UNIDO

SUMMARY

REMOTE CONFORMITY ASSESSMENT IN A DIGITAL WORLD

Opportunities, challenges and implications for developing countries

SUSTAINABLE
DEVELOPMENT
GOALS

Quality Infrastructure (QI) is the combination of initiatives, institutions, organizations, activities and people that not only help ensure products and services meet the requirements of customers, but also provide confidence in sustainability-related issues, such as those associated with the UN 2030 Agenda for Sustainable Development. Conformity assessment is a central part of this important work as it links regulation, industry and markets. Developing countries endeavouring to boost their export competitiveness, strengthen their export base and increase integration in international trade flows require convenient and cost-effective conformity assessment services. For over 50 years, the United Nations Industrial Development Organization (UNIDO), the specialized United Nations agency mandated to promote inclusive and sustainable industrial development, has supported the establishment and upgrading of standards and conformity assessment structures worldwide.

The rapid spread of COVID-19 forced traditional assessment techniques to be replaced with remote assessment tools that rely on information and communication technology. While remote assessment techniques existed before the global health crisis, the best practices developed and opportunities presented during the pandemic have shown that remote assessment has become commonplace and further benefits can be leveraged.

This brochure introduces a broader publication—developed by UNIDO under the Global Quality and Standards Programme (GQSP), funded by Switzerland, through its State Secretariat for Economic Affairs (SECO)—that outlines the opportunities and benefits that remote assessments can bring for accreditation and conformity assessment bodies and their clients. The full-length publication also serves to identify the common challenging areas in a structured approach for those who are considering using remote assessment methodologies, possibly for the first time.

The publication is intended primarily for those who are interested in conformity assessment issues. It provides a high-level overview of the ways in which remote assessment/audit techniques have developed in recent years and have been applied in different conformity assessment contexts, including their implications for the future. Such assessments have a key role to play in the context of digital transformation of QIs around the globe, so although the publication is aimed at developing countries, the information provided will also be of interest to a wider audience.

A TRANSFORMED WORLD

The global outbreak of COVID-19 in early 2020 impacted life around the world and brought about an accelerated use of technology. The global lockdowns and the restriction of physical (face-to-face) interactions worldwide meant that the conformity assessment community was faced with a significant challenge during the pandemic—to transition (in some cases very rapidly) to the use of remote assessment/audit methodologies as a means to provide ongoing confidence in associated attestations of conformity; to extend the validity of such attestations without having the possibility to conduct "traditional" assessments/audits; or to suspend the validity of the attestations.

This was not always an easy decision, and one that depended (and still depends) on the utilization of "risk-based thinking" that is implicit in good conformity assessment practice and explicit in some specific standards such as ISO/IEC 17021-1 for the auditing of management systems. This includes consideration of the risks associated with not being able to perform conventional conformity assessments and the considerable opportunities that can be provided by using remote assessments to overcome this. What is clear is that the opportunities resulting from their necessity during the pandemic can now be leveraged further to the benefit of all concerned, as more and more countries continue their digitalization journeys.

THE EVOLUTION OF REMOTE ASSESSMENT

The use of remote conformity assessment methodologies is nothing new—its origins can be traced back to the pre-smartphone, pre-WIFI era, with the use of tools such as (analogue) video recorders and teleconferencing to supplement traditional face-to-face techniques.

Over the last ten years, two key sets of factors affected the overall approach to remote conformity assessment methodologies, which (of necessity) became increasingly integrated into the mainstream conformity assessment toolbox:

» The introduction of remote working and working from home, and the establishment of "virtual locations", particularly in the IT and service sectors, making the use of "face-to-face" assessments in such cases largely irrelevant and unnecessary.

» The rapid evolution of information and communication technology (ICT), to include ultra-fast wireless internet, the development of smartphone technology, social media interactions, remote meeting platforms, real-time access to process information, Internet of Things, big data analytics and the general digitalization of business, all of which have led to what we now know as "Industry 4.0".

