

# Quality Infrastructure Rapid Diagnostic Tool

User Guide



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On behalf of



On behalf of the Federal Government of Germany, the Physikalisch-Technische Bundesanstalt promotes the improvement of the framework conditions for economic, social and environmentally friendly action and thus supports the development of quality infrastructure.



The World Bank Group and PTB have developed a comprehensive and rapid QI diagnostic toolkit. This User Guide provides instructions, advice and tips for project managers and consultants on how to use the Rapid Diagnostic Tool (RDT).

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# 1. Context

The Physikalisch-Technische Bundesanstalt (PTB) has in collaboration with the World Bank Group developed a Rapid Diagnostic Tool (RDT). The RDT is an instrument that helps quality infrastructure (QI) stakeholders and donor institutions assess the supply side of a QI ecosystem in a specific country. The RDT is part of a more extensive Reform Toolkit, which consists of the modules of good practices, the Comprehensive Diagnostic Tool (CDT), ten case studies and the RDT itself. Before using the RDT, it is highly recommended that users familiarize themselves with the Reform Toolkit and the concept behind it.

The RDT itself is based on the CDT and aims to provide its users with quick feedback on the state of QI in a country based on these **four pillars**:

- a) Legal and institutional framework
- b) Governance and infrastructure
- c) Service delivery and technical competence
- d) External relations and recognition

Each of the **ten QI components** in the RDT 2022 version (standards, technical regulations, metrology, legal metrology, accreditation, testing, inspection, and system, product and person certification) is analysed across these four pillars through a (self-)assessment of/by the relevant national QI institutions.

The rapid diagnostic tool consists of a series of qualitative questions, the answers to which are converted into numbers to enable a quantitative presentation of results. The answer to each question is assigned a value and presented on a radar chart.

The original English version of the RDT has been translated into the French, Russian, and Spanish languages.

Since its release in 2019, the RDT has been used in **various projects** implemented by

- **PTB**: Bolivia, Ivory Coast, Ethiopia, Guatemala, Nicaragua, Rwanda, Senegal, Tunisia, the ECOWAS project (Mali, Niger, Burkina Faso, Benin, Guinea, Liberia, Sierra Leone, Togo), Egypt, Ecuador, Zambia, the MEDEA project (Metrology – Enabling Developing Economies in Asia: Bhutan, Cambodia, China, Indonesia, Kiribati, Malaysia, Mongolia, Pakistan, PNG, Philippines, Sri Lanka, Thailand, Vietnam) and the EaP project (Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine);
- **World Bank/IFC**: Vietnam, Jordan, Saudi Arabia, Pakistan, Ghana, Nigeria, Uganda, Somalia, Mozambique, Gabon;
- **Mesopartner** in Antigua and Barbuda, Grenada, Malaysia, Suriname, St. Kitts and Nevis.

Following more than two years of RDT application, a **detailed review by technical experts** seemed appropriate to identify room for improvement across the RDT. The main task was to identify discrepancies with current normative documents and update the RDT to the latest standards by integrating feedback from experts who have tested the tool. In QI, like in any sector or technical field, incremental change is something that happens continuously. Keeping up with these changes requires observation and monitoring so that the RDT can be regularly adapted as needed. However, the Covid-19 pandemic brought about a radical change in various respects. In QI, for instance, the readiness, acceptance, and technical capacity for remote assessment or remote reassessment in accreditation and certification made tremendous progress. The digitalization of QI progressed at an accelerated pace in all technical QI areas, a development that also needed to be captured in the RDT.

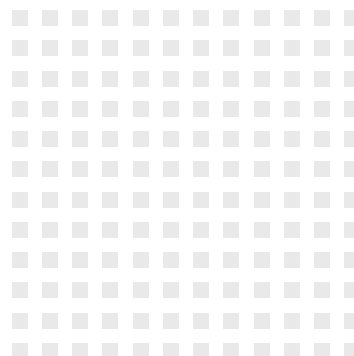
Similarly, risk assessment and risk reduction for QI services changed due to the pandemic, e.g., for legal metrology or market surveillance. However, the risk-based approach in accreditation had been introduced earlier as a critical issue in the 2017 version of ISO/IEC 17011, and it still needs to be integrated into the RDT. To this end, a question and scoring is to be added on whether a national accreditation body (NAB) applies a risk-based approach in its operations.

Against this background, the RDT was evaluated in late 2021 by QI experts<sup>1</sup>, who discussed and integrated suggestions for improvement. Moreover, the RDT's QI coverage was extended with the addition of another conformity assessment activity, the *Person Certification*. Further extensions may be added in the future. Based on these discussions, the RDT was updated and a revised version released in the summer of 2022.

Additionally, it was deemed necessary and helpful to create a **guide on how to use the RDT**. This guide is aimed at **consultants and project coordinators** who work with the tool and is a valuable companion in all stages of RDT application.

