

ISTQB® Evolution



Gualtiero Bazzana – ISTQB® President

Paris - April 2016

The Sw testing market has a size of **over 60B€ world-wide**

In accordance to Technavio Reports
«Global Software Testing Service Market»

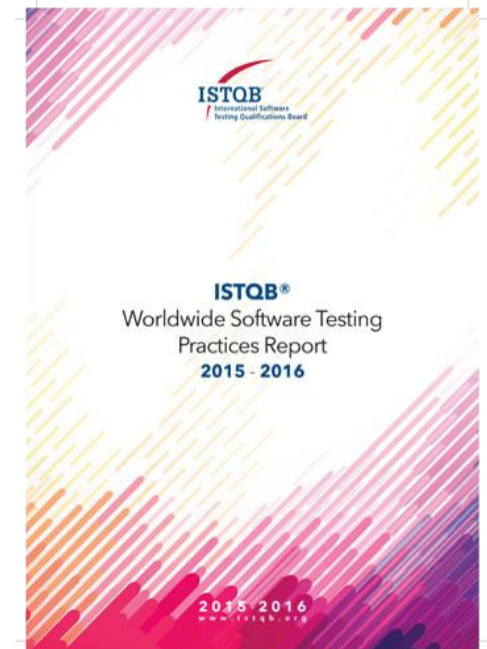
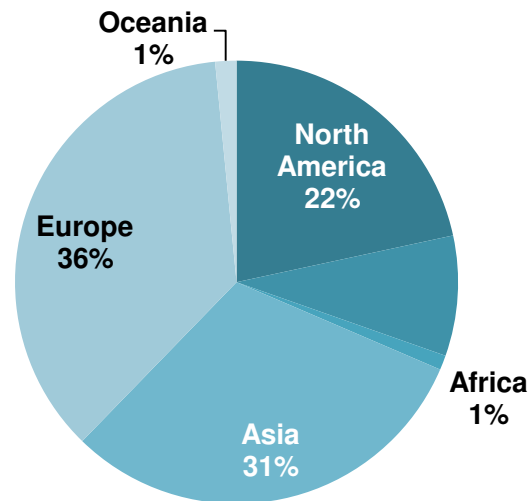
- **SW testing market has grown at 10% YOY in 2014-15**
 - **The trend is predicted to **accelerate** over the period **2016-2018****
 - **Testing Service Market **CAGR 11.15%****
- **Software Testing Integrator Market **CAGR 21.53%****

HIGHLIGHTS FROM THE 2015 WORLD SW QUALITY REPORT

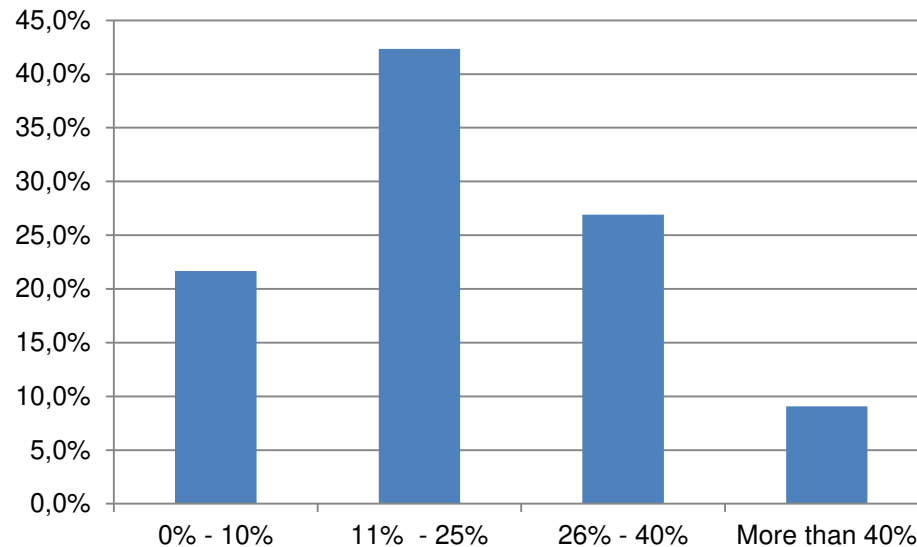
- Budgets dedicated to QA&Testing are growing at warp speed, with a growth pace much higher than anticipated, reaching in average **35% of the IT budgets**
- **Test automation is increasing**, jumping in one year from 28% to 45% of test cases
- Digital transformation is putting more and more emphasis on customer value and **end-user experience** as targets for testing
- **Security** is the most pressing concern
- **Agile and DevOps** adoption has become widespread and call for extreme level of speed and integration in testing practices; **a lack of professionals** with Agile Testing expertise is among the top-three challenges
- **Mobile testing** is maturing, being adopted by 92% of the organizations and consuming 35% of the QA&Testing Budgets for new projects
- **Testing Centers of Excellence** are widely adopted and are turning into more agile and hybridized forms
- **Test environments** are being enhanced with virtualization and cloud solutions

ISTQB® WORLDWIDE SOFTWARE TESTING PRACTICES REPORT

- In 2015 we conducted a survey looking at the “Worldwide Software Testing Practices”, the results of which are published in this report.
- The survey was open from June to September 2015 and 3294 responses were received from almost 90 countries.
- [Download ISTQB Worldwide Testing Practices Report](#)



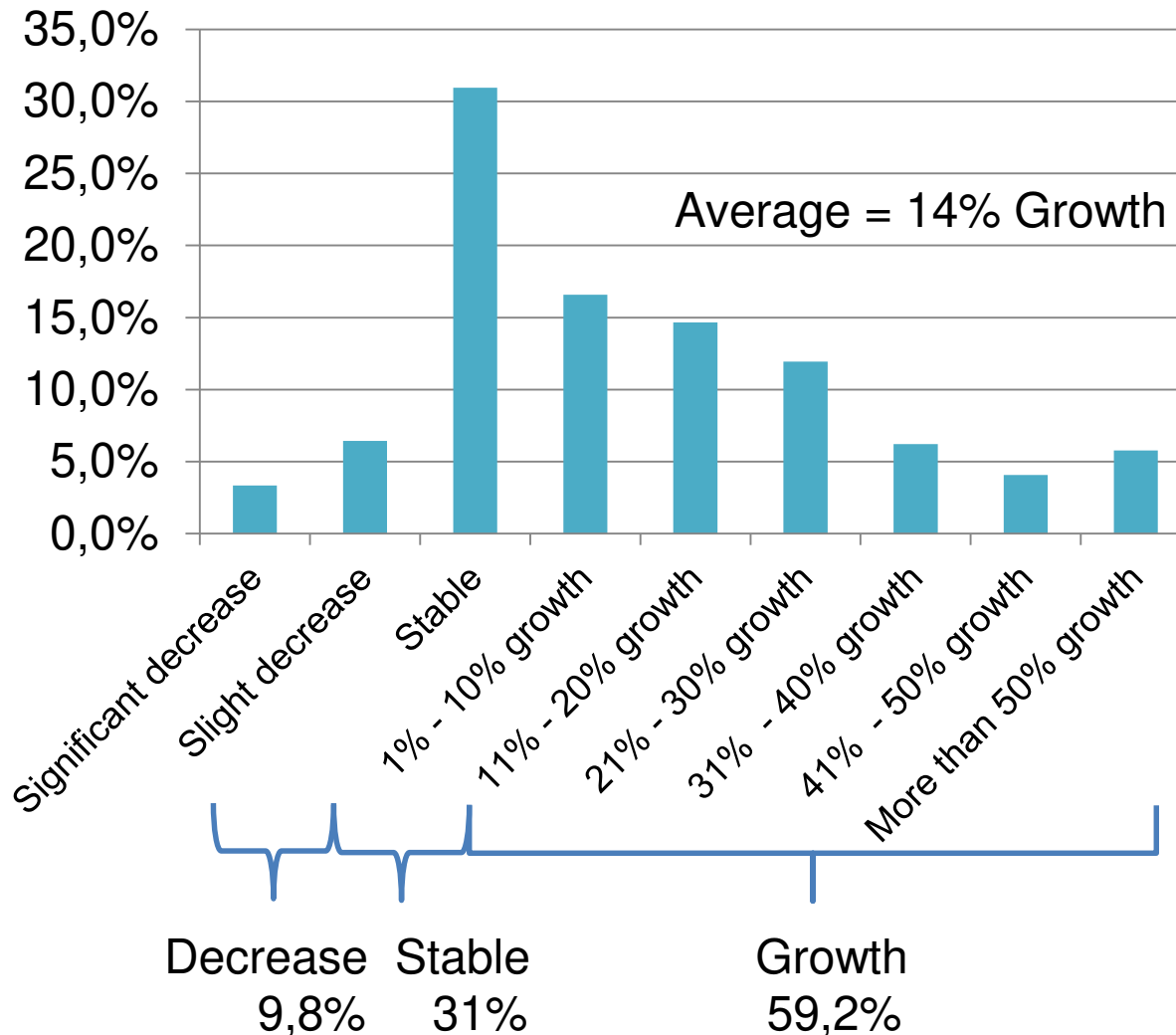
What percentage of a typical IT/ R&D project budget is allocated to software testing?



