



TMMi
Supporting Guidelines
for SCAMPI Appraisers

www.tmmi.org

OBJECTIVES OF THIS SLIDE DECK

- This slide deck is designed to help SCAMPI appraisers who have become a TMMi Accredited (Lead) Assessors to understand how TMMi Assessments are conducted and what needs to be submitted to the TMMi Foundation.
- Please familiarise yourself with all the TMMi Documentation which is available to download from the TMMi Foundation website [TMMi Documents - TMMi](#)
- For any questions please email the accreditation team



Clive Bates
clive.bates@tmimi.org

Accreditation Chair



Yohanes Ho
yohanes.ho@tmimi.org

Accreditation Deputy

CONTENT

- Overview
- Maturity Levels
- The Structures
- Process Areas
- CMMI Process Areas Support TMMi Implementation
- Assessment Types
- The Path to Maturity Levels
- SCAMPI Based Assessment for TMMi
- Document To Be Submitted for Assessment
- From SCAMPI Lead Appraiser to TMMi Lead Assessor
- TMMi Documents Available
- TMMi Reference Model
- TMMi In the Agile World
- TAMAR
- DSR – Data Submission Requirements
- Assessor Accreditation Criteria
- Fees
- Reference

OVERVIEW

The CMMI is often regarded as the industry standard for software process improvement, despite the fact that only limited attention is given to testing. As such, Test Process Improvement (TPI) models that focus more on testing were initiated by the testing community. One of the TPI that is sharing similar structure with CMMI is TMMi.



CMMI



TMMi
Test Maturity Model Integration

SCAMPI

- The Standard CMMI Appraisal Method for Process Improvement (SCAMPI) V1.3 is designed to provide benchmark quality ratings relative to Capability Maturity Model Integration (CMMI) V1.3 models and the People CMM.
- The method is embodied in three standard variants based on the class structure defined in the Appraisal Requirements for CMMI (ARC V1.3), which specifies three levels of formality for appraisals: SCAMPI A, B, C V1.3.
- The SCAMPI A V1.3 method has rigorous standards for detailed data collection, and for identification and coverage of the organizational unit. It is the most formal assessment to achieve a rating Level 1 (lowest) to Level 5 (highest).
- The SCAMPI B V1.3 method retains some of the requirements for detailed data collection and provides relaxed standards for sampling the organization. Evidence of implementation (not just the intended approach) must be examined, in the form of direct artifacts. This more rigorous method also requires the use of interview data in support of a team consensus process to derive the appraisal results.
- The SCAMPI C V1.3 method has relaxed standards relating to evidence of usage, information is sought that describes the approach taken (or planned for the future) to implement practices consistent with the intent of CMMI V1.3.

TAMAR

- The standard TMMi Assessment Method Application Requirements (TAMAR) is designed to provide benchmark quality ratings according to the Test Maturity Model Integration (TMMi).
- TMMi is a detailed model for test process improvement developed by the TMMi Foundation as a guideline and reference framework for test process improvement and is positioned as a complementary model to the CMMI V1.3.
- The TMMi Assessment Method Application Requirements (TAMAR) defines the requirements considered essential to Assessment methods intended for use with the TMMi.
- There are two authorized Types of Assessment Methods, described as Formal and Informal.
- A Formal Assessment has a sufficient degree of rigor and corroboration which can result in a formal maturity rating against the model.
- An Informal assessment does not require any corroboration of sources and will not result in a formal maturity rating against the model.

MATURITY LEVELS

A maturity level is a defined evolutionary plateau for organizational process improvement. Each maturity level matures an important subset of the organization's processes, preparing it to move to the next maturity level.