The **explanations and instructions** in this guide are designed to help users:

- prevent assessments from differing too strongly depending on the viewpoint of individual experts;
- clarify how many institutions with distinctive perspectives to involve and specifically identify the individuals to survey and interview for the RDT;
- understand how to use the questionnaire comment fields to add qualitative information that will facilitate the interpretation of the assessment and make it more understandable;
- learn about other instruments that could complement their work with the RDT. It is essential to provide information on options for analysing the demand side of QI services in detail, e.g., through Calidena or a user survey (see section 3.2).



<sup>1</sup> Susanne Wendt, Carlos Rupp-Binde, Haygas Kalustian, Mauro Rivadeneira, Nathalie Noah, Ramón Madriñán Rivera, Stephen Cross and Rózsa Ring.

## 2. RDT Concept and Objectives

The RDT is designed to provide a rough and high-level snapshot of the state of an economy's QI and to point out potentials for further development. The questions posed by the RDT cover a number of relevant elements for each QI component and there is a series of questions that need to be answered for each component. A few of these elements will be for information only, but most will be scored on how well they meet the **stated benchmark: good international practice**. The quantitative analysis is coarse, and the aggregate scores should not be considered absolutes. They merely provide a quick reference to the QI's current state and its potential future development.

So far, the only official version of the RDT is in English. However, the translated versions (French, Russian and Spanish) will be rechecked and officially approved before being made available on the corresponding websites.

More information about the Quality Infrastructure Toolkit can be found here: <https://www.ptb.de/cms/en/ptb/fachabteilungen/abt9/gruppe-93/qi-toolkit.html>

### 2.1. RDT as an assessment or self-assessment tool

The RDT was initially designed to be completed by consultants, using the various component-specific questions as a checklist during interviews and capturing the interview results in a structured way. It was not originally intended as a **self-assessment tool** for QI institutions, though it did later become one. The more comprehensive Reform Toolkit document (Kellermann, 2019) says: "An expert should be able to gather information for the Rapid Diagnostic Tool within a week or two on-site, provided that he or she has the full support of knowledgeable local persons. The expert would also be able to use these results to categorise the QI ecosystem as rudimentary, basic, advanced, or mature, which requires a qualitative evaluation of all the results based primarily on their experience and knowledge."

In line with this quotation, the RDT was meant to provide the right set of questions for a knowledgeable QI consultant who is conducting an **interview-based survey onsite** in a country to get a quick overview of the status of a country's QI system and provide advice on whether a deeper assessment is required or if an initiative to upgrade the QI system should be started.

The principal author of the RDT, Martin Kellermann, says: "The RDT is a tool that can be used by somebody that is reasonably clued up on Quality Infrastructure. Behind the RDT sits a much more comprehensive methodology to evaluate the same in a much more detailed manner. This was developed at the same time as the RDT. The PTB and the World Bank's work consisted of three pillars: the book, the RDT and the comprehensive evaluation methodology. Whether any experts ever used the comprehensive methodology, I don't know; the RDT is deceptively easy to use, and in our current world of instant gratification, probably the only one that will be used extensively." M. Kellermann, 2021

The experience of RDT application over the past two years has shown that self-assessment might not be the preferred way. Instead, a consultant-led assessment usually results in more accurate, complete, and elaborate outcomes.

### 2.2. The RDT assessment process

An **RDT assessment process** can be roughly structured into three phases: preparation, conducting and documentation. Section 3 will describe each phase in more detail.



Figure 1: Simplified RDT assessment process



A typical sequence of RDT application is as follows:

- **Preparation:** Design the assessment approach (work planning, identification of risks, identification of necessary resources, etc.), collect data for selecting relevant QI institutions as respondents, identify resource persons within those institutions to contact directly with a request to fill in the questionnaires or to schedule interviews, brief respondents (ideally in one session with all respondents).
- **Conducting:** Set deadlines or issue invitations to participate in scheduled interviews, send reminders, if needed, receive completed questionnaires, conduct feedback sessions or follow-up interviews.
- **Documentation:** Interpret results, report and use findings, e.g., for a QI country assessment, make decisions on a new QI project or regional benchmarking.

### 2.3. Using RDT in conjunction with other QI tools

The RDT and the more detailed Comprehensible Diagnostic Tool (CDT) are valuable for analysing a nation's quality infrastructure. The RDT analyses the components of the QI system in an aggregated form. In addition, the tools described below can be used to supplement a comprehensive assessment.

While the RDT focuses on analysing the QI supply side, assessing the demand side for QI services requires additional tools. The Reform Toolkit (Kellermann, 2019) recommends initially preparing a generic needs assessment looking at industrial development in priority sectors, future export potential, the technical regulation regime, and the application of legal metrology. This could be followed by a rapid demand assessment or a more comprehensive demand assessment based on the key QI elements (standards, metrology, accreditation and conformity assessment).

