level of test (process) maturity.



Reasons for Adopting TMMi

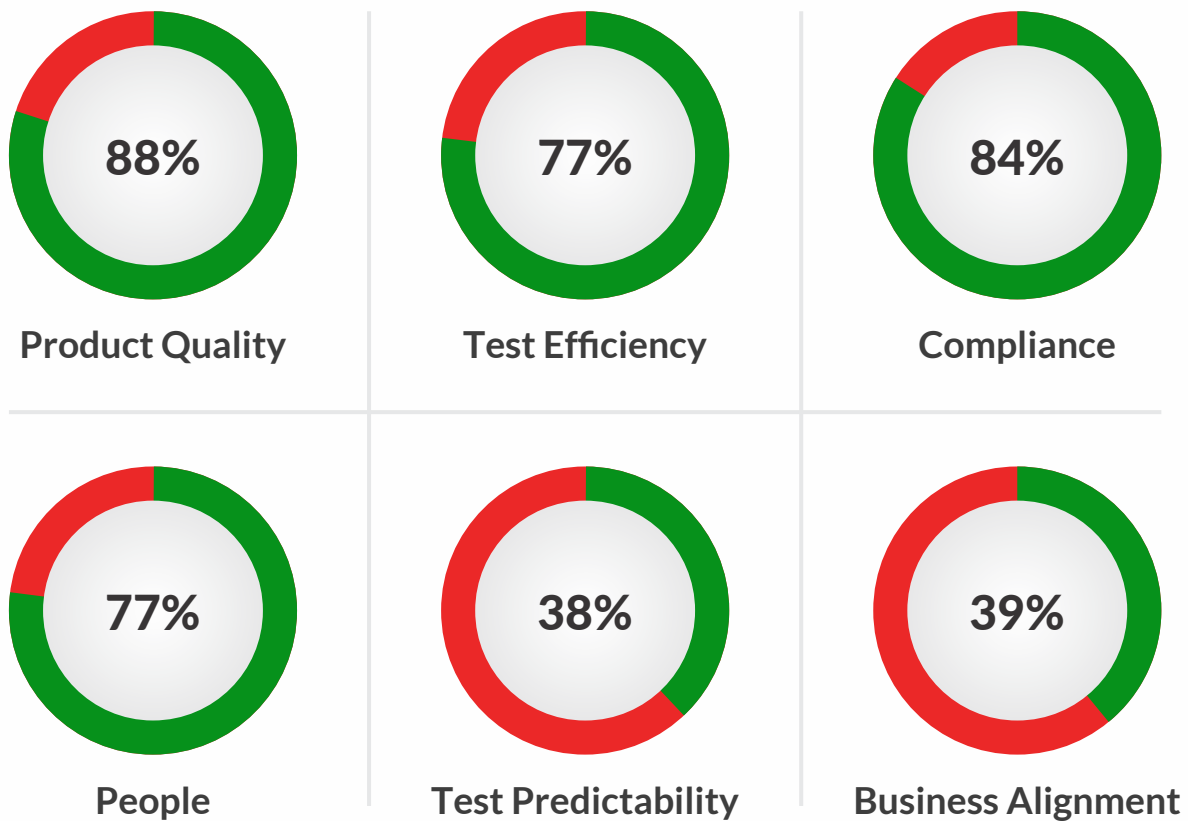
What were the main reasons for adopting TMMi?



Enhancing software quality, increasing testing productivity, achieving TMMi certification and reducing product risk are the top reasons stated for starting a TMMi based test improvement project. The benefits organization are trying to attain will vary based on their business objectives. Note that about one third of the TMMi users are not primarily interested in becoming a TMMi certified organization, they typically focus on other benefits that test process improvement brings.