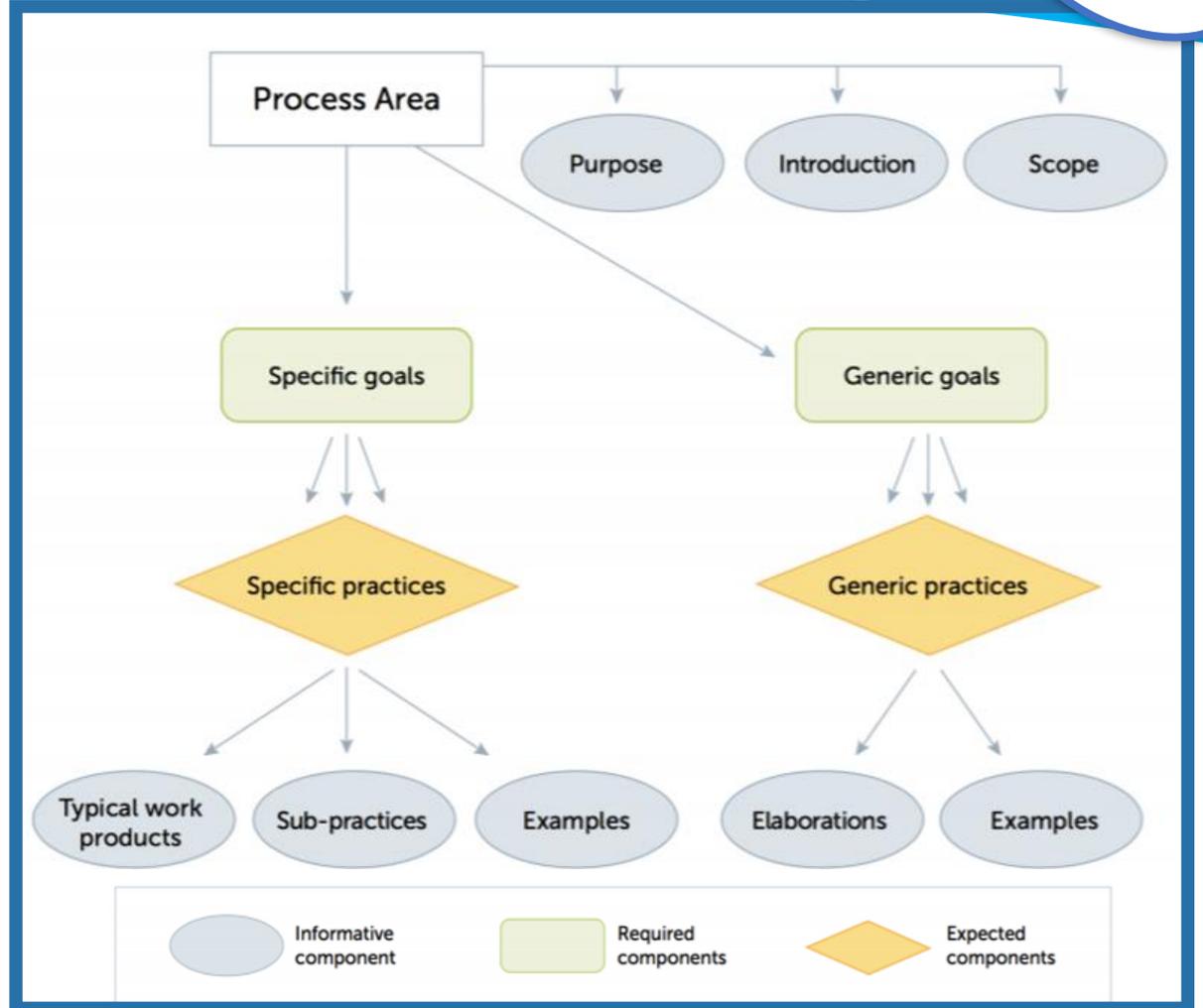
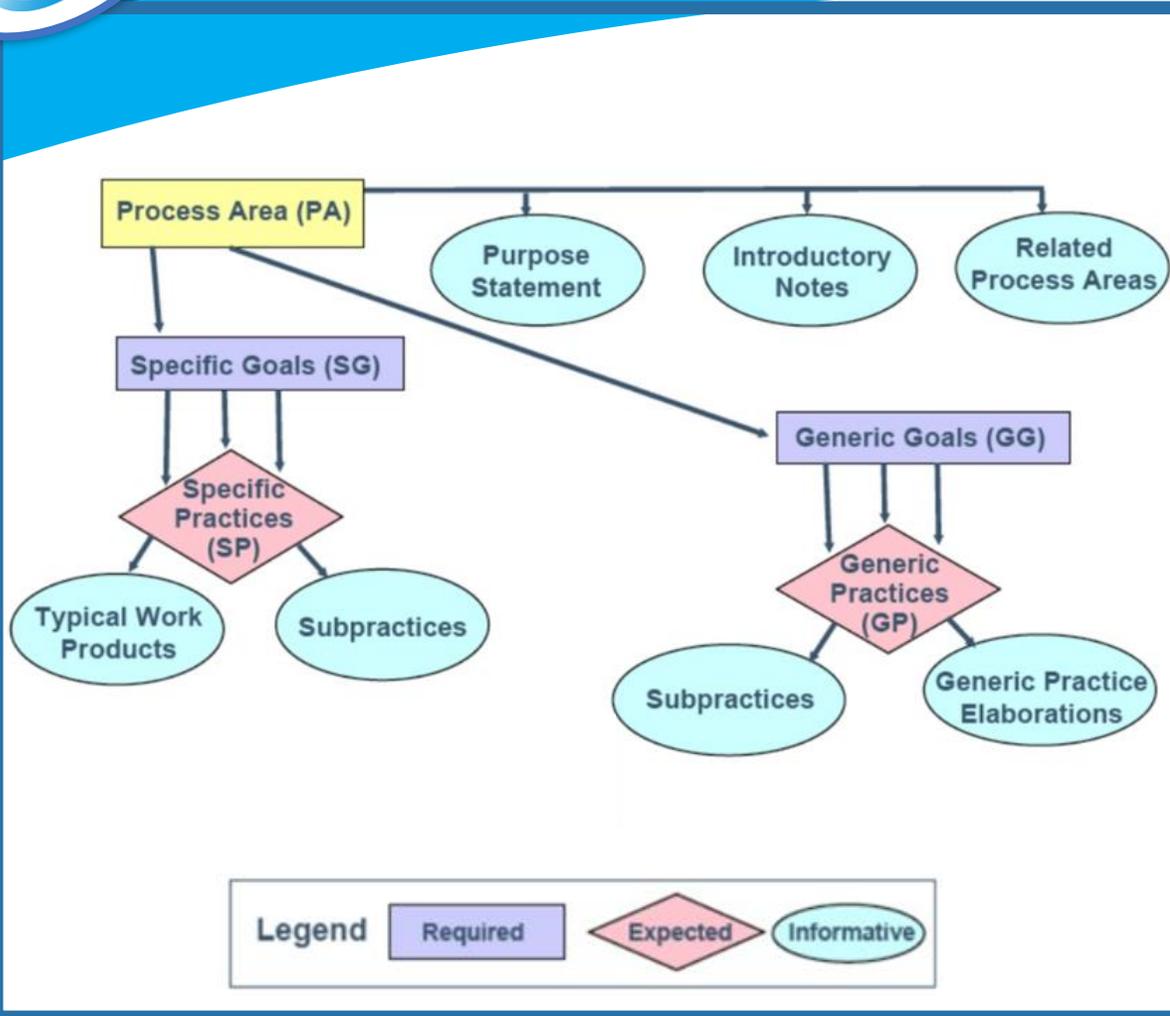