**QI user survey:** A suitable instrument for rapid demand assessment is a QI user survey of companies asking about their knowledge, use and quality of QI services. This survey should cover a representative sample of companies in a country and include enterprises that already use QI services and enterprises unfamiliar with such services.

**Calidena** is a comprehensive demand assessment tool for studying the QI needs of specific economic sectors and value chains. The Calidena method is an example of a participatory approach to identifying quality service requirements for a selected product along its value chain. The methodology aims to boost quality awareness among SMEs and motivate them to make increasing use of QI services. The Calidena process concludes with an action plan designed to promote sector-related activities for further QI development (see <https://www.calidena.ptb.de>).

**QI rankings and benchmarking:** The RDT is based on the assessment of expert respondents. Comparing RDT findings with official QI statistics makes it possible to avoid subjective biases. The **Global Quality Infrastructure Index (GQII)** compiles several curated data sets on metrology, standardization and accreditation that are regularly published by leading national QI organisations.

The GQII curates data from 184 economies worldwide to globally compare national QI systems with one another. The GQII's correlation with other economic variables (e.g., GDP, exports or economic complexity) can also be analysed (see <https://gqii.org>).

A similar approach is taken by the QI4SD Index, first published by UNIDO in June 2022 (<https://hub.unido.org/qi4sd>). The QI4SD includes data from 137 countries and relates the QI data to the Sustainable Development Goals (SDGs).

For Africa, the regional organisation of Pan-African Quality Infrastructure (PAQI) produced a so-called stocktaking instrument (**PAQI stocktaking**) for the development of QI in 55 African countries in 2014, 2017 and 2020. Using the traffic light colours (green, yellow, and red), the document illustrates the development status of QI in the countries in general and of the different QI components over extended periods. The strengths of this approach are the validation of the information by representatives of the regional organisations for metrology, standardization and accreditation, and the presentation of development over time (PAQI 2020).

All these methods and others can be valuable complements to the application of the RDT when analysing a national QI system. Together, the tools help to validate and, where needed, strengthen the credibility of the RDT assessment.



## 3. Preparing an RDT Assessment

During the preparation phase, resources are assembled, a timeline drafted, and the respondents selected and briefed. It is crucial to carry out all preparatory steps in close coordination with the leading counterpart in the national QI system.

### 3.1. Selection of RDT respondents

The selection of RDT respondents includes deciding which and how many QI institutions to involve in the assessment.

Regarding the three fundamental QI institutions, it usually suffices when the respective primary national body completes the questionnaire:

- The National Standards Body (NSB)<sup>2</sup>
- The National Accreditation Body (NAB)<sup>3</sup>
- The National Metrology Institute (NMI)

However, if the NSB or the NMI have designated other institutes for specific technical areas or tasks, those designated institutes could also be involved to contribute their views.

For conformity assessment bodies (CABs), one leading CAB could answer the system-related questions above the yellow line<sup>4</sup>. Regarding the answers to the questions below the yellow line, individual CABs are likely to dif-

fer. Based on recent years' experience, it is recommended to choose between three and six CABs in each conformity assessment area to complete the questionnaire. For testing, at least two medical labs should be involved. All participating CABs should play a key role in their specific technical area and hold considerable market shares.

The situation with regulators is different again. A typical country has twenty or more ministries and authorities capable of issuing technical regulations. Here it is advisable to choose five to ten regulators that play a role in the given technical area. The QI assessment is particularly focused on trade, environment, health, or consumer protection. It is also recommended to look at the list of WTO notifications of the last five years and choose those regulators with a frequent number of notifications.

### 3.2. Briefing options (meeting with respondents, video production)

After agreement has been reached on what QI components to focus on and what QI institutions to select as respondents, some sort of briefing is advisable. The objective of the briefing is to inform representatives of the selected QI institutions about the concept, purpose, and mechanics of the RDT. An initial briefing will enormously facilitate the completion of the questionnaires.

The briefing can be **synchronous** with an official onsite meeting or an online webinar with representatives of the institutions requested to complete the RDT questionnaires.

However, the briefing can also be **asynchronously** delivered by on-demand audio or video recording. Annex 3 shows the generic script for a video briefing. It can be modified to suit the specific requirements of a particular project or RDT application.

<sup>2</sup> In most countries there is only one NSB, which can be found in the list of ISO members, <https://www.iso.org/members.html>. In countries such as the USA or Mexico, however, the NSBs only have a coordinating function, whereas the standards themselves are developed by Standard Development Organisations (SDOs). The SDOs are important sources of information for the standards section of the RDT.

<sup>3</sup> In Europe, the principle of one accreditation body per country applies. This principle is also followed by countries in other regions of the world. However, a number of countries have several accreditation bodies, such as South Korea or Mexico. In principle, it makes sense to consult all internationally recognised accreditation bodies within the framework of the RDT. Information on this can be found on the IAF and ILAC websites.

<sup>4</sup> The questions above the yellow line relate to the system of a specific conformity assessment area, the ones below to an individual laboratory.

### 3.3. Important messages for the briefing

It is essential to convey a few **critical messages**, described below, during the briefing.

#### Level of effort per participating QI institution

Adequate representatives must be designated, and their availability and involvement must be assured. Adequate representatives of a QI institution or a regulator requested to complete the RDT questionnaire must be high-level managers with both profound technical knowledge as well as insights into the strategic orientation of the institution and its regulatory and legal environment. If an individual representative of a QI institution is knowledgeable on all relevant questions, it might take them only 30 minutes or less to complete the RDT questionnaire of one QI component. Alternatively, a group consisting of management, technical personnel and the strategy department in each QI institution might meet for two or three hours to discuss and complete the questionnaire.

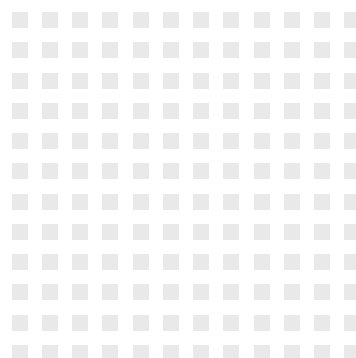
#### Confidentiality and sensitivity

The information being requested is already publicly available in one way or another, and it reflects an abstract or aggregated assessment of the state of development. It does not include detailed or private information. In other words, the requested information is usually not sensitive or secret.

#### Use of output

The output of the RDT provides insights into the state of development of a national QI (NQI) system and how well an economy's institutions satisfy good international practices. It might also give an indication as to whether a comprehensive diagnostic or a more in-depth analysis should be conducted for a given economy in the future. The output of the RDT will also guide the further development of the NQI. It might be used to start negotiations with donor agencies on investing in the development of the NQI and its components. NQI institutions can also use it to track their development over time. **Typical uses of this data** include (to name a few examples):

- monitoring and assessing the impact of QI interventions and adjusting and improving the project interventions;
- using aggregated data for reporting to the donor agencies, a useful impact indicator of a QI project;
- preparing or implementing bilateral or regional QI projects to support the continuous development of a QI ecosystem;
- preparing an NQI inventory as a baseline, and input into the design process of a National Quality Policy (NQP);
- deciding on funding for developing economies provided for their participation in project activities.



# 4. Conducting an RDT Assessment

Conducting an RDT assessment means sending out the questionnaires to the selected and briefed respondents (or visiting the respondents for assessment interviews), collecting and reviewing the completed questionnaires, identifying gaps and inconsistencies and scheduling interviews to close these gaps. RDT implementation also means consolidating the results of different respondents for a particular QI component. It needs to be pointed out that the main work when applying the RDT is not simply completing the Excel sheets but interpreting, contextualising, and verifying the results, and then providing recommendations based on that assessment. This implies further that the critical outcome of the RDT application is not the Excel file but rather the assessment report.

## 4.1. Different application procedures

Different **ways of conducting an RDT assessment** have been observed to date. When looking at the various options, one significant distinction is made between self-assessment and consultant-led assessment.

In **IFC/World Bank projects**, the questionnaires are first sent out to selected QI institutions in each country with a brief explanation and the request to complete the questionnaires. After the return of the questionnaires, their completeness and consistency are assessed. This might be followed up by interviews if needed. The process of sending out and re-collecting the questionnaires can easily last six to eight weeks, depending on the responsiveness of the QI institutions.

**PTB projects** report a similar experience, with a stronger emphasis on the prior briefing of respondents but slightly less on follow-up interviews.

Sending out the RDT worksheets<sup>5</sup> as a **self-assessment** questionnaire has various consequences:

- Before filling in the questionnaires, a **briefing** with respondents is required to explain how to complete the questionnaires and clarify vague terms or complex concepts (see section 3).
- The return of the questionnaires might be slow and require **various reminders**.
- The questionnaires might be **incomplete** as some respondents might consider it a complicated or even sensitive matter to answer all of the questions.
- **Interviews** (in-country/virtual) with responding organisations might still be necessary because of incompleteness and to verify answers. During the interviews, assessment scores might be changed again based on the explanations/justifications provided by the QI institutions.

During **consultant-led assessment interviews**, an expert consultant can explain and, if necessary, use simpler words for sophisticated concepts or ambiguous and vague terms found in the RDT questions. Also, a consultant entering the scores (0 to 4) into the assessment sheets would consider the responses of interviewees and add their own expert assessment and interpretation of those responses. This would lead to a more objective assessment than an unfiltered self-assessment and should be considered a good practice communicated by this guide.

In either case, the (optional) **comment column** in the RDT worksheet of each QI component is where justifications and explanations of why respondents answer as they do can be entered. In the past, however, the comment column mostly remained blank. This is why the latest RDT versions more strongly encourage respondents to fill in this column to provide additional helpful information. Before distributing the questionnaires, this encouragement must be emphasised during the briefing

<sup>5</sup> [https://www.ptb.de/cms/fileadmin/internet/fachabteilungen/abteilung\\_9/9.3\\_internationale\\_zusammenarbeit/docs/QI\\_Toolkit/Rapid\\_Diagnostic\\_Tool\\_Template.xlsx](https://www.ptb.de/cms/fileadmin/internet/fachabteilungen/abteilung_9/9.3_internationale_zusammenarbeit/docs/QI_Toolkit/Rapid_Diagnostic_Tool_Template.xlsx)

with all respondents. In addition, the column header was made more specific, asking “What is your score based on? Please provide information and links”.

In the PTB project context, applications could be observed where only certain QI domains were investigated, such as Metrology and Legal Metrology. This happened, for instance, in a regional context, where different countries were compared against a benchmark. In this case, initial briefings occurred, but no validating interviews.

## 4.2. Follow-up interviews with respondents

As mentioned above, under specific circumstances, conducting interviews with QI institutions after they have submitted their RDT questionnaires might be helpful and sometimes even necessary. These **circumstances** might include:

- filling in gaps where answers were not provided the first time around;
- clarifying inconsistencies if answers in different sections of a questionnaire contradict one another;
- collecting justifications or explanations if the comment column remained mostly blank;
- asking for assistance in jointly interpreting the RDT findings of a specific QI component or the NQI overall;
- building a rapport with leading QI institutions, especially in the build-up of a new NQI initiative or NQP design.

Often, more than one of the above circumstances and motivations for interviews may apply. The follow-up interviews could take place on-site, if possible, or virtually. The RDT consultant and project colleagues should jointly conduct interviews with QI institutions.

## 4.3. Consolidating results of different respondents

To analyse and present the RDT results of different QI institutions assessing the same QI area, e.g., Testing, one can consider the following questions:

- How similar or diverse are the results?
- What questions in the RDT questionnaire are concerned: those above or below the yellow line in the Conformity Assessment sheets?

If most of the answers are similar (perhaps with a few outliers), one can easily calculate an average result and present this in the analysis report. One should, however, clarify the outliers through a follow-up exchange with the respective QI institutions. Outliers may be mistakes, or they may reveal fascinating insights into the differences between QI institutions, their perception of the QI system, and their position there. In any case, one should also describe the outliers in the analysis, even after calculating an average.

If the answers to questions above the yellow line differ, the QI institutions likely have a different understanding of the QI system. In this case, it might make sense to call for a focus group discussion with these QI institutions and the QI leading agency to discuss the issue and align their understanding.

On the other hand, dissimilar answers to questions below the yellow line suggest that the specific situations vary at different QI institutions in the same technical field, such as Testing. Here again, one could calculate an average but add a detailed (verbal) analysis of the country’s heterogeneous conditions in the testing sector (or any other sector concerned). One could also conduct follow-up interviews with a few selected QI institutions that most strongly deviate from the mainstream to understand their situation and then describe it in the RDT report.

However, it is also possible that an average will not reflect the high level of disparity in a particular situation. Typically, such a situation is characterised by strong deviations, ranging up to 1.5 on specific questions. Presenting a diagram that is not representative of the level of development for the particular area seems questionable. To give a simple example from the Testing questionnaire and the question concerning a board of directors:

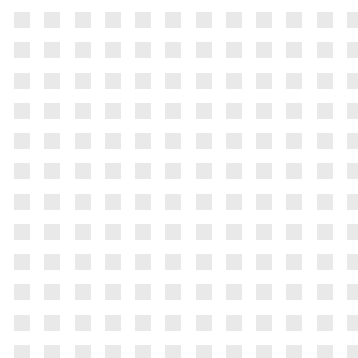
- 1/3 of the institutions lack such a board.
- 1/3 have a board that is entirely dependent on the decisions of the supervising ministry.
- 1/3 have one that makes decisions independently.

Taking an average of these three answers does not make sense and is not advisable. Calculating averages is not sensible in cases not characterised by a mainstream trend with a few outliers but rather by a generally diverse situation.

In such a situation, a sector-based approach could be tried, i.e., examining inspection institutions active, for example, in the agri-food, chemicals or textiles sector to look for homogeneity among the answers of different respondents in the same industry.

If this does not show consistent results, one should consider not presenting one diagram with averaged numbers but instead elaborating on the range of answers received. This can be done by introducing two charts: one presenting all the answers with the highest scores and one presenting all the answers with the lowest scores to show the difference between the two in which all of these institutions navigate. Showing the extremes as diagram borders is also an option, with the space between them filled by all the other scores.

To sum up, there is no strict rule on consolidating the results of different respondents in the same QI area. What is essential, though, is to use common sense and be creative. If two diagrams support the argumentation, two or more should be used. It is possible to have one web diagram background in which the results of all respondents in each technical area (e.g., Testing) are displayed to visualise the diversity and avoid losing important information by averaging the results.



## 5. Documenting an RDT Assessment

The documentation of the RDT results starts with the **interpretation and analysis** of those results. The RDT diagnostic results can then be documented and shared in **PowerPoint** presentations or included in more comprehensive **QI assessment reports**.

The **spider diagrams** – generated automatically by the RDT Excel sheets – are suitable for an overview presentation of each QI component. However, the RDT consultant should interpret the individual scores based on the questions answered. The RDT assessment results should help QI stakeholders identify activities to strengthen the QI system.

For a more comprehensive QI assessment report, the consultant should contextualise the RDT results with complementary information (see section 3.2). For each QI component, the respective spider diagram provides an informational overview. For example, the four pillars structure the detailed analysis, which starts with the (a) legal and institutional framework, followed by (b) governance and infrastructure, (c) service delivery and technical competence, and (d) external relations and recognition. The consultant can also pick specific answers and refer to the information sources or to the notes entered in the respective Excel sheet.

If the assessment report and results are to be published, they should be agreed upon with the counterparts beforehand. Before publication, it is advisable to share the draft texts with selected national QI resource persons to validate or correct the consultants' interpretations. For different reasons, an assessment might also be realized without intending to publish the result. The question of whether or not to publish should be part of the briefing with the counterpart.

Staff from IFC/WB, for example, translate the RDT results into a comprehensive RDT report with a deep analysis of the QI supply side in each country, which often constitutes the basis for starting a new QI project or a project with a QI component supported either by IFC or the World Bank. Annex 2 shows the **structure of a typical RDT results/analysis report** produced by the World Bank. The PTB website <sup>6</sup> offers other examples of RDT reports, e.g., for Rwanda and Ethiopia.

For **piloting** the freshly revised RDT and to support the **further development** of the RDT in the future, it helps if users provide **feedback** on their experience to PTB and the World Bank, ideally in a digital format. For this, a **dedicated e-mail address** has been created and placed on the first RDT worksheet as a mechanism for collecting real-time feedback.

<sup>6</sup> <https://www.ptb.de/cms/en/ptb/fachabteilungen/abt9/gruppe-93/qi-toolkit.html>

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# Annex 1: Glossary

**Accreditation:** Accreditation in the QI context is the formal attestation or statement by an independent third party (the accreditation body) that a conformity assessment body is competent to carry out a specific conformity assessment task.

**Calibration:** The determination, by comparison with a measurement standard, of the correct value of a reading on a measuring instrument.

**Certification:** Third-party attestation that products, services, processes, management systems and persons conform to established standards.

**Code of Good Practice:** The Code of Good Practice, Annex 3 of the WTO TBT Agreement, provides disciplines, including those related to transparency, for the preparation, adoption, and application of standards by standardizing bodies. The Code's acceptance is voluntary and open to any standardising body, whether central government, local government, or non-governmental and regional standardizing bodies.

**Competitiveness:** A country's ability to sell goods and services (under free and fair conditions) in markets while maintaining and expanding the real incomes of its people over the long term.

**Compulsory Standard:** A declared national standard, which the ministry in charge of standardization has accorded compulsory status in accordance with the national Standards Act. A compulsory standard has the force of law. A compulsory standard falls under the Technical Regulation of the WTO TBT Agreement and must comply with the accords included in said agreement.

**Conformity Assessment:** Demonstration that specified requirements relating to a product, service, process, person, or body are fulfilled; typically conducted through quality assessment services such as inspection (desk and field reviews, physical examination, and performance analysis), laboratory testing and certification.

**Consumer Protection:** Protection of the safety and interests of buyers of goods and services against low-quality or dangerous products that are not fit for their end use and advertisements that deceive people.

**Demand-oriented:** A customer-driven good or service.

**Enquiry Point:** A focal point, established under the WTO Agreement on Technical Barriers to Trade, where other WTO Members can request and obtain information and documentation on a member's technical regulations, standards, and conformity assessment procedures, whether impending or adopted, as well as on participation in bilateral or plurilateral standards-related agreements, international or regional standardizing bodies and conformity assessment systems.

**Environmental Protection:** Any activity designed to maintain or restore the quality of environmental media by preventing the emission of pollutants or reducing the presence of polluting substances; initiatives relating to energy efficiency, renewable energy and the sustainable use of natural resources also play a role in this regard.

**Good Regulatory Practice:** Good Regulatory Practices (GRPs) are internationally recognised processes, systems, tools, and methods for improving the quality of new and existing regulations. GRP systematically implements public consultation and stakeholder engagement and impact analysis of Government proposals before they are implemented to ensure they address significant problems, are fit for purpose, and deliver what they set out to achieve.

**Goods:** Commodities that are the subject of trade or commerce and include services, processes, and practices.

**Health Protection:** A term used to encompass a set of activities within the public health function. It involves ensuring the safety and quality of food, water, air, and the general environment and preventing the transmission of diseases.

**Industrial Metrology:** The area of metrology which assures the accuracy of the instruments used and measurements made.

**Innovation:** The implementation of a new or significantly improved product or service process, a new marketing method, or a new organisational method in business practices, workplace organisation, or external relations.

**Inspection:** Examination of a product, process etc., and determination of its conformity with specific requirements or, based on professional judgement, with general requirements, e.g., supply chain assessments, market surveillance etc.

**Legal Metrology:** That area of metrology concerned with the regulation of weighing and measuring instruments used in commercial transactions.

**Legitimate Objectives:** The WTO TBT Agreement specifies that technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective. Legitimate objectives under the TBT Agreement are, *among other things*: national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment. In assessing such risks, relevant elements of consideration are, *among other things*: available scientific and technical information related to processing technology or intended end-uses of products.

**Metrology:** Science of accurate, reliable, and traceable measurement: scientific (artefact standards), industrial (calibration) and legal (verification) metrology.

**Productivity:** The effectiveness of productive effort, especially in industry, as measured in terms of the output rate per unit of input.

**Quality Culture:** A culture of quality consciousness and continuous improvement.

**Quality Infrastructure Services or Quality-related Services (QI Services):** Services provided by quality infrastructure institutions.

**Quality Infrastructure:** The Quality Infrastructure (QI) can be understood as comprising the organisations (public and private), policies, and relevant legal and regulatory frameworks and practices needed to support and enhance the quality, safety, and environmental soundness of goods, services, and processes. The QI ecosystem is required to operate domestic markets effectively, and international recognition is essential to access foreign markets. It is critical in promoting and sustaining economic development and environmental and social well-being. It relies on metrology, standardization, accreditation, and conformity assessment (testing, inspection, and system or product certification).

**Quality:** The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs (i. e., fit for purpose). It is demonstrated by the degree of customer satisfaction.

**Standardization:** Processes for formulation, publication and implementation of guidelines, rules and characteristics for common and repeated use, aimed at achieving the optimum degree of order in a given context. It includes transparency and consensus for the most efficient use of research, development, and production resources.

**Standards:** Document, established by consensus and approved by a recognised body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, with which compliance is voluntary. It may also include or deal exclusively with terminologies, symbols, packaging, marking or labelling requirements as they apply to a product, service, process, or production method.

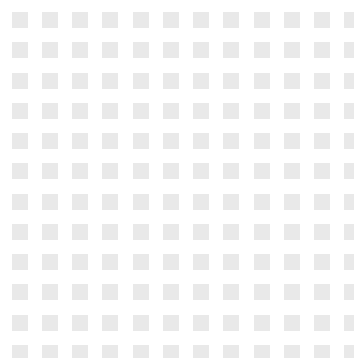
**Sustainable Development:** Development that meets the needs of the present without compromising the ability of future generations to meet their own needs; includes economic, social, environmental, and technological resilience as well as other factors.

**Technical Barriers to Trade (TBT):** A category of non-tariff barriers to trade or measures countries use to regulate markets, protect their consumers, or preserve their natural resources (among other legitimate objectives), but they also can be used unnecessarily to discriminate against imports to protect domestic industries or restrict regional or international trade.

**Technical Regulation:** Document which lays down product characteristics or their related processes and production methods, including the applicable administrative and conformity assessment provisions, with which compliance is mandatory, usually for consumer health and safety and environmental protection.

**Testing:** Determination of one or more characteristics of an object of conformity assessment, according to a procedure, e.g., analytical, calibration, medical etc.

**World Trade Organization (WTO) Technical Barriers to Trade (TBT) Agreement:** This agreement aims to ensure that product regulations, standards and conformity assessment procedures are non-discriminatory and do not create unnecessary obstacles to trade. At the same time, it recognises World Trade Organization members' rights to implement non-discriminatory measures to achieve legitimate policy objectives, such as protecting human health and safety or protecting the environment. In most circumstances, the TBT agreement requires members to base their measures on international standards to facilitate trade. It provides a list of trade facilitation measures. Through its transparency provisions, it also aims to create a predictable trading environment.



# Annex 2: Exemplary Structure of an RDT Report by the World Bank

Abbreviations and Acronyms

Acknowledgements and Disclaimer

1. Executive Summary

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- Pillar 2: Administration and Infrastructure
- Pillar 3: Service Delivery and Technical Competency
- Pillar 4: External Relations and Recognition
- Recommendations

4.2. Accreditation

- Assessment
- Pillar 1: Legal and Institutional Framework
- Pillar 2: Administration and Infrastructure
- Pillar 3: Service Delivery and Technical Competency
- Pillar 4: External Relations and Recognition
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- Pillar 1: Legal and Institutional Framework
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Assessment

Pillar 1: Legal and Institutional Framework

Pillar 2: Administration and Infrastructure

Pillar 3: Service Delivery and Technical Competency

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4.5. Technical Regulation

Assessment

Pillar 1: Legal and Institutional Framework

Pillar 2: Administration and Infrastructure

Pillar 3: Service Delivery and Technical Competency

Pillar 4: External Relations and Recognition

Recommendations

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Assessment

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Pillar 3: Service Delivery and Technical Competency

Pillar 4: External Relations and Recognition

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Pillar 4: External Relations and Recognition

Recommendations

Annex: RDT Radar Chart Data Tables

# Annex 3: RDT Briefing – Introductory Video Script

Time	Script/audio	Video/images
1'	<p>Good day everyone. I am [...], a member of the [...].</p> <p>[...] has sent you a questionnaire. In this video, we explain why you should complete the Rapid Diagnostic Tool questionnaire and how to do it.</p>	<p>Speaker</p> <p>Project backdrop (or banner)</p>
2'	<p>Your answers in this questionnaire are an important contribution to the assessment of [...]'s national quality infrastructure.</p> <p>Quality infrastructure (QI) refers to the public and private institutional framework needed to implement metrology, standardisation, accreditation and conformity assessment services, including inspection, testing, and system and product certification. Governments often play an important role in QI.</p>	<p>Speaker</p> <p>NQI country diagram</p>
3'	<p>The survey is an activity under the [...] programme through which the national government aims to promote the country's international competitiveness. By completing this questionnaire and sharing your knowledge, you are participating in the study of the national quality infrastructure and providing guidance on how to improve the system. The government intends to use the information gathered here to develop a National Quality Policy that will enhance the competitiveness of businesses and improve the wellbeing of the entire population.</p> <p>You have been invited to participate in the survey because your organisation is an important part of, and service provider to, the national quality infrastructure.</p>	<p>Speaker</p> <p>Project slide</p>
3'	<p>Think of the quality infrastructure as a house consisting of the following five components: Accreditation, Standardisation, Metrology, Conformity Assessment and Technical Regulations, and where we distinguish between industrial, scientific and legal metrology. Conformity assessment is divided into testing, inspection, and system and product certification.</p> <p>Your organisation is active in one or more of these areas.</p> <p>There is an EXCEL data sheet for each component. The questions are organised according to the four pillars:</p> <ul style="list-style-type: none"> <li>■ Legal and institutional framework</li> <li>■ Administration and infrastructure</li> <li>■ Service delivery and technical competence</li> <li>■ External relations and recognition</li> </ul> <p>Each pillar consists of a series of building blocks containing a number of questions.</p>	<p>Speaker</p> <p>Slide with the QI components and slide with the house of quality</p>

*Continued on next page*

5'	<p>Now we want to give you some advice on how to fill in the questionnaire. We will use the example of product certification. The questions for the other QI pillars are similar in structure.</p> <p>Find the EXCEL sheet that is relevant to your organisation.</p> <p>In the case of product certification, we ask you to answer 18 blocks of questions. Each block contains two to five questions.</p> <p>For each block of questions there are references to sources of information that you can use. These are found in column B.</p> <p>For each block of questions, you will find definitions and explanations of the key terms in the grey block in column C.</p> <p>You provide your answers in column H in the form of scores, normally ranging from 4 (for yes) to 0 (for no).</p> <p>Please also use the comment bar in column I to explain your scoring or to submit questions to the consulting team.</p> <p>In the case of the conformity assessment questions, you will notice a yellow line. The questions above the line are relevant to the QI in general, while the questions below the line relate to the specific organisation.</p> <p>Please answer all questions from a present day perspective. Evaluate only the status as it stands today.</p> <p>Depending on your current knowledge and the need to consult additional sources of information, you will need between 30 minutes and one hour to complete the questionnaire.</p> <p>If you cannot answer all the questions yourself, you are free to involve professionally qualified colleagues.</p>	<p>Speaker</p> <p>RDT EXCEL (current version) – Sheet <i>Product Certification</i> open, highlighting first question (line 1 to 28)</p>
1'	<p>If you have any questions regarding the questionnaire, please contact [...], [...]. Please return the completed questionnaire to: ...@...</p> <p>Thank you for your support!</p>	<p>Slide with contact details</p>





# Notes

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