The large majority of respondents indicate budgets between 11% and 40%.

This is in line with the World Quality Report 2014-15 that indicates an average expenditure of 26%

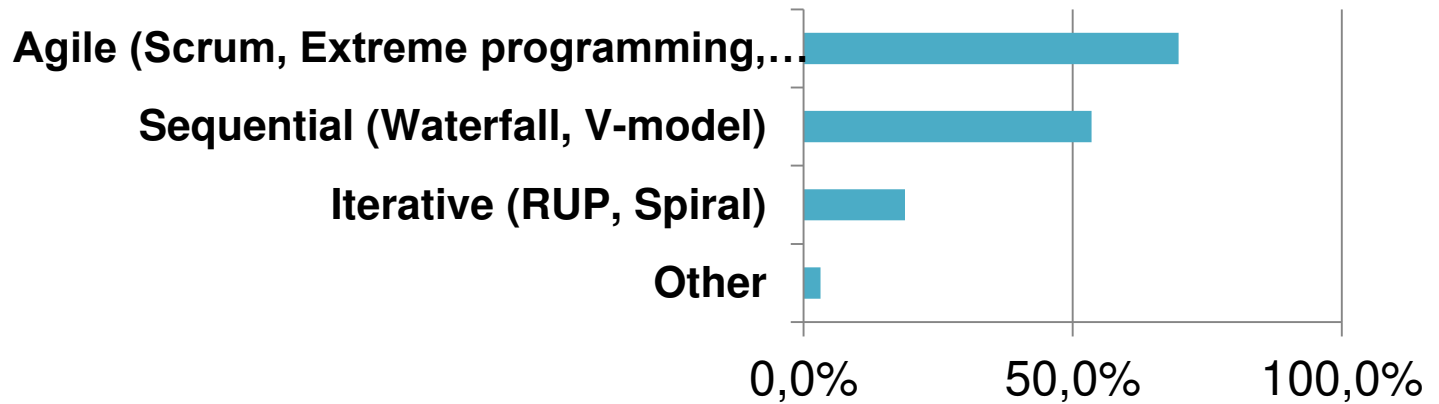
What is your expectation for your organization's software testing budget in the next 12 months?



About 60% of the respondents expect an increase of the budgets allocated to testing; this confirms the growing trend exhibited in the World Quality Report 2014-15, that is forecasting that by 2017 the IT budget allocated to QA & testing will rise to 29%.

Average expected growth is 14% that is much pretty in line with the forecasted CAGR of the Global Testing Market in 2015-2019 in the Technavio Report (www.technavio.com)

Which Software Development Lifecycle (SDLC) model are you using?

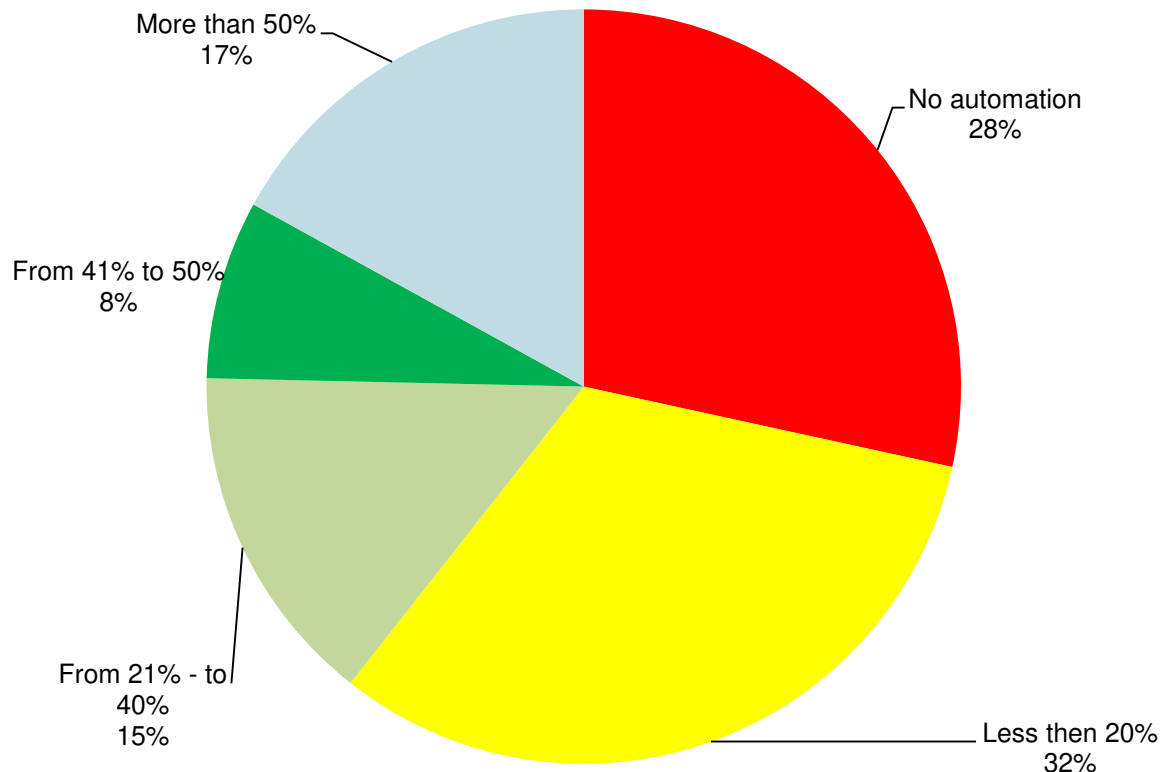


Agile based SDLCs are being adopted ahead of traditional ones (Waterfall or V-Model)

Agile methodologies are significantly increasing in popularity; this underlines the need to have appropriate testing processes and techniques also for Agile, combined with certification of testing competences

ISTQB® has recently launched a specific certification module for “Agile Tester” with a remarkable positive reply by the market, and in the near future will further extend the certifications on Agile testing at Advanced level

How many test cases do you automate ?



- Test automation has become very widespread in the market, with 72% adoption
- in 40% of the cases the percentage of automated test cases is well beyond 20%

WHAT IS THE ISTQB®?