Organization is focused on continuous improvement and is built to pivot and respond to opportunity and change. The organization's stability provides a platform for agility and innovation.	Level 5 OPTIMIZING
Organization is data-driven with quantitative performance improvement objectives that are predictable and aligned to meet the needs of internal and external stakeholders.	Level 4 QUANTITATIVELY MANAGED
Organization-wide standards provide guidance across projects, programs, and portfolios.	Level 3 DEFINED
Projects are planned, performed, measured, and controlled.	Level 2 MANAGED
Work gets completed but is often delayed and over budget.	Level 1 INITIAL

Level 5 OPTIMIZED	All activities and outcomes are assessed and optimized activities are in place to ensure continuous improvement toward defect prevention and optimized quality.
Level 4 MEASURED	Measurement of activities and outcomes are thoroughly applied early in all projects to establish at each stage of development that the projects are as defect free as possible.
Level 3 DEFINED	Establishes that all projects are following the same standards and procedures throughout the organizations or organizational unit.
Level 2 MANAGED	The fundamental test approach is established and managed, may vary from project to project within an organization.
Level 1 INITIAL	The testing (work) is ad-hoc and chaotic, individual heroics might ensure success.

THE STRUCTURES

The structure of the TMMi is largely based on the structure of the CMMI. The CMMI structure makes a clear distinction between components that are required (goals) or recommended (specific practices, example work products, etc.) to implement. This aspect is also included in the TMMi.



PROCESS AREAS

The maturity levels are measured by the achievement of the specific and generic goals associated with each predefined set of process areas.




<ul style="list-style-type: none"> Organizational Innovation & Deployment Causal Analysis and Resolution
<ul style="list-style-type: none"> Organizational Process Performance Quantitative Project Management
<ul style="list-style-type: none"> Requirements Development Technical Solution Verification Validation Organizational Process Focus Organizational Process Definition Organizational Training Integrated Project Management Risk Management Decision Analysis and Resolution
<ul style="list-style-type: none"> Requirements Management Project Planning Project Monitoring and Control Supplier Agreement Management Measurement and Analysis Process and Product Quality Assurance Configuration Management

Level 5 OPTIMIZING
Level 4 QUANTITATIVELY MANAGED
Level 3 DEFINED
Level 2 MANAGED

Level 5 OPTIMIZED
Level 4 MEASURED
Level 3 DEFINED
Level 2 MANAGED

<ul style="list-style-type: none"> Defect Prevention Test Process Optimization Quality Control
<ul style="list-style-type: none"> Test Measurement Product Quality Evaluation Advanced Reviews
<ul style="list-style-type: none"> Test Organization Test Training Program Test Lifecycle and Integration Non-Functional Testing Peer Reviews
<ul style="list-style-type: none"> Test Policy and Test Strategy Test Planning Test Monitoring and Control Test Design and Execution Test Environment

CMMI PROCESS AREAS SUPPORT TMMi IMPLEMENTATION

Process areas and practices elaborated within the CMMI are referenced in TMMi and mostly not repeated. TMMi process areas support CMMI implementation for process areas Validation and Verification. Generic Goals and Specific Goals of each CMMI Process Area that support TMMi Implementation should be assessed with the same level of rigor.




<ul style="list-style-type: none"> Organizational Innovation & Deployment Causal Analysis and Resolution 	<p>Level 5 OPTIMIZING</p>	<p>Level 5 OPTIMIZED</p>	<ul style="list-style-type: none"> Defect Prevention Test Process Optimization Quality Control
<ul style="list-style-type: none"> Organizational Process Performance Quantitative Project Management 	<p>Level 4 QUANTITATIVELY MANAGED</p>	<p>Level 4 MEASURED</p>	<ul style="list-style-type: none"> Test Measurement Product Quality Evaluation Advanced Reviews
<ul style="list-style-type: none"> Requirements Development Technical Solution Verification Validation Organizational Process Focus Organizational Process Definition Organizational Training Integrated Project Management Risk Management Decision Analysis and Resolution 	<p>Level 3 DEFINED</p>	<p>Level 3 DEFINED</p>	<ul style="list-style-type: none"> Test Organization Test Training Program Test Lifecycle and Integration Non-Functional Testing Peer Reviews
<ul style="list-style-type: none"> Requirements Management Project Planning Project Monitoring and Control Supplier Agreement Management Measurement and Analysis Process and Product Quality Assurance Configuration Management 	<p>Level 2 MANAGED</p>	<p>Level 2 MANAGED</p>	<ul style="list-style-type: none"> Test Policy and Test Strategy Test Planning Test Monitoring and Control Test Design and Execution Test Environment

ASSESSMENT TYPES

The choice of which Type of Method is appropriate for a particular organization is dependent upon their requirements. This is because Assessments can be utilized for subtly different purposes throughout an organization's long-term strategy.