Benefits Achieved (Grouped)

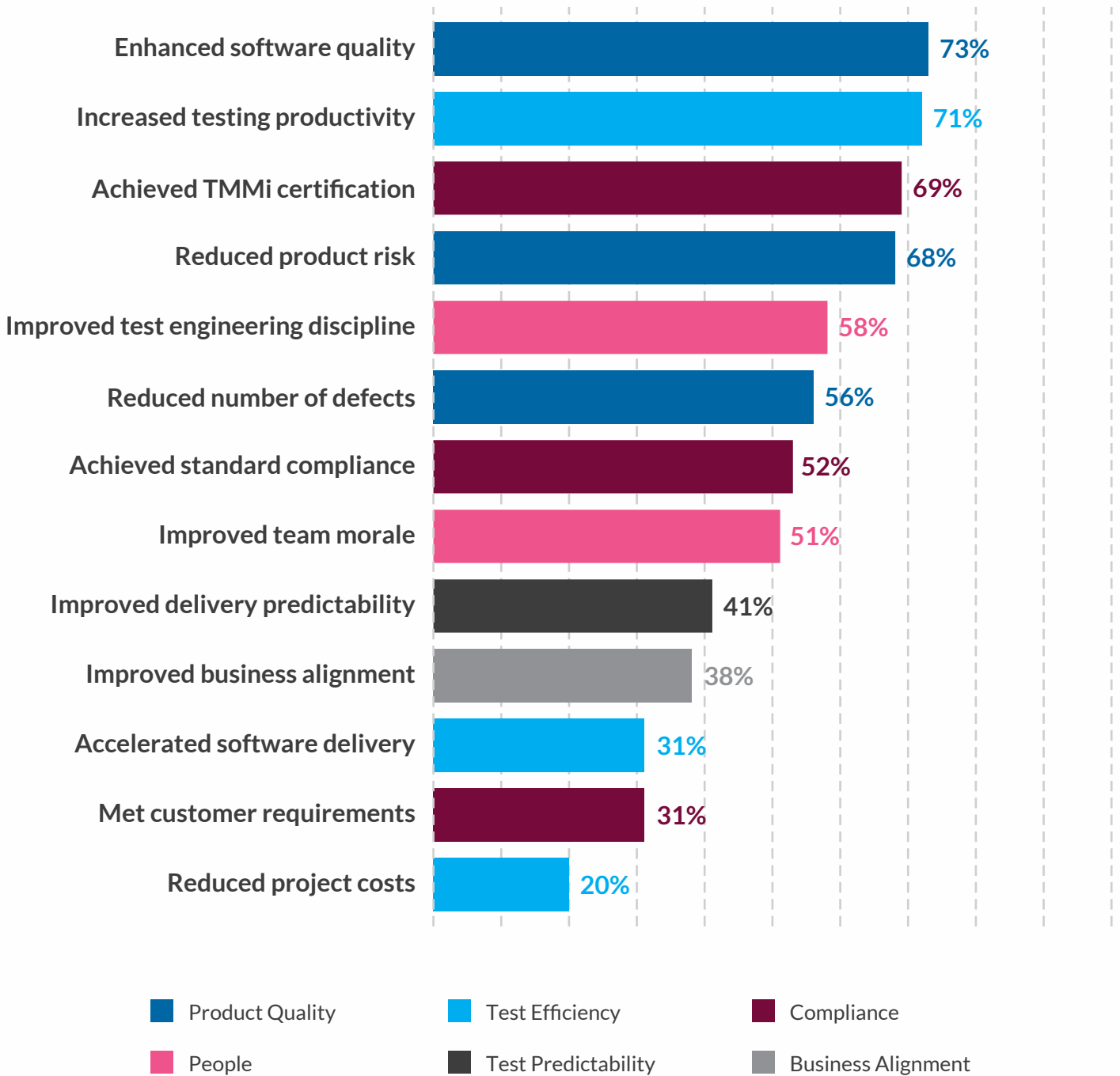
What benefits have you experienced of adopting TMMi?



The benefits that can be achieved with TMMi are categorized under six headings. A high 88% of the TMMi users are experiencing benefits for product quality (e.g., reduced product risks and/or reduced number of defects). Benefits are also commonly experienced with test efficiency (77%), e.g., increased testing productivity, compliance (84%), e.g., achieved test certification and/or achieved standard compliance, and regarding the people aspect (77%), e.g., improved test engineering discipline and/or improve team morale.

