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UNIDO'S Holistic Approach to Quality Infrastructure Development

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Competitiveness, Quality and Compliance Unit, TCS/SME

Baet village, Kyrgyz Republic, 8 July 2026



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UNIDO at a Glance



UNIDO established in **1966**
and became a specialized
agency in 1985



170 Member States
and autonomous
governance structure



Gerd Müller (Germany),
Director General of UNIDO
(10-12-2021)



UNIDO employs **684 staff**
and 1,610 consultants from
152 countries



Headquarters → Vienna
Liaison offices → Brussels, Geneva and New York
48 regional and country offices → cover 156 countries

9 Investment and Technology Promotion Offices (ITPOs) → Beijing, Bonn, Lagos, Manama, Moscow, Rome, Seoul, Shanghai and Tokyo
9 Regional Sustainable Energy Centres (GN-SEC) → Angola, Barbados, Cape Verde, Egypt, El Salvador, Namibia, Nepal, Tonga, and Uganda
Partnership with 65 National Cleaner Production Centers (NCPCs) → global network for Resource Efficiency and Cleaner Production

The primary objective of UNIDO
is the promotion of

INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT (ISID)

in developing countries and
economies in transition



Technical cooperation

Analytical and policy advisory services

Normative functions,
standards and quality-related activities

Convening for knowledge transfers,
partnerships and networking



Shared prosperity
from industry



Economic
competitiveness



Environmentally
sustainable industry



STRENGTHENING KNOWLEDGE AND INSTITUTIONS



WE SUPPORT OUR STAKEHOLDERS

People

Firms

Institutions

Governments

Global actors



MICRO

STRENGTHENING
SKILLS AND
CAPACITIES



MESO

BUILDING QUALITY
INDUSTRIAL
ECOSYSTEMS



MACRO

FORMULATING
POLICY AND
REGULATION



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UNIDO Priorities

UNIDO Director General Gerd Müller sees three major priorities for action:



Support sustainable supply chains

so that developing country producers get a fair deal and scarce resources are preserved.

Supply chains are essential to trade, and trade is essential to job creation.



Stimulate climate action

by promoting renewable energy and energy efficiency policies, technologies and practices to reduce industrial greenhouse gas emissions.

Climate action can create millions of new, decent jobs.