Standard CMMI Appraisal Method for Process Improvement (SCAMPI)

Characteristics	Class A (SCAMPI A)	Class B (SCAMPI B)	Class C (SCAMPI C)
Assessment Team Leader	Lead Appraiser	Person trained and experienced	Person trained and experienced
Assessment Team Size	At least 4	At least 2	At least 1
Evidence Collected	Artifacts and affirmations	Artifacts and affirmations	Artifacts and / or affirmations
Maturity Rating Generated	Yes	No	No

- **SCAMPI A appraisal** is typically conducted when an organisation has implemented a number of significant process improvements and needs to formally benchmark its process relative to the CMMI.
- **SCAMPI B appraisal** is often performed when an organisation needs to accurately assess its progress towards a target CMMI maturity level.
- **SCAMPI C appraisal** is shorter and more flexible than SCAMPI A and SCAMPI B and are conducted to address a variety of special needs, from a quick gap analysis to determining an organisation's readiness for a SCAMPI A.

TMMi Assessment Method Application Requirements (TAMAR)

Characteristics	Formal Assessment	Informal Assessment
Assessment Team Leader	Accredited Lead Assessor	Experienced Assessor
Assessment Team Size	At least 2	At least 1
Evidence Collected	Staff interviews and documents required. Other types of corroborative evidence can also be used.	One type of non corroborative evidence is required.
Maturity Rating Generated	Yes	No

- **Informal Assessment** is utilized purely for quick check assessments to gain a rough understanding of an organizational area's maturity level.
- With **Formal Assessment**, a verifiable benchmark rating of the organization against TMMi is produced. Areas of strength and weakness identified in fine detail, and full gap analysis presented.

THE PATH TO MATURITY LEVELS



CMMI

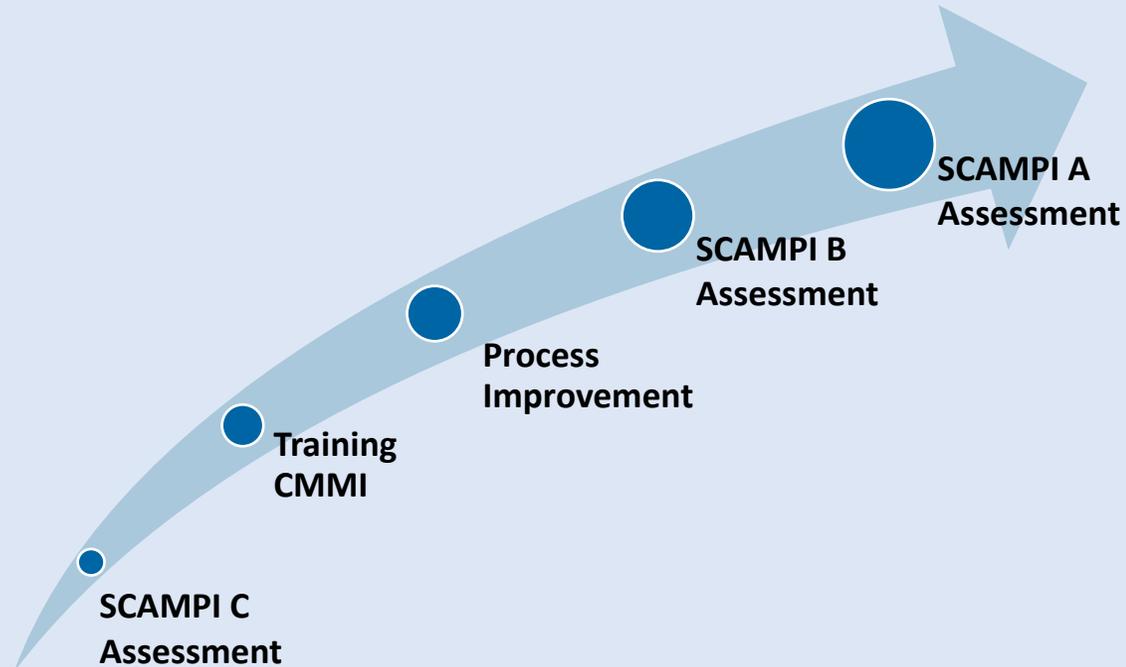
Organization who would like to formally benchmark its quality processes and improvements, at the same time be recognized as a process-matured organization by the respective industry and stakeholders, may consider to take maturity level assessment.