Benefits Achieved (Detailed)

What benefits have you experienced of adopting TMMi?



Enhancing software quality, increasing testing productivity, achieving TMMi certification and reducing product risk are the top reasons stated for starting a TMMi based test improvement project. The benefits organization are trying to attain will vary based on their business objectives. Note that about one third of the TMMi users are not primarily interested in becoming a TMMi certified organization, they typically focus on other benefits that test process improvement brings.

Reported Metrics









Please quantify one or more of the benefits achieved?

Examples









TMMi Level 2 - Managed

		
Reduced test management tools from 4 to 2	Consolidated test automation tools from 6 to 4	Test estimation now 60% more accurate, increase of predictability
		
Test predictability increased by 70%	More recognition for testing within organization	DDP improvement of 20% as it is earlier stage now



TMMi Level 3 - Defined

		
Defect leakage to production has reduced from 10% to 5%	DDP improved by 20%	Higher product risk coverage (now at 80%)
		
DDP increase from 60% to 70% during system testing	Test execution lead time reduction from 19 to 5 weeks	Project acquisition through TMMi certification

Participants were asked to quantify one or more of the benefits. Approximately 50% of the respondents provided feedback to the question. Examples are provided grouped by TMMi level of the responding organisation. Note that DDP is the defect detection percentage, i.e. the number of defects found by a test phase, divided by the number found by that test phase and any other means afterwards.

Reported Metrics



Please quantify one or more of the benefits achieved?