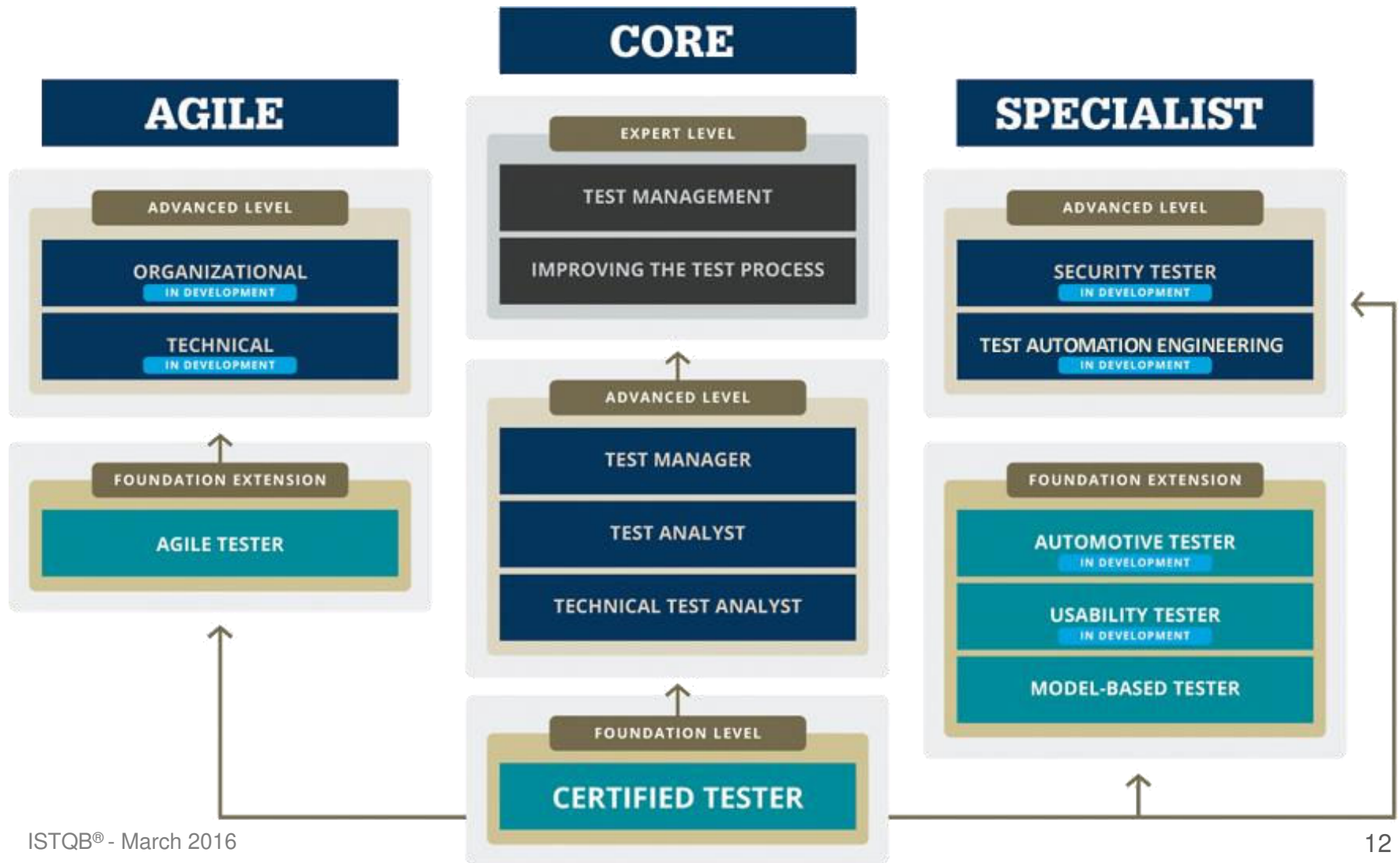
- ISTQB®: International Software Testing Qualifications Board
 - Non-profit association
 - Founded 2002
 - Headquartered in Belgium
 - Has its own constitution, rules and regulations
 - Composed of volunteer international Testing Experts
 - Responsible for the “ISTQB® Certified Tester” scheme worldwide
- ISTQB® is the world’s leading organization for Certification of Professionals in Software Testing

*Advancing
the software testing profession*

“To continually improve and advance
the software testing profession by:
Defining and maintaining a Body of Knowledge
which allows testers to be certified based on best practices,
connecting the international software testing community,
and encouraging research.”

- ISTQB® has defined three Levels:
 - Foundation
 - Advanced (Test Manager, Test Analyst, Technical Test Analyst)
 - Expert (Improving the Testing Process, Test Management)
- The ISTQB® certification scheme is split into streams: Core, Agile and Specialist
- Syllabi are publicly available for download from the ISTQB® website
- Syllabi are written by testing experts and continuously reviewed and improved
- Terms used in the ISTQB® syllabi are defined in the ISTQB® Glossary
- Syllabi and Glossary are translated in many languages by the ISTQB® Member Boards - refer to local board websites to download free-of-charge localized content