TMMi
Test Maturity Model Integration

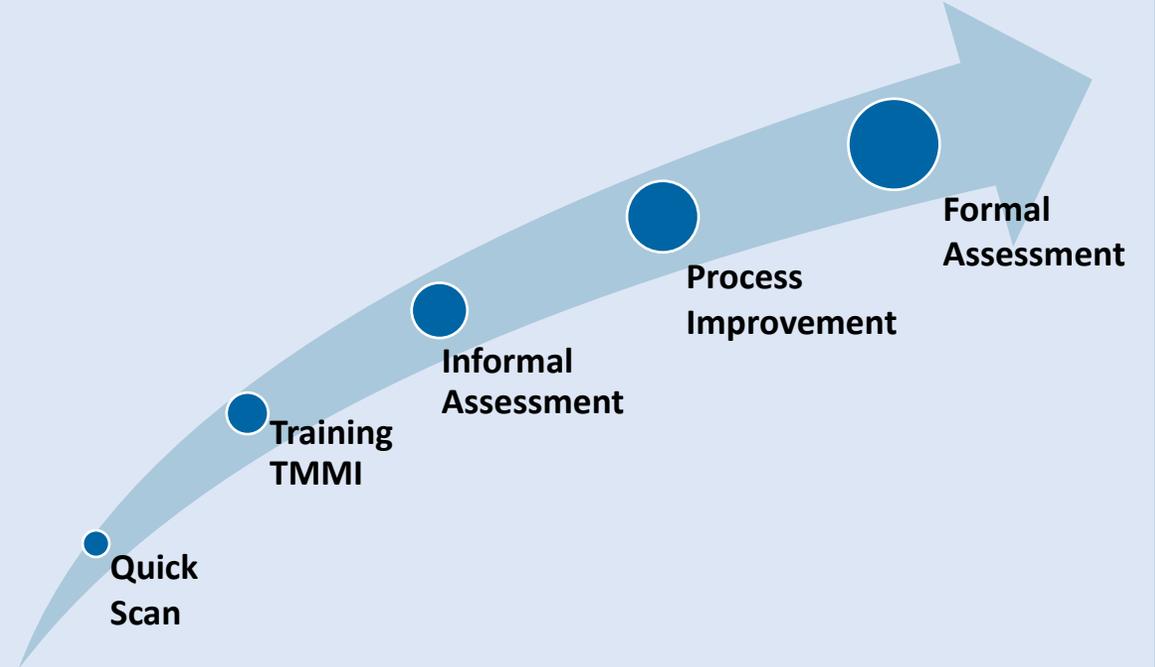
- A SCAMPI A is the only appraisal method that provides CMMI maturity level or Capability Level ratings.

Maturity Level Rating



- TMMi formal assessment performed using an accredited method leads an organization to the official Maturity Level Rating.

Maturity Level Rating



APPRAISAL / ASSESSMENT STAGES



Both SCAMPI and TAMAR have their own appraisal/assessment process and requirement which are documented in the SCAMPI handbook and TAMAR documentation. On high level overview, appraisal/assessment stages are described as follow.

SCAMPI Appraisal Stages



TMMi Assessment Stages



THE COMPONENT RATINGS

Decisions made on the basis of maturity level ratings are only valid if the ratings are based on known criteria. Ratings are generated based on the set of validated appraisal data. At a minimum, ratings are generated for each of the process area goals within the appraisal reference model scope.



CMMI



TMMi

Test Maturity Model Integration

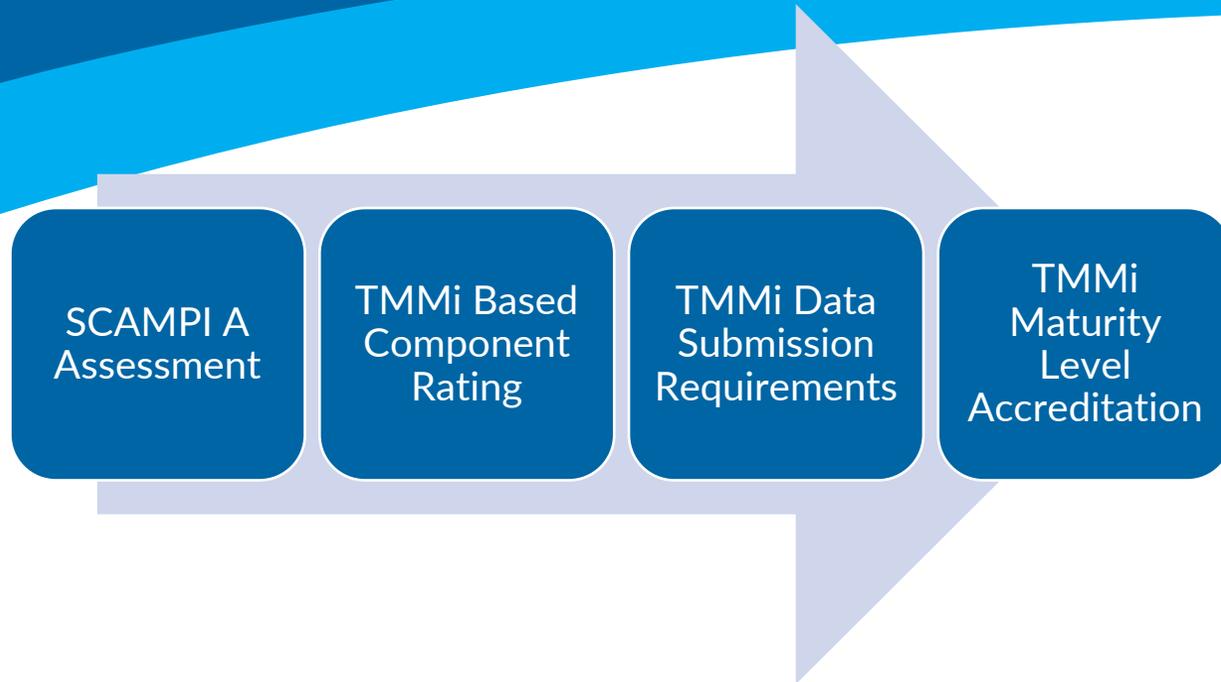
Standard CMMI Appraisal Method for Process Improvement (SCAMPI)

- **Fully Implemented (FI).** Sufficient artifacts and/or affirmations are present and judged to be adequate to demonstrate practice implementation, and no weaknesses are noted.
- **Largely Implemented (LI).** Sufficient artifacts and/or affirmations are present and judged to be adequate to demonstrate practice implementation, and one or more weaknesses are noted.
- **Partially Implemented (PI).** Some or all data required are absent or judged to be inadequate, some data are present to suggest some aspects of the practice are implemented, and one or more weaknesses are noted.
- **Not Implemented (NI).** Some or all data required are absent or judged to be inadequate, data supplied does not support the conclusion that the practice is implemented, and one or more weaknesses are noted.
- **Not Yet (NY).** The basic unit or support function has not yet reached the stage in the sequence of work or point in time to have implemented the practice.

TMMi Assessment Method Application Requirements (TAMAR)

- **Fully Achieved (F).** Consistent convincing evidence in relation to a particular process component are found and in compliance with the TMMi.
- **Largely Achieved (L).** Significant evidence in relation to a particular process component are found and in compliance with the TMMi.
- **Partially Achieved (P).** Some evidence in relation to a particular process component are found and in compliance with the TMMi.
- **Not Achieved (N).** Little and no evidence in relation to a particular process component are found and in compliance with the TMMi.
- **Not Applicable (NA).** To be used if a Process Area is not applicable in the context of the Organization and Organization Unit being assessed.
- **Not Rated (NR).** To be used if the process component cannot be rated due to insufficient or inconsistent evidence or falls outside the scope of the assessment.

SCAMPI BASED ASSESMENT FOR TMMi



- The TMMi Foundation has not formally accredited the SCAMPI appraisal method for use on TMMi assessments.
- However, SCAMPI is recognized as a valid method to perform TMMi assessments. The TMMi Foundation will accept assessment results where SCAMPI 1.3 or SCAMPI 1.3b has been used to conduct the TMMi assessment.
- Assessments results where previous versions as SCAMPI have been used will not be accepted.

Formal Assessments

SCAMPI appraisal ratings will be accepted, provided that:

- The appraisal is led by an accredited TMMi Lead Assessor who is also a currently certified SCAMPI Lead appraiser.
- The appraisal is conducted in compliance with SCAMPI Class A appraisal requirements.
- **Note:** TMMi reference model compliance ratings and appraisal findings are expected in the appraisal report

Informal Assessments

SCAMPI appraisal findings from an informal assessment will be recognized, provided that

- The appraisal is led by an accredited TMMi (Lead) Assessor who is also either a currently certified SCAMPI Lead appraiser.
- The appraisal is conducted in compliance with SCAMPI Class B or Class C appraisal requirements.
- **Note:** TMMi reference model compliance appraisal findings are expected in the appraisal report; compliance ratings are not expected.

WHAT TO SUBMIT TO THE TMMi FOUNDATION

- Refer to the DSR document available from the TMMi Foundation for details on what to submit:
 - A completed DSF – an excel form showing details of the assessment undertaken
 - To be completed for all formal and informal assessments
 - An assessment closure document to provide more details on the assessment completed – details available in the TMMi documentation
- The TMMi Foundation will:
 - Review the submission and for formal assessments will issue the appropriate certificate for onward transmission to the client, along with appropriate logos for the client to use
 - Arrange for the TMMi Foundation website to be updated for formal assessments
 - Promote the formal assessment via social media