Examples

TMMi Level 4 - Measured



Time-to-market reduction by 7%



DDP at system level improved by 22%



Development cycle from 3 months to less than 1 month



DDP now at 99%



Reduced cost of external testers by 10%



Higher level of customer satisfaction

TMMi Level 5 - Optimization



DDP improvement by 30%, now at 99%



Test efficiency increased by 25%



DDP improved by 30%



Test estimation now 95% accurate



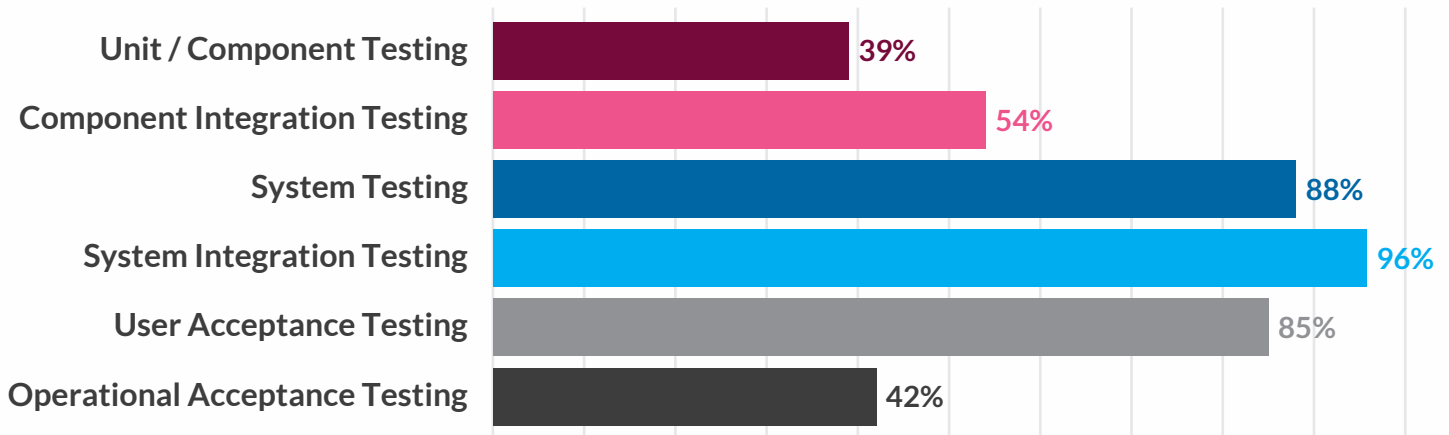
Test productivity improved by 25%



Regression test execution cycle is compressed from 4 hours to 30 minutes

Test Levels within Scope

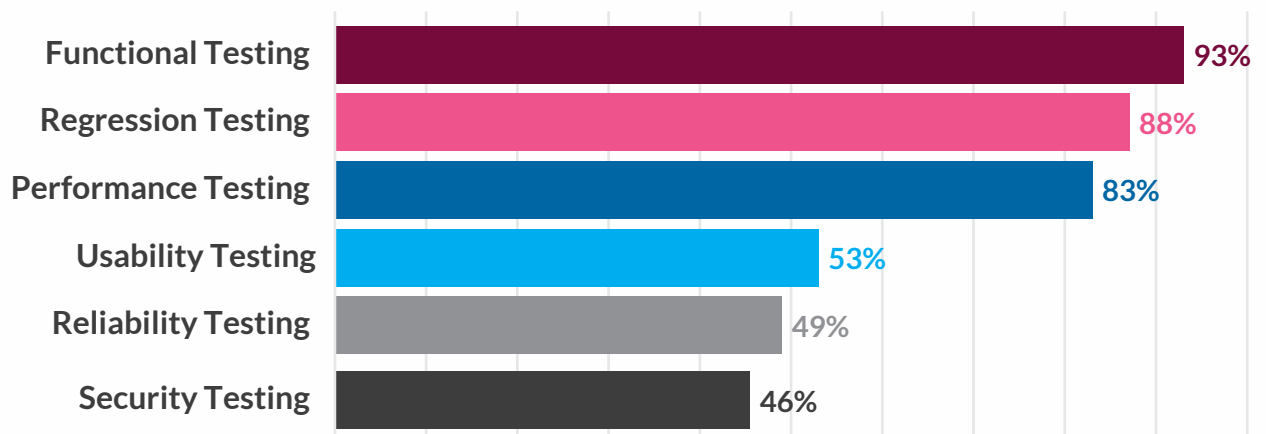
Which test levels are within the scope of the TMMi test process improvement effort?



System testing, system integration testing and user acceptance testing are the three test levels where TMMi is applied most commonly. However, there are also many TMMi users applying it to component integration testing (54%), operational acceptance testing (42%) and unit testing (40%).

Test Types within Scope

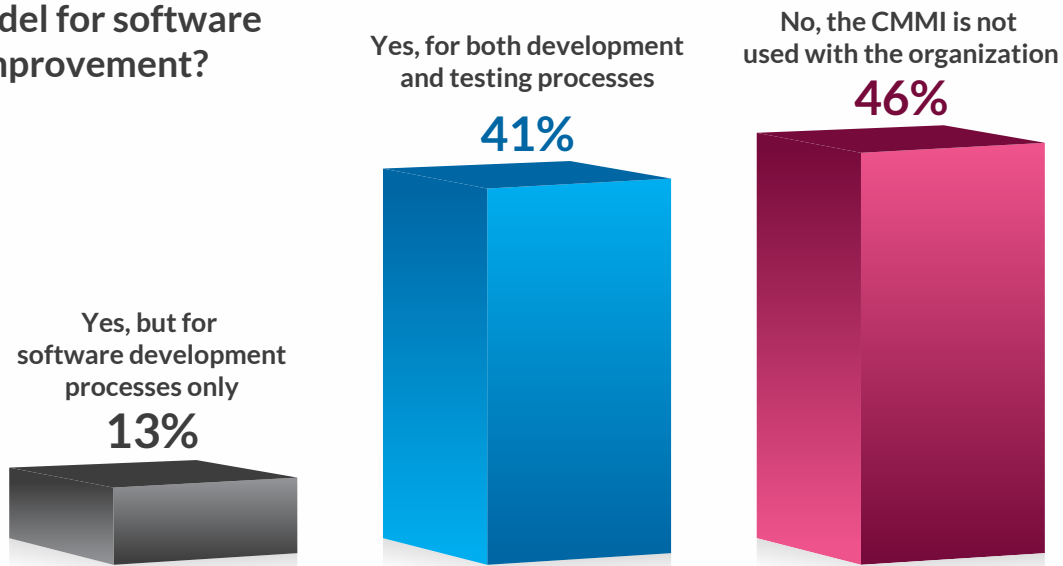
Which test types are with the scope of the TMMi test process improvement effort?