ISTQB® PRODUCT PORTFOLIO

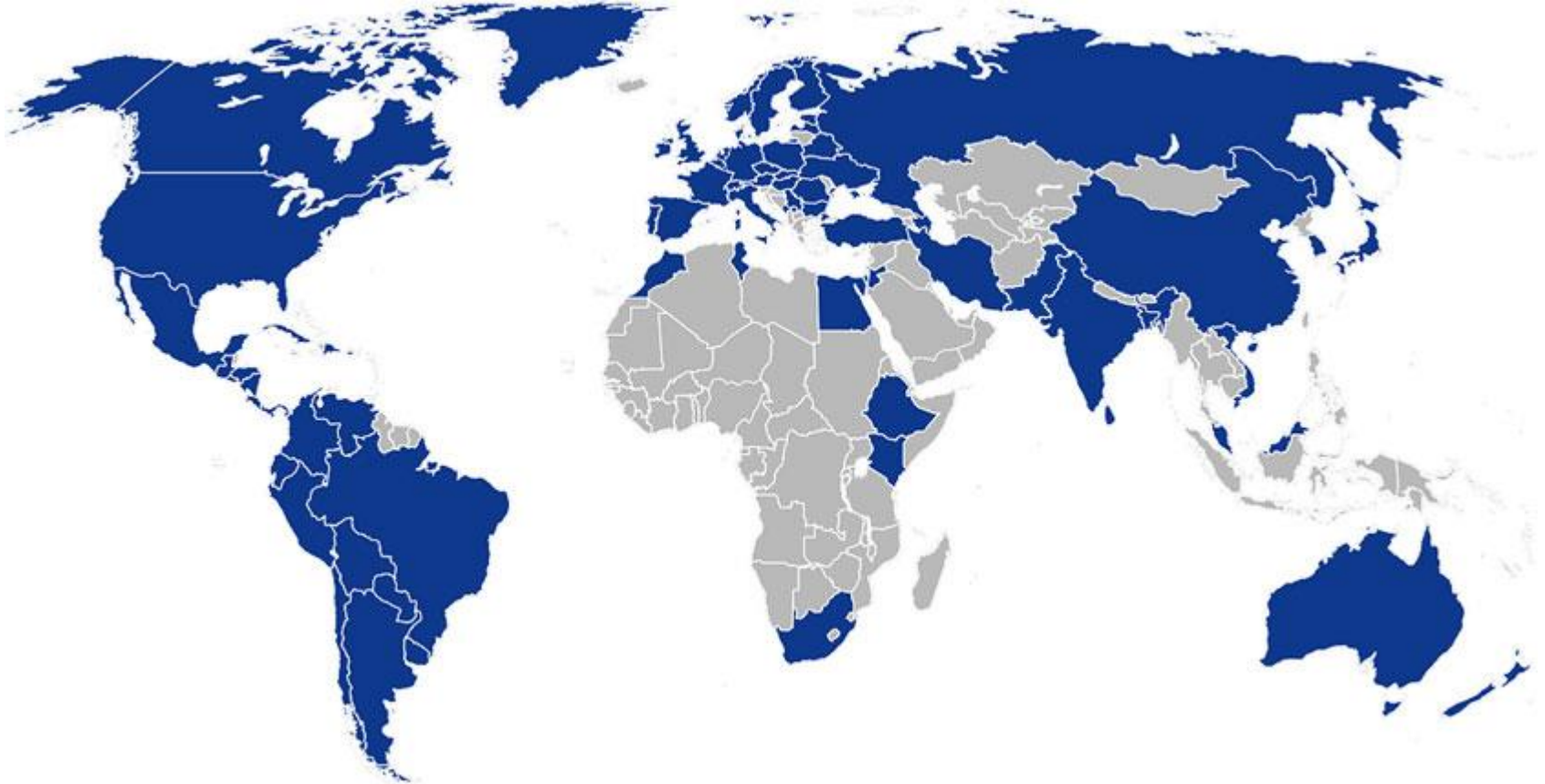


ISTQB® - THE EVOLUTION

1998	ISEB (Information Systems Examinations Board, part of the British Computer Society) develops the Certified Tester Syllabus. The first Software Testers are certified in 1998
2002	The ISTQB® (International Software Testing Qualifications Board) is founded by 8 member boards: Austria, Denmark, Finland, Germany, Sweden, Switzerland, the Netherlands and UK
2003	The syllabus for the “Advanced Level” is completed
2004	First exams for “ISTQB® Certified Tester Advanced Level” are released
2006	The number of member boards grows steadily
2007	The Foundation and Advanced Syllabi are enhanced
2009	The number of Member Boards climbs further The number of certifications reaches 100,000
2010	BCS withdraws the ISEB Test Practitioner scheme in favor of ISTQB Certified Tester Advanced Level. The first “Expert Level” syllabus is released
2011	The number of certifications exceeds 200,000 globally Issue of additional Expert Level Syllabi
2012	Launch of the “ISTQB® Partner Program”, “ISTQB® Conference Network”, “ISTQB® Recognized Mobile app” program and “ISTQB® international Software Testing Excellence Award”
2013	The number of certifications exceeds 300,000 globally
2014	Agile Tester Syllabus is made available
2015	New Product Portfolio architecture Model-Based Tester Syllabus is made available More than 600.000 exams and 400.000 certifications in over 110 countries world-wide

- In the March 2016 ISTQB® General Assembly, the ISTQB® has approved
 - Security Tester for General Market Availability
 - Usability Tester for Beta Release
 - Test Automation Engineer for Beta Release
- The ISTQB® has also identified additional areas where effort will be dedicated to possibly develop further syllabi; notably:
 - Mobile Testing
 - Performance Testing
 - Gaming Testing

WORLD-WIDE COVERAGE



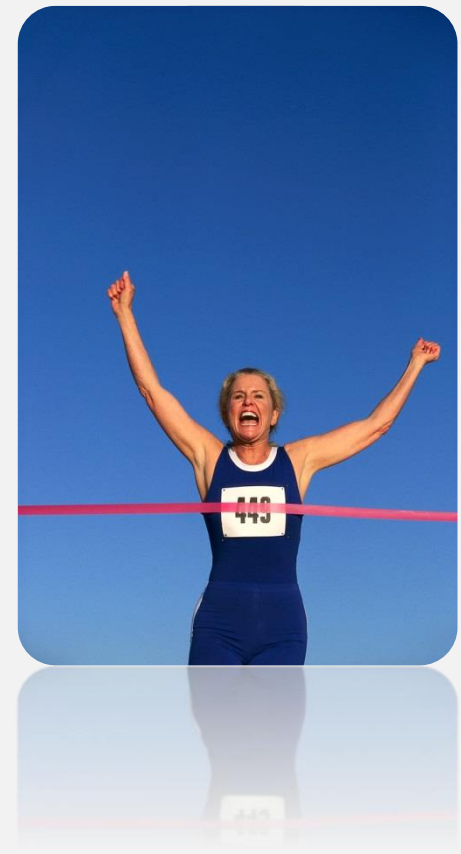
- Countries covered by Member Boards (52 Member Boards covering 75 countries, representing over 90% of the world-wide GDP) and Global Exam Providers
- Countries covered by Global Exam Providers

The current list of Member Boards and Global Exam Providers is available on the [ISTQB® Web Site](http://www.istqb.org)

FOOTPRINT – Dec 31st 2015

NUMBER OF EXAMS AND CERTIFICATIONS

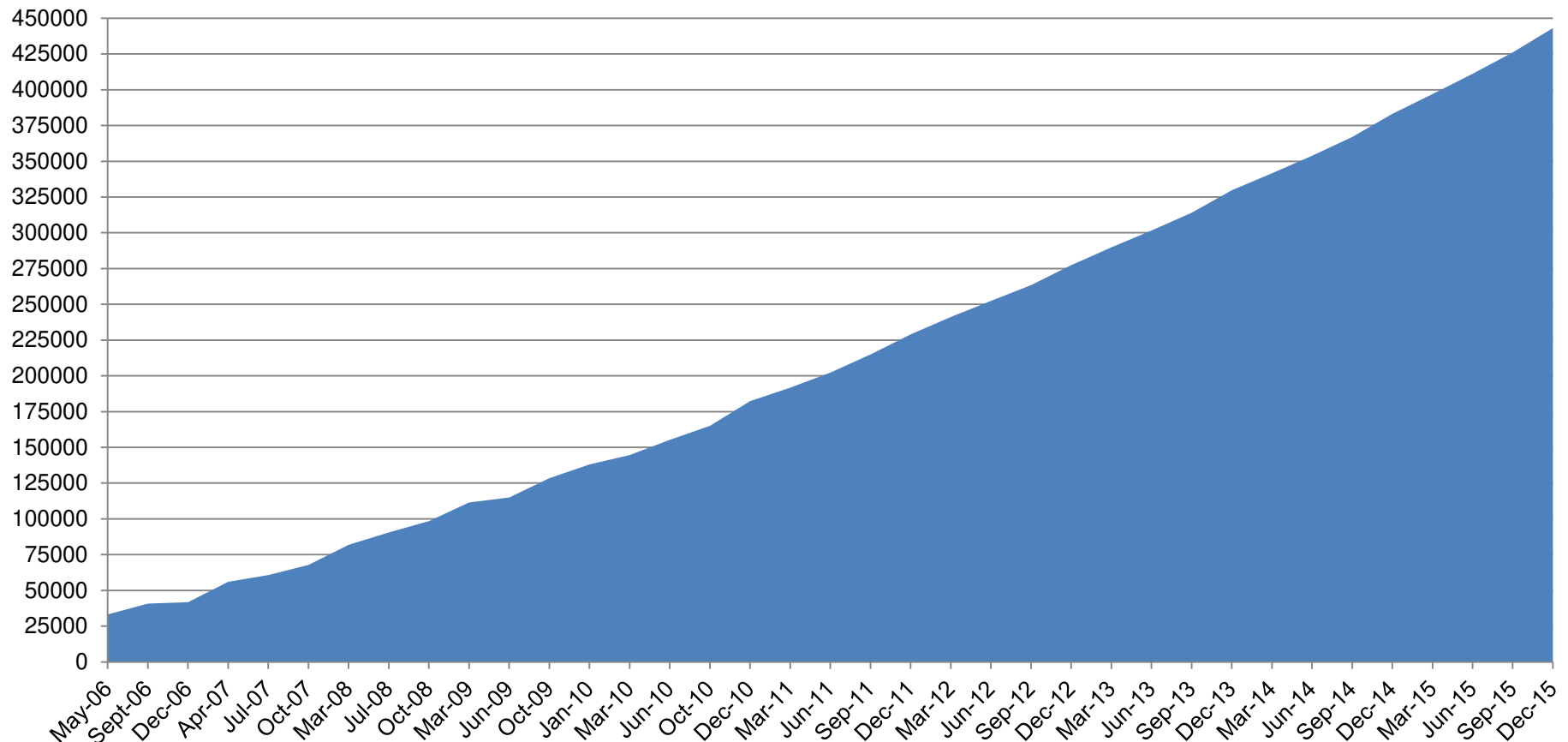
- As of the end of 2015 ISTQB® has performed more than 600.000 exams and issued 440,000+ certifications with over 20,000 exams per quarter
- ISTQB® is the largest testing certification scheme in the World and has become an International de-facto reference on recommended testing practices
- Among the technology-independent certifications schemes, ISTQB® is the third largest in the IT industry in terms of number of people certified (exceeded only by PMI and ITIL)



ISTQB® CUMULATIVE CERTIFICATES ISSUED

As of Dec-31st 2015

ISTQB® Certifications Growth Trend



Figures as of 2015-Dec-31

Executive Summary



- **2015 best year in history:
82567 exams +11% YOY**
- **2015-Q4 best quarter in
history (23360 exams)**

More than
600.000
exams world wide!

More than
440.000
certificates world
wide!

Figures as of 2015-Dec-31

Trends



Agile VERY Good:

- Over 4000 exams in first year
- 3347 certificates
- By 38 Boards

**AL growing well overall
(10 000 exams in 2015)
After TM and TA also TTA
is gaining traction**

Diversified growth:

- 13 MBs growing >40%YOY
- 24 MBs growing >20%YOY

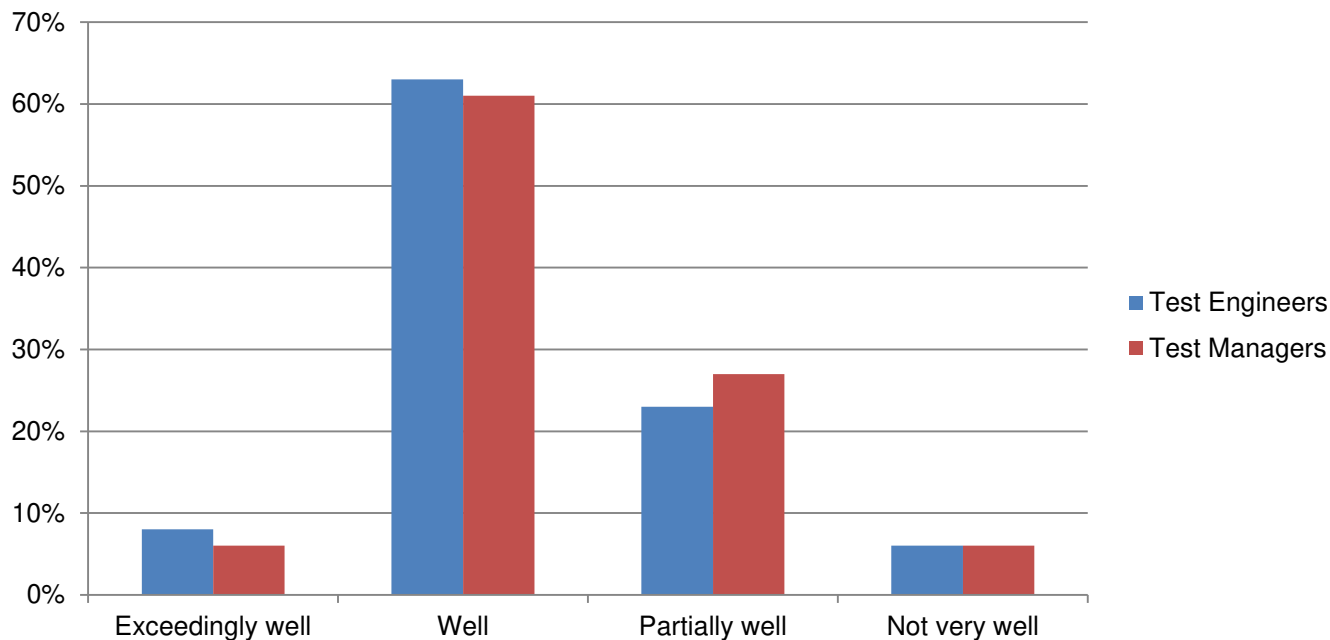
- The exam is based on multiple-choice questions for Foundation and Advanced Levels
- For Expert Level, an essay is also required
- Exams can be attempted also without having attended a training course (e.g. through self-study)
- Progressive move forward practical exams

EXAMS QUESTIONS AND LENGTH

MODULE	NUMBER OF QUESTIONS	EXAM LENGTH (IN MINUTES)	EXAM LENGTH FOR NON NATIVE LANGUAGE
FOUNDATION CERTIFIED TESTER	40	60	75
AGILE TESTER	40	60	75
ADVANCED TEST MANAGER	65	180	225
ADVANCED TEST ANALYST	60	180	225
ADVANCED TECHNICAL TEST ANALYST	45	120	150
MODEL-BASED TESTER	40	60	75

EXAM RELIABILITY - SURVEY

- To what extent do you feel the ISTQB® Foundation Level certification exam reflects the knowledge of the candidates?



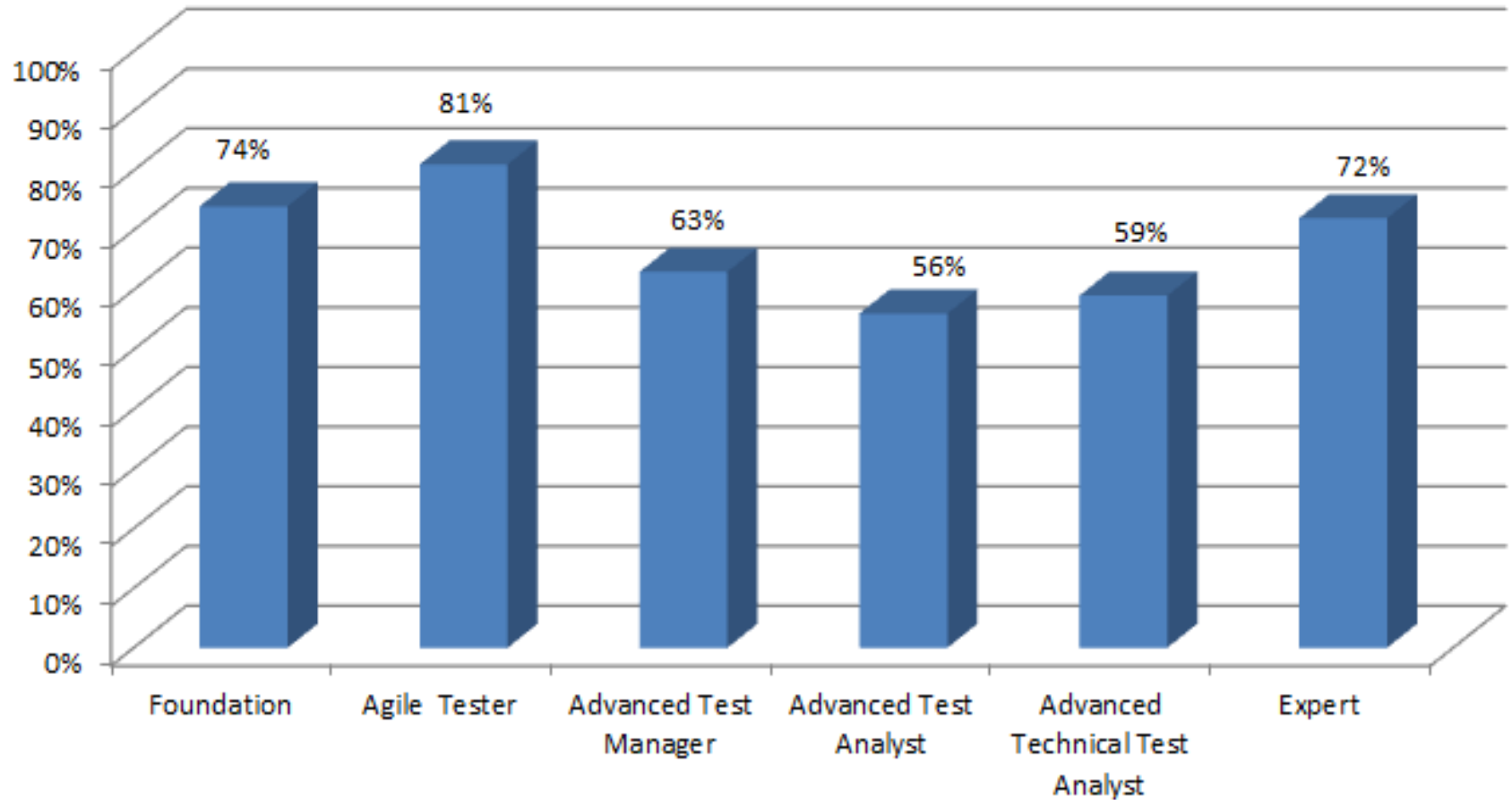
More than 70% of respondents regard the ISTQB® Foundation Level certification exam as fully or exceedingly reliable and these results are consistent throughout the world; only 6% found the exam not very reliable

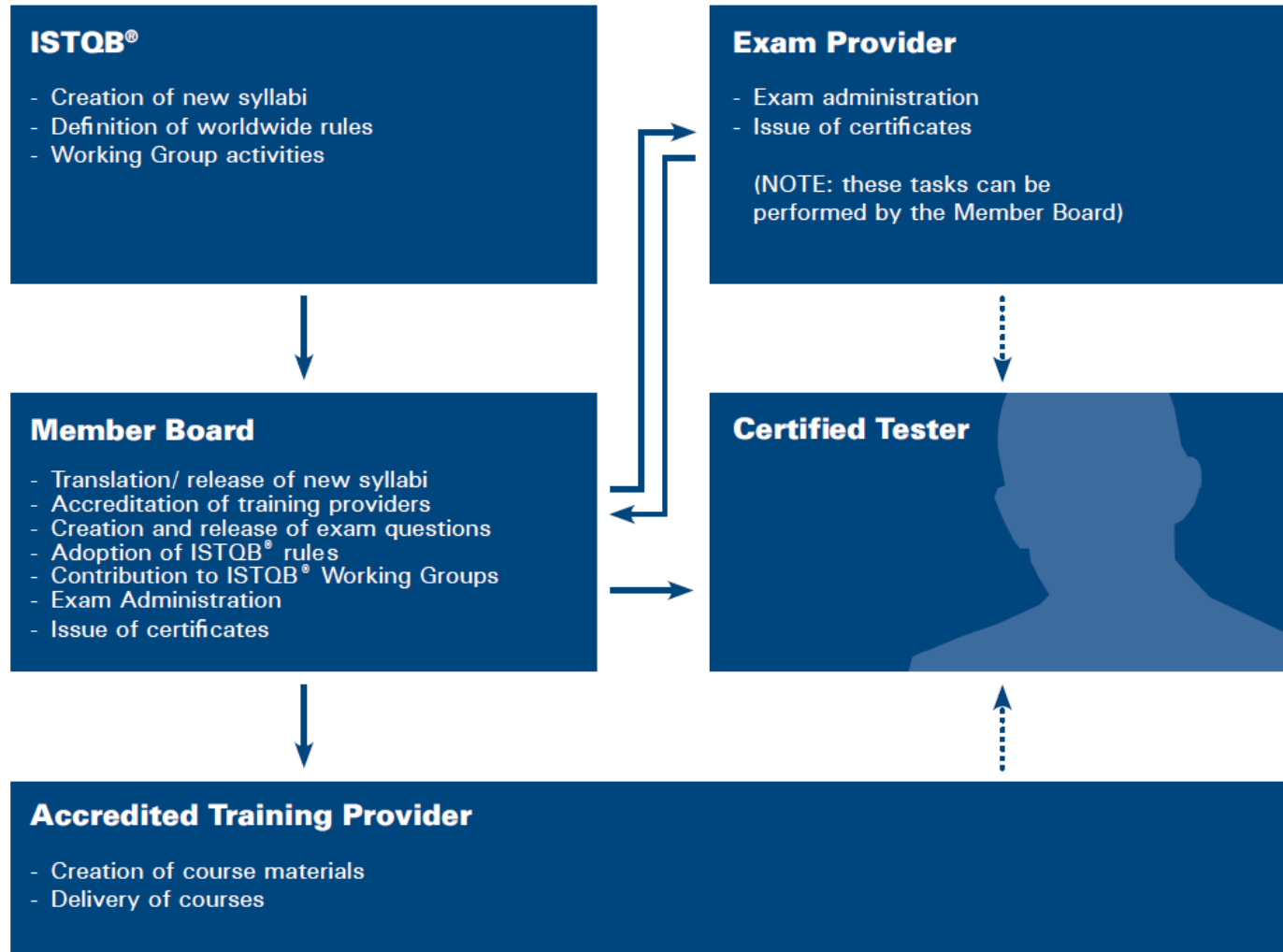
FOOTPRINT *SPLIT OF CERTIFICATIONS*

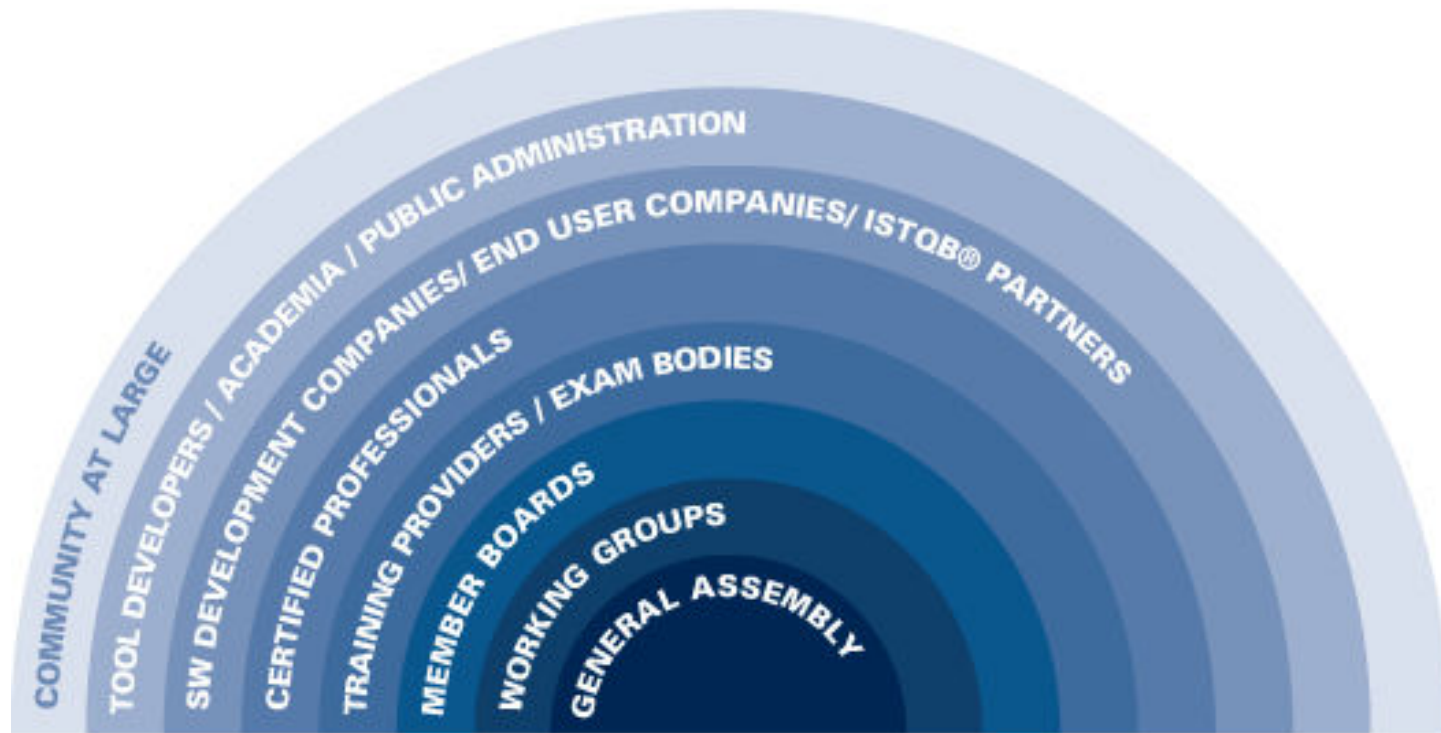
ISSUED AS OF DEC 2015

LEVEL	CERTIFICATES
Foundation Level	394.824
Agile Tester Level	3.347
Advanced Level – Test Manager	21.254
Advanced Level – Test Analyst	13.828
Advanced Level – Technical Test Analyst	6.390
Full Advanced	2.681
Expert Levels	86
TOTAL	442.410

ISTQB® EXAM AVERAGE PASS RATES







- Working Groups: <http://www.istqb.org/about-as/working-groups.html>
- Member Boards: <http://www.istqb.org/istqb-where-you-are/your-local-member-board.html>
- Training Providers: <http://www.istqb.org/istqb-where-you-are/find-a-training-provider.html>
- Exam Providers: <http://www.istqb.org/istqb-where-you-are/find-an-exam-provider.html>
- ISTQB® Partners: <http://www.istqb.org/partner/istqb-partners.html>

ACCREDITED TRAINING PROVIDERS

- ISTQB® has a large number of Accredited Training Providers (ATPs) worldwide
- As of March 2015 there are 300+ Accredited Training Providers worldwide
- The list of Accredited Training Providers is available on the [ISTQB® Web Site](#)



Provides recognition to
Companies
that are investing in the
ISTQB® scheme



As of March 2016 ISTQB® has
120+ Partners



INCREASING PRODUCTIVITY OF SW PROJECTS

ISTQB® CERTIFICATION CAN HELP

- Software engineering and software project management are complex activities. Both software development and software management have dozens of methodologies and scores of tools available that are beneficial. In addition, there are quite a few methods and practices that have been shown to be harmful.
- In order to evaluate the effectiveness or harm of various methods and practices Capers Jones has developed a scoring method.
- The data for the scoring comes from observations among about 150 Fortune 500 companies, some 400 smaller companies, and 30 government organizations. Negative scores also include data from 15 lawsuits. The rankings are based on about 20,000 projects that span 50 industries and 24 countries.
- The analysis is based on the author's book Software Engineering Best Practices published by McGraw Hill in 2010. Some new data is taken from The Economics of Software Quality published by Addison Wesley in 2012. This version is current through mid-2014.

INCREASING PRODUCTIVITY OF SW PROJECTS

ISTQB® CERTIFICATION CAN HELP

- In the following some factors related to testing are presented, with their impact in terms of reduction or increase in project work hours wrt to projects consisting of traditional application development methods such as “waterfall” development performed by organizations that do not have apply systematically sound software engineering practices

Factor	Impact on productivity
Experienced test teams	12% Improvement
Testing by certified test personnel	7% Improvement
Testing by developers only	6% Worsening
Informal test case design	8% Worsening
Inexperienced test teams	15% Worsening
Truncating testing to "meet schedule"	45% Worsening

(Capers Jones, *Scoring and evaluating software methods, practices, and results*, version 15.0, September 6, 2014)

SOURCING SKILLED PROFESSIONALS ISTQB® CERTIFICATION CAN HELP

- Technavio, an independent technology research and advisory company, analyzed the key challenges faced by the Global Software Testing Services market, highlighting in particular the “Shortage of Skilled Labor”
 - • The Global Pure Play Software Testing Services market is growing rapidly, thus increasing the demand for skilled labor. However, this has created a disparity in supply and demand, as a result of which, **sourcing and retaining skilled labor has become a challenge.**
 - • The shortage of availability of required skills is now becoming a major challenge for the software testing organizations.

Since the current educational system is not geared up to the required standards and demands of the market, this challenge is expected to have a bigger impact on the market in the future.

(Global Software Testing Services Market 2011-2015, Technavio)

- As part of its commitment to continuous improvement and the advancement of the software testing profession, in 2013 ISTQB® conducted an international online survey for test engineers and managers.
- The survey was open from June to September 2013 and several thousand responses were received from almost 70 countries; in particular, respondents were:
 - 2855 test engineers
 - 779 test managers
- In the remainder of this presentation, references will be made to some key results of the survey
- The full report is available for free download from the [ISTQB® Web Site](#)



A new survey will be conducted in 2016

BENEFITS FOR PROFESSIONALS - SURVEY

- Would you recommend the ISTQB® Foundation Level (CTFL) certification to your colleagues?

Test Engineers



Both Test Engineers and Test Managers are highly satisfied with the ISTQB® CTFL certifications and happy to recommend these to their colleagues [91% - Test Engineers, 94% - Test Managers].

Test Managers



BENEFITS FOR COMPANIES

- ISTQB® certification can provide a competitive advantage for companies, promising a higher level of reliability of the applications being developed due to efficient and cost effective testing practices derived from the ISTQB® competencies
- Consulting companies with certified staff can offer higher-level services to customers, increasing revenues and brand value
- ISTQB® has defined a “Partner Program” for companies that engage a large number of certified testers

BENEFITS FOR COMPANIES - SURVEY

- As a Test Manager, what percentage of your testing staff would you like to see certified at the ISTQB® Foundation Level?

Test Engineers



Test Managers appear to see a high value in having their staff trained and certified. Around 88% of Test Managers would like to see more than half of their testing staff being certified at the ISTQB® Foundation Level. On average, the desired number of certified staff is 75%.

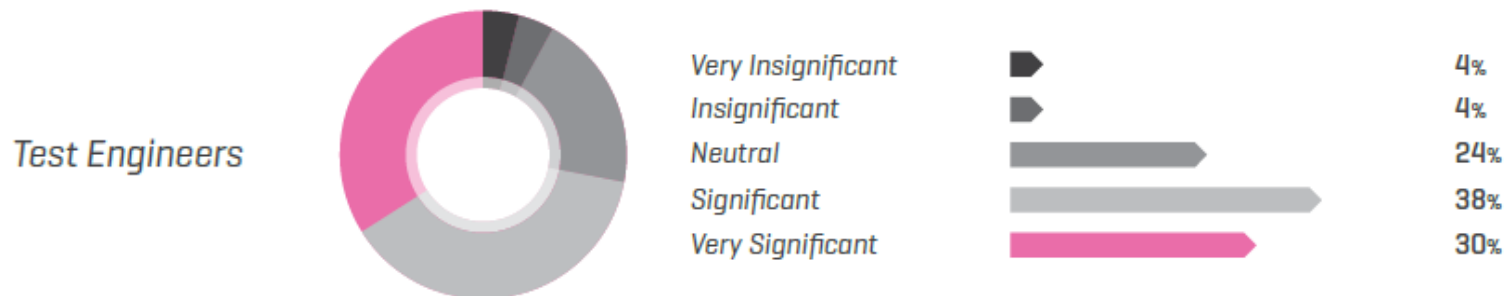
BENEFITS FOR ACCREDITED TRAINING PROVIDERS (ATP)

- Educational institutions and consulting companies may become an ISTQB® Accredited Trainer Provider (ATP) according to processes and rules defined at the international level
- Accredited Training Providers ensure a high standing of training is delivered through having:
 - certified trainers
 - the content, quality and syllabus coverage of training materials checked by ISTQB® Boards
 - advance notice of changes to the ISTQB® Glossary and syllabi
- Accredited Training Providers are entitled to use relevant logos and are listed in the ISTQB® Website



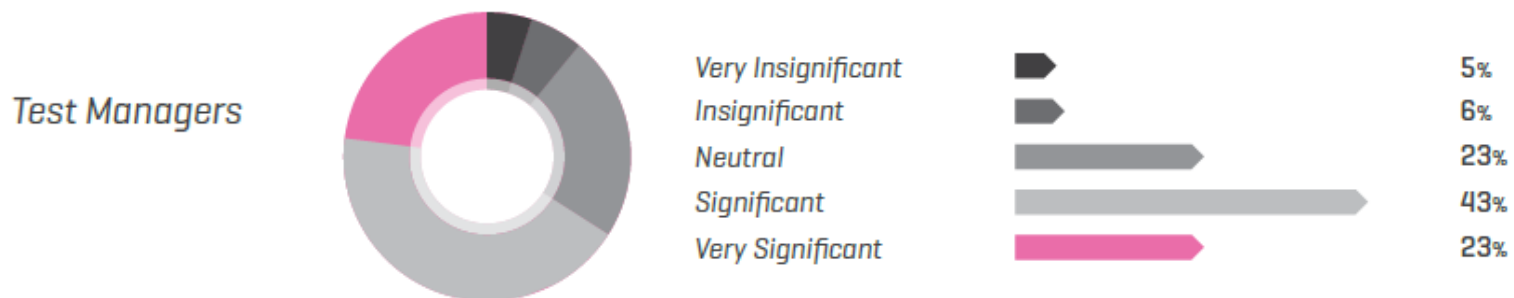
BENEFITS FOR ACCREDITED TRAINING PROVIDERS

- How significant do you think the training was in your certification success?



Almost 70% of the survey participants felt that formal training was a significant part of their certification success.

The ISTQB® provides strong support for training providers and accredited training will continue to be an integral part of certification success.



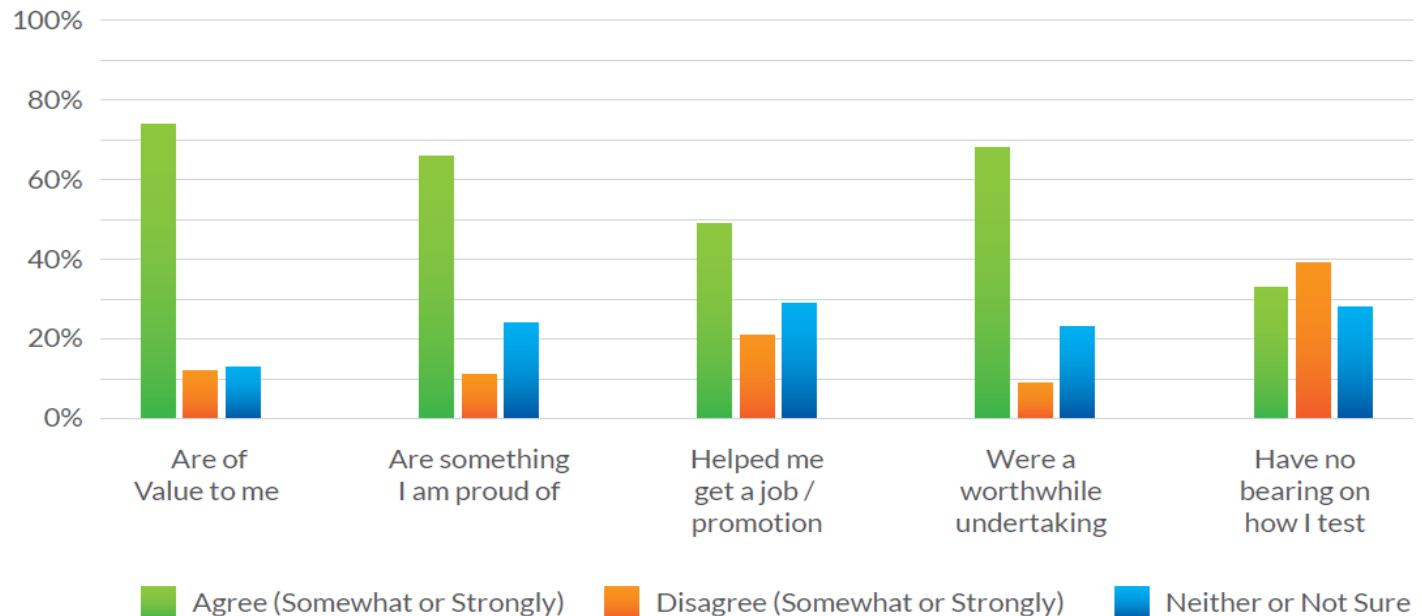
ISTBQ® ADOPTION AMONG TEST PROFESSIONALS

- EuroSTAR, one of the major testing conferences, has conducted a survey involving 631 professional software testers and testing team leads or testing and quality assurance managers from major companies across Europe
- Report: “Practices & Attitudes in Software Testing (PAST) Study” – EUROSTAR Sw Testing Report 2014
- In accordance to the survey, 85% of the respondents have an ISTQB® Foundation certificate and 26% have also an ISTQB® Advanced certification

SW TESTING CERTIFICATION VALUE

The same survey shows that the value of certifications is perceived to be high

	Agree (Somewhat or Strongly)	Disagree (Somewhat or Strongly)	Neither or Not Sure
Are of value to me	74%	12%	13%
Are something I am proud of	66%	11%	24%
Helped me get a job/promotion	49%	21%	29%
Were a worthwhile undertaking	68%	9%	23%
Have no bearing on how I test	33%	39%	28%



New Syllabi & Exams

Agile Advanced

Security

Automotive

Usability

Test Automation

Maintenance & Evolution

Glossary

Foundation Core

Advanced Core

Agile Tester

New initiatives

New Boards

New Surveys

CSR initiatives

Academia
Program



ISTQB® CONTACTS AND CHANNELS

YouTube : <http://www.youtube.com/user/ISTQBORG>

Web Site : <http://www.istqb.org>

Facebook : <http://www.facebook.com/istqborg>

LinkedIn : <http://www.linkedin.com/groups/ISTQB-International-Software-Testing-Qualifications-99444>

Twitter : <http://twitter.com/ISTQBORG>

XING : <https://www.xing.com/net/istqb>



ISTQB® Smart Shows





ISTQB® CONTACTS AND CHANNELS

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