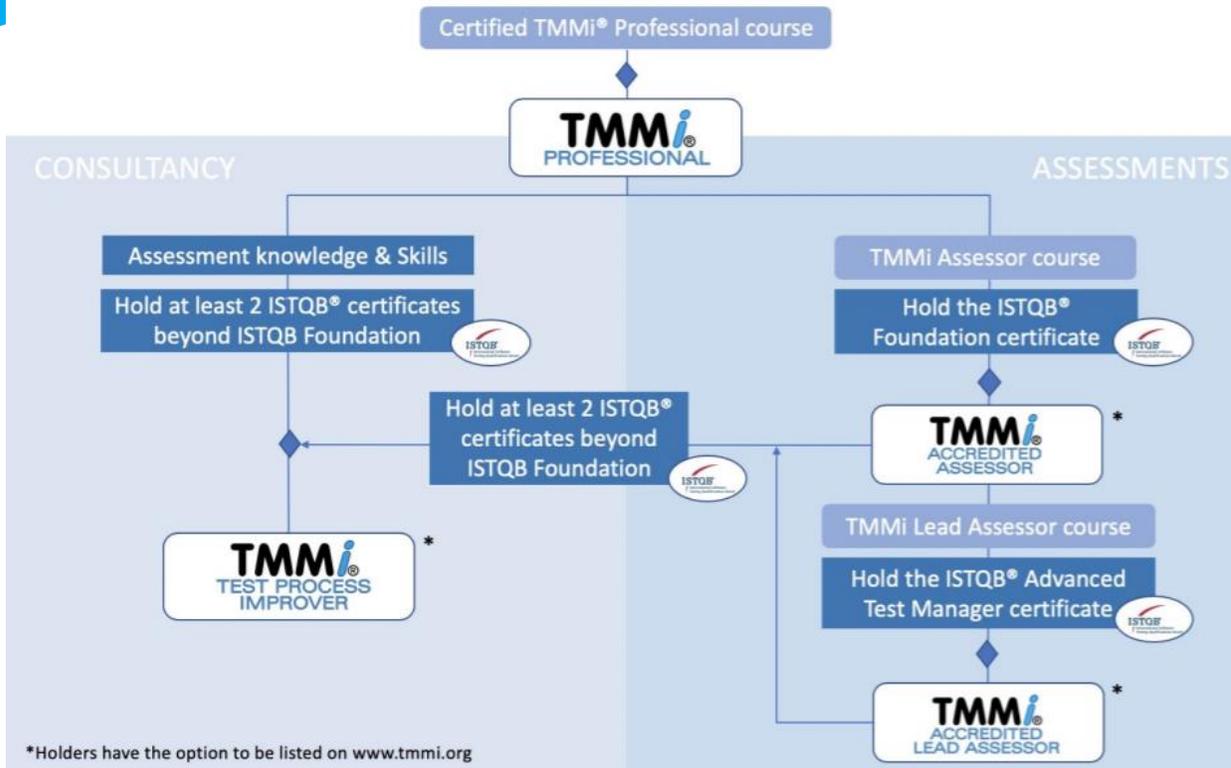
TMMi DATA SUBMISSION REQUIREMENTS

Data	Formal Assessments	Informal Assessments
Assessment date	Required	Required
Service provider	Required	Required
Method & version	Required	Required
Assessment type	Required	Required
Organisation (and Unit(s))	Required	Required
Industry	Required	Required
Location	Required	Required
Sponsor	Required	Required
Additional information on organisation	Optional	Optional
Team leader	Required	Required
Team members	Required	Required
Scope	Required	Required
Organisational scope	Required	Optional
Effort	Required	Required
Evidence	Required	Required
Results	Formal Ratings	Findings Summary
Certification requirement	Optional	Not applicable

- The TMMi Foundation will only accept appraisal results, including participation records for formal and informal assessment in a very specific format.
- Data submission using the current published version of the TMMi Assessment **Data Submission Form (DSF)** is required both informal and formal assessments.
- The **TMMi Data Submission Requirements (DSR)** document provides specific requirements for the submission of assessment results data and assessor activity data to the TMMi Foundation.
- Assessment teams are required to maintain data on assessment activities, performance evaluations etc. as part of the ongoing record to attain/retain accreditation status.
- Assessment teams are required to notify the TMMi Foundation of proposed formal assessments and submit data for Formal Assessments to the TMMi Foundation.
- The DSR document can be found here - <https://www.tmmi.org/tm6/wp-content/uploads/2020/10/TMMi-Data-Submission-Requirements-R1.1-1.pdf>

FROM SCAMPI LEAD APPRAISER TO TMMi LEAD ASSESSOR

TMMi FOUNDATION Career Path



- SCAMPI Lead Appraisers (CMMI Institute certified and part qualified) may apply for TMMi Lead Assessor or TMMi Assessor accreditation provided that the following criteria are met. Evidence of the relevant certification is required when completing an accreditation application.
- Re-accreditation of TMMi accredited SCAMPI Appraisers shall be in accordance with the requirements in section 3 TMMi Assessor Accreditation Rules & Criteria, on the provision that the applicant retains SCAMPI Lead Appraiser Certification in lieu of the relevant TMMi assessor training requirements

TMMi Lead Assessor

- SCAMPI Lead Appraiser Certified
- ISTQB Advanced (Test Manager) certified (or equivalent certification)
- TMMi Professional Certified
- **Note:** CMMI Institute SCAMPI Lead Appraiser certification requires participation in SCAMPI CMMI appraisals prior to completing certification

TMMi Assessor

- Completion of the SCAMPI Lead Appraiser course
- Certification Examination ISTQB Foundation Level certified (or equivalent certification)
- TMMi Professional Certified

TMMi DOCUMENTS AVAILABLE

TMMi Model

- TMMi Reference model – the main framework that is followed in assessments
- TMMi in the Agile world

Assessments

- TMMi Assessment Method Application Requirements (TAMAR)
- Data Submission Requirements (DSR)

Assessors

- TMMi Career Path Flow
- TMMi Assessor Accreditation Criteria
- TMMi Assessor Application Form

TMMi Training

- TMMi Professional Syllabus
- TMMi Assessor Training Syllabus
- TMMi Career Path Brochure
- Sample exams etc..

General

- Newsletter
- TMMi Fees

All the above documents can be downloaded for free from <http://tmimi.org>.

To receive latest information and newsletters from the TMMi foundation, please register for a free TMMi membership at <https://www.tmmi.org/profile/>.

TMMi REFERENCE MODEL

- Main document to use in assessing organizations – you will get to know this well!
- Assessors need to understand the structure of the document and how to use it
- There are a lot of words that need to be interpreted in assessments
- <https://tmmi.org/tm6/wp-content/uploads/2018/11/TMMi-Framework-R1-2.pdf>



www.tmmfoundation.org

Test Maturity Model integration (TMMi®)

Guidelines for Test Process Improvement

Release 1.2

Produced by the TMMi Foundation

Editor: Erik van Veenendaal

Copyright Notice
Unlimited distribution subject to Copyright
Copyright © TMMi Foundation, Ireland.

TMMi Framework R1.2

Page 1 of 226

TMMi IN THE AGILE WORLD

TMMi®
FOUNDATION

www.TMMi.org

- Explains how TMMi fits in with Agile projects.
- Covers how TMMi can help Agile organisations increase their levels of agility.
- To be used as complimentary to the main TMMi framework.
- <https://www.tmmi.org/tm6/wp-content/uploads/2020/01/TMMi-in-the-Agile-world-V1.4.pdf>

TMMi in the Agile world

Version 1.4

Produced by the TMMi Foundation

Editor: Erik van Veenendaal

Copyright Notice
Unlimited distribution subject to Copyright
Copyright © TMMi Foundation, Ireland.

TMMi in the Agile world V1.4

Page 1 of 45

TAMAR

- Short for “TMMi Assessment Method Application Requirements”
- To be used in conjunction with the TMMi Framework and DSR (Data Submission Requirements)
- Explains activities, responsibilities, data management, scoring, requirements for creating an assessment method and outputs.
- Accreditation of an assessment method is based against this document
- Does not tell you how to do it – but what to do!
- https://tmmi.org/tm6/wp-content/uploads/2016/09/TMMi.TAMAR_.pdf

TMMi Assessment Method Application Requirements (TAMAR)

Release 1.0

Produced by the TMMi Foundation

Editors: Andrew Goslin & Brian Wells

Copyright Notice
Unlimited distribution subject to Copyright
Copyright © TMMi Foundation, Ireland.

DSR – DATA SUBMISSION REQUIREMENTS



www.tmmi.org

- Details requirements for submission of assessment results.
- Lead assessor/assessor activity to be recorded for renewals.
- Performance of assessor by lead assessor.
- Used by the Foundation to ratify results and agree certification.
- <https://www.tmmi.org/tm6/wp-content/uploads/2020/10/TMMi-Data-Submission-Requirements-R1.1-1.pdf>

TMMi **Data Submission Requirements** **(DSR)**

Release 1.1

Produced by the TMMi Foundation

Editors: Clive Bates / Erik van Veenendaal

Copyright Notice
Unlimited distribution subject to Copyright
Copyright © TMMi Foundation, UK.

TMMi Data Submission Requirements R1.1
©2020 TMMi Foundation

Release 1.1

Page 1 of 14

ACCESSOR ACCREDITATION CRITERIA

- Defines requirements to be an assessor and lead assessor (to be covered).
- How to apply for assessor and lead assessor status.
- Training requirements.
- Appeals process.
- Application form is available and needs to be fully completed.
- Record experience in testing, process improvement, training, qualifications etc.
- <https://www.tmmi.org/tm6/wp-content/uploads/2021/06/TMMi-Assessor-Accreditation-Criteria.v2.8.pdf>

TMMi Assessor Accreditation Criteria

Assessor & Lead Assessor

Version 2.8

Produced by the TMMi Foundation

Editors: Clive Bates, Erik van Veenendaal

Copyright Notice
Unlimited distribution subject to Copyright
Copyright © TMMi Foundation, United Kingdom.

TMMi Assessor Accreditation Criteria v2.8
©2021 TMMi Foundation

Version 2.8

Page 1 of 15

FEES

- Simple document showing fees due for method and assessor accreditation
- Sponsorship fees
- <https://www.tmmi.org/tm6/wp-content/uploads/2021/06/TMMi-Foundation-Fees-2021-v1.5.pdf>



	2021
Assessment Method Accreditation This fee covers: <ul style="list-style-type: none"> • Time and effort for your assessment method to be reviewed up to 2 times. Registration as an Accredited Service Provider for 3 years. • Your details put on the TMMi Foundation web site for publicity purposes Note: <i>If not successful after 2 attempts, 50% of the fee is payable for each additional assessment.</i>	€ 5,400.00
Service Provider Accreditation You will need to have an accredited (or recognized) assessment method, either your own (see fees above), licensed from the Foundation (see TAM on our web site) or from others. Select from: <ul style="list-style-type: none"> • Accreditation Fee – renewed annually • Accreditation Fee – renewed every 3 years This fee covers: <ul style="list-style-type: none"> • Display as an Accredited Service Provider on our web site • Use of the approved TMMi Logos Note: <i>Where a Service Provider applies for an Assessment Method to be re-accredited, the Service Provider Accreditation will be extended for 3 years from the date the Assessment Method is (re-) accredited.</i>	€ 820.00 € 1,640.00
Accredited Lead Assessor Subscription (renewed every three years) This fee covers: <ul style="list-style-type: none"> • Display as an Accredited Lead Assessor on our web site • Use of the approved TMMi Logos 	€ 635.00
Accredited Assessor Subscription (renewed every three years) This fee covers: <ul style="list-style-type: none"> • Display as an Accredited Assessor on our web site • Use of the approved TMMi Logos 	€ 280.00
TMMi Professional Training Provider recognition (renewed every three years) This fee covers: <ul style="list-style-type: none"> • Display as an Recognized TMMi Professional Training Provider on our web site • Use of the approved TMMi Logos 	€ 820.00

REFERENCES

- TMMi Assessment Method Application Requirements - https://tmmi.org/tm6/wp-content/uploads/2016/09/TMMi.TAMAR_.pdf
- TMMi Data Submission Requirements - <https://www.tmmi.org/tm6/wp-content/uploads/2020/10/TMMi-Data-Submission-Requirements-R1.1-1.pdf>
- TMMi Assessor Accreditation Criteria v2.8 - <https://www.tmmi.org/tm6/wp-content/uploads/2021/06/TMMi-Assessor-Accreditation-Criteria.v2.8.pdf>
- Standard CMMI Appraisal Method for Process Improvement (SCAMPI) A, Version 1.3: Method Definition Document - https://resources.sei.cmu.edu/asset_files/Handbook/2011_002_001_15311.pdf
- Handbook for Conducting Standard CMMI Appraisal Method for Process Improvement (SCAMPI) B and C Appraisals, Version 1.1 - https://resources.sei.cmu.edu/asset_files/Handbook/2005_002_001_14438.pdf

THANK YOU

TMMi[®]
www.tmmi.org