TMMi is most commonly used to improve functional, regression and performance testing. However, it is clearly also a popular way to improve other non-functional test types usability, reliability and security testing.

Using both TMMi and CMMI®

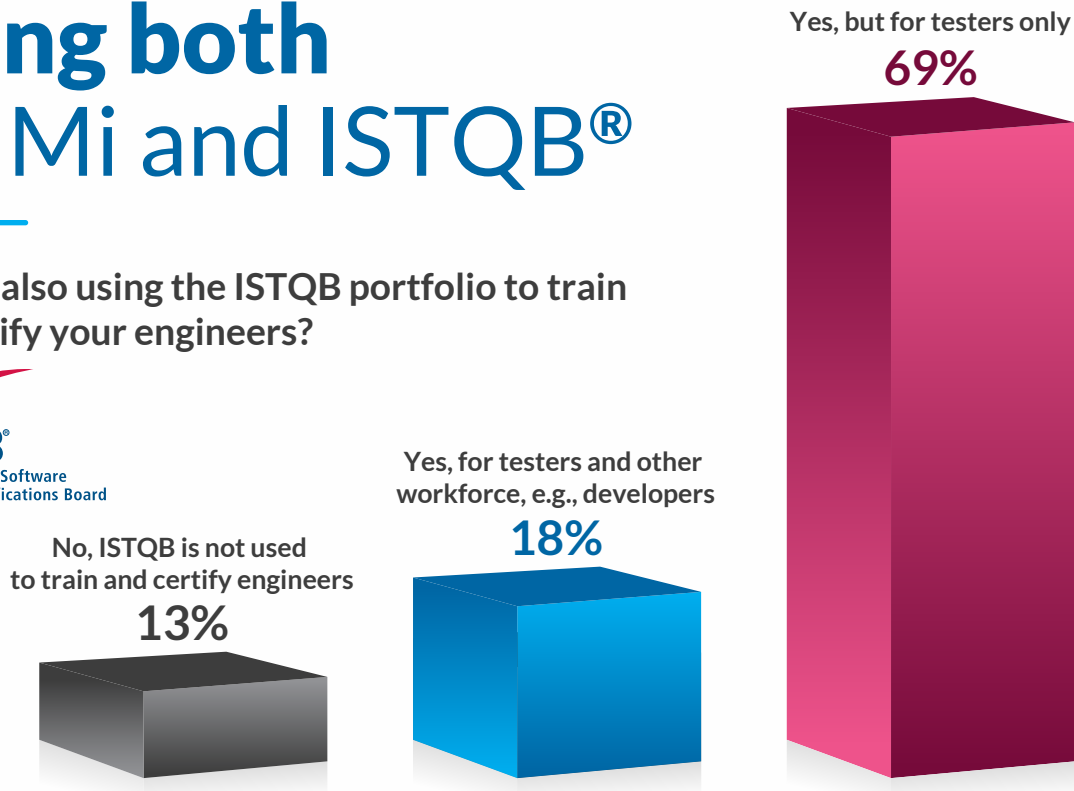
Are you also using the CMMI model for software process improvement?



CMMI continues to be an important software process improvement model, also used by many of the TMMi users. No less than 54% of the TMMi users also use CMMI. This clearly shows the ongoing importance of the CMMI to the TMMi community.