Today, remote assessments can make use of new technologies such as virtual and augmented reality headsets, smart glasses, drones, satellite mapping, real-time data analysis and many other technologies that provide a myriad of options to make conformity assessment activities more dynamic and rigorous than ever before. Despite these opportunities there are, however, associated risks related to information security and data protection, new competence requirements for those involved in conformity assessment activities and the need to ensure appropriate (random or assessor-driven) sampling.

APPLICATIONS OF REMOTE ASSESSMENTS

OPPORTUNITIES AND BENEFITS

In the pre-COVID era when traditional "face-to-face" assessments were the default approach, the use of ICT to conduct remote assessments had already begun to provide new opportunities for enhancing traditional methodologies so that by 2019, they were being used in most economies as part of the overall move towards the global digitalization of QI-related activities. The uptake was, however, generally slower in less-developed countries, primarily because of cultural, technological and infrastructure considerations, as well as the lack of availability of competent personnel. The publication elaborates on some of the opportunities and benefits that remote assessments provide related to more efficient resource use, improved access to remote locations and increased awareness, training and competence-building activities for stakeholders. These in turn drive further digitalization initiatives.

UNDERSTANDING THE RISKS

The implications of not conducting scheduled conformity assessment activities might mean that any associated certification or approvals would have to be suspended or withdrawn. As the considerations involved in making such a decision vary in different contexts, defining a single, simple algorithm to facilitate these decisions is impossible. Each has to be considered individually based primarily on the context and a robust risk assessment of the activities to be performed. The publication addresses the importance of utilizing such a risk-based approach.

CHALLENGES AND HOW TO OVERCOME THEM

There are many benefits to be achieved by using remote assessments, but their implementation also involves challenges, particularly in developing countries.

The challenges can be clustered into the following areas:

i.   Technology and infrastructure. While many new technologies, platforms and devices are becoming easier to access and use, realizing how a specific technology can contribute to optimizing the end result and integrating it with existing systems and processes can be complex. In addition, ensuring stable internet connectivity at both the assessor and client locations is crucial.

ii.   Data and information. Information—many times confidential information—flows during any assessment process. In a digital context, ensuring the data is secured at both ends (information/data generators and users), protected, credible and not susceptible to manipulation is critical both during the assessment and after the information has been stored.

iii.   Process. Remote assessment requires a rethinking and adaptation of the methods to incorporate the desired technologies, improvement and redesign of existing processes and the incorporation of new ones to meet customer and wider societal requirements.

iv. Organizational culture change. Using new technologies, though a new process, requires adaptation from the users, improved IT literacy, leadership, teamwork, trust, and emotional intelligence to overcome frustration when the results are not immediately forthcoming.

The publication thoroughly explores those challenges and how they can be overcome.

OPPORTUNITIES AND CHALLENGES FOR DIFFERENT CONFORMITY ASSESSMENT MODALITIES

Whilst there are many commonalities between the various different forms of conformity assessment, there are also considerations specific to each modality which the publication discusses in detail. They relate to management system certification, standards, product certification, personnel certification, certification to Voluntary Sustainability Standards and Organic certification, inspection and testing, and accreditation and peer assessments.

Understanding the challenges and opportunities for remote assessments from different perspectives of conformity assessment body functions will be particularly useful to those seeking to take advantage of remote assessment techniques.

THE FUTURE FOR REMOTE ASSESSMENTS

It is important to look beyond the specific circumstances imposed by the pandemic, and to view remote assessment in terms of the overall digital transformation of economies in general and QI/conformity assessment activities in particular. In order to be successful, this requires interrelated areas to work together harmoniously, taking into consideration the implications of technology, data management, processes and the associated organizational culture change that is needed.

For those of you gearing up for your remote assessment journey, read "Remote conformity assessment in a digital world: Opportunities, challenges and implications for developing countries" to better prepare yourself.

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