Using both TMMi and ISTQB®

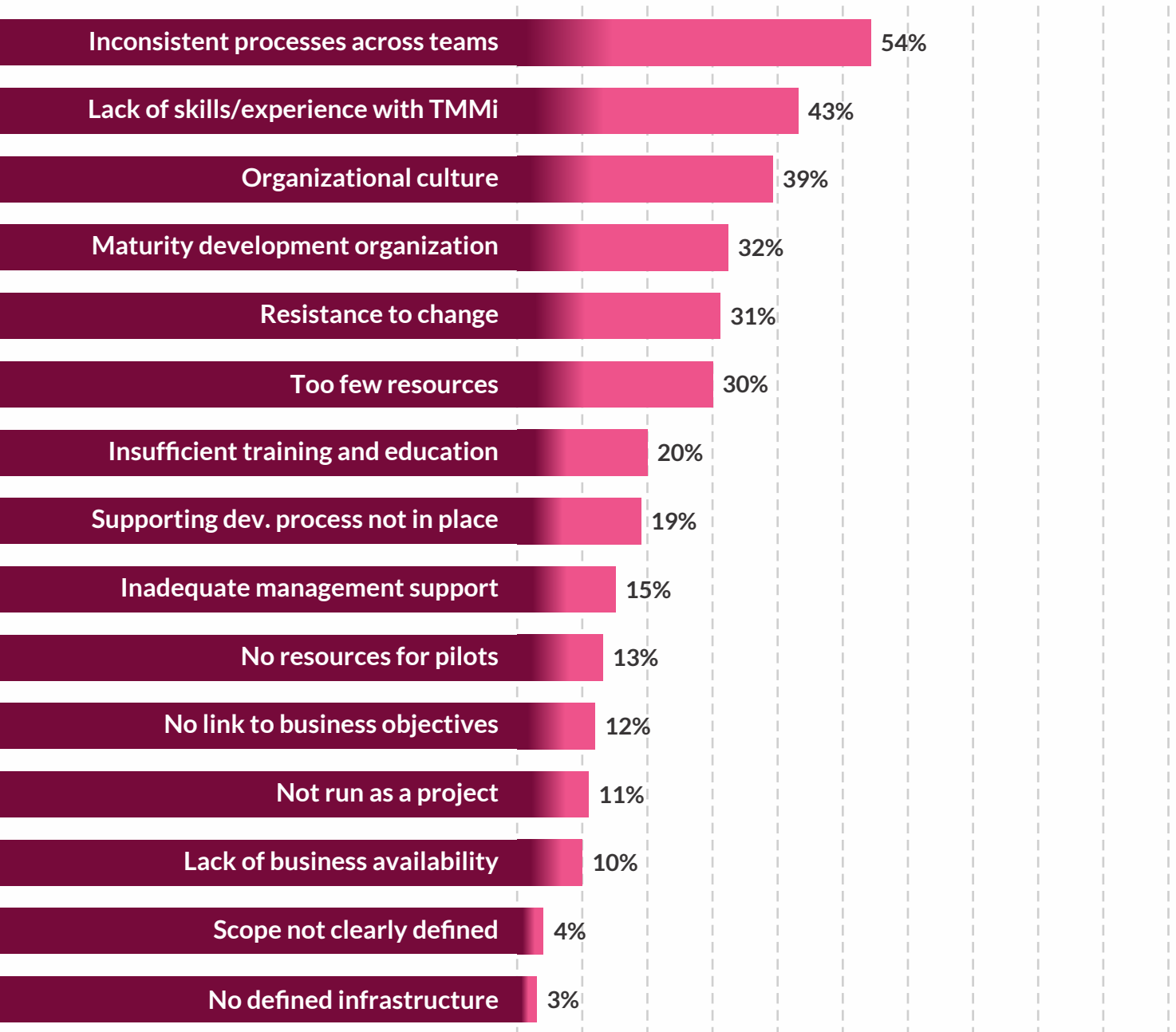
Are you also using the ISTQB portfolio to train and certify your engineers?



87% of the TMMi users are using the ISTQB certification scheme to train their staff and build testing knowledge and skills. Only a mere 13% are not using the ISTQB scheme to train their staff on testing.

Challenges Experienced

Which challenges have been experienced throughout the test process improvement activities?

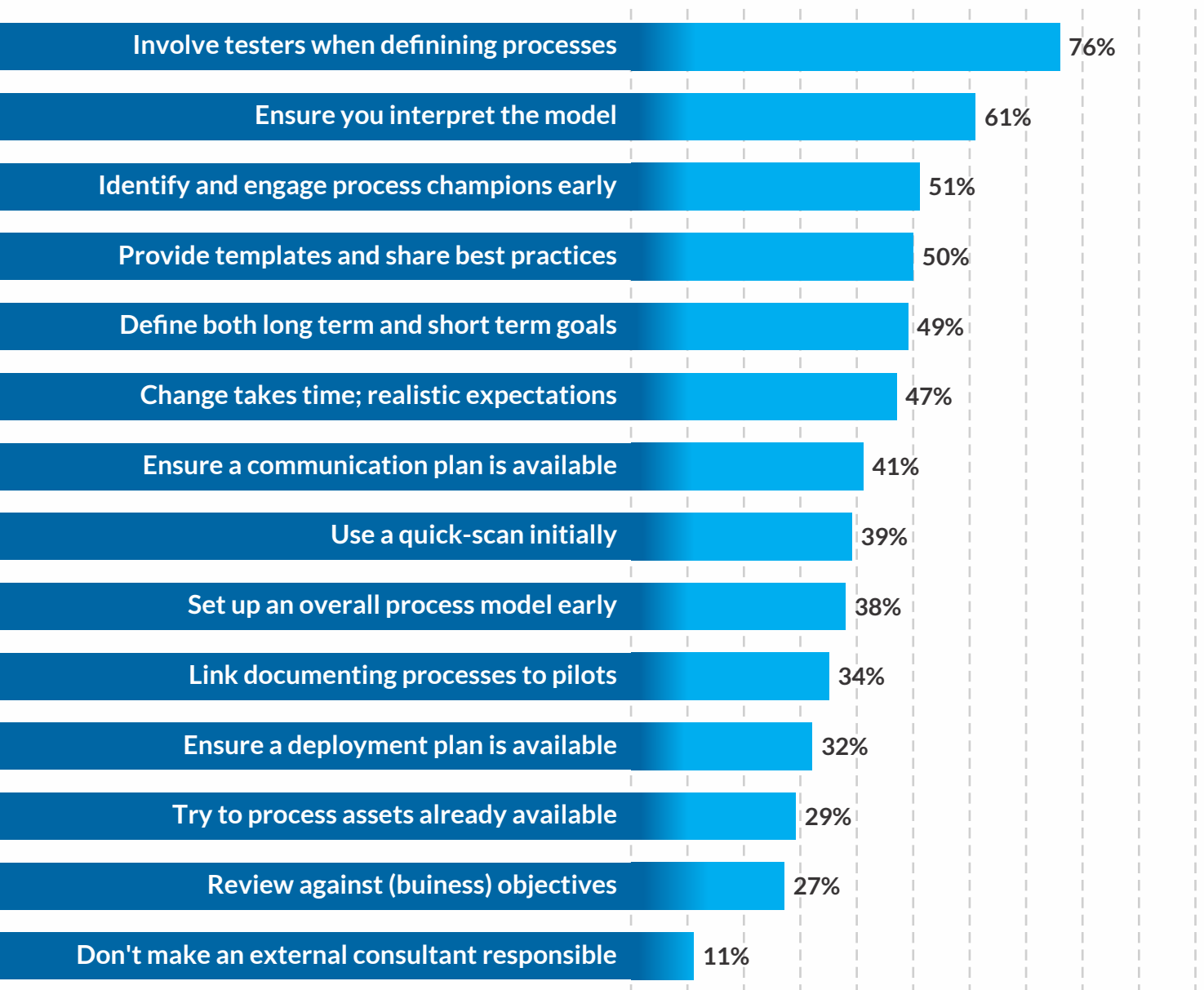


The top responses cited as challenges/barriers indicate that there are two main areas which contribute to the challenges experienced throughout the improvement process: internal culture, e.g., “organizational culture” (39%) and “resistance to change” (31%), and maturity, e.g., “inconsistent processes across teams” (54%) and “maturity development organization” (32%). Both areas remain obstacles to success in many organizations.

Advice to others



Based on your experiences, what advice would you offer to others planning to conduct test process improvement utilizing TMMi?



Important advice is shared by the respondents on factors to take into account when planning to conduct test process improvement. More information on the various identified recommendations can be found in paragraph 5.4 - "Critical Success Factors in a TMMi implementation" in the book The Little TMMi.



**Contact us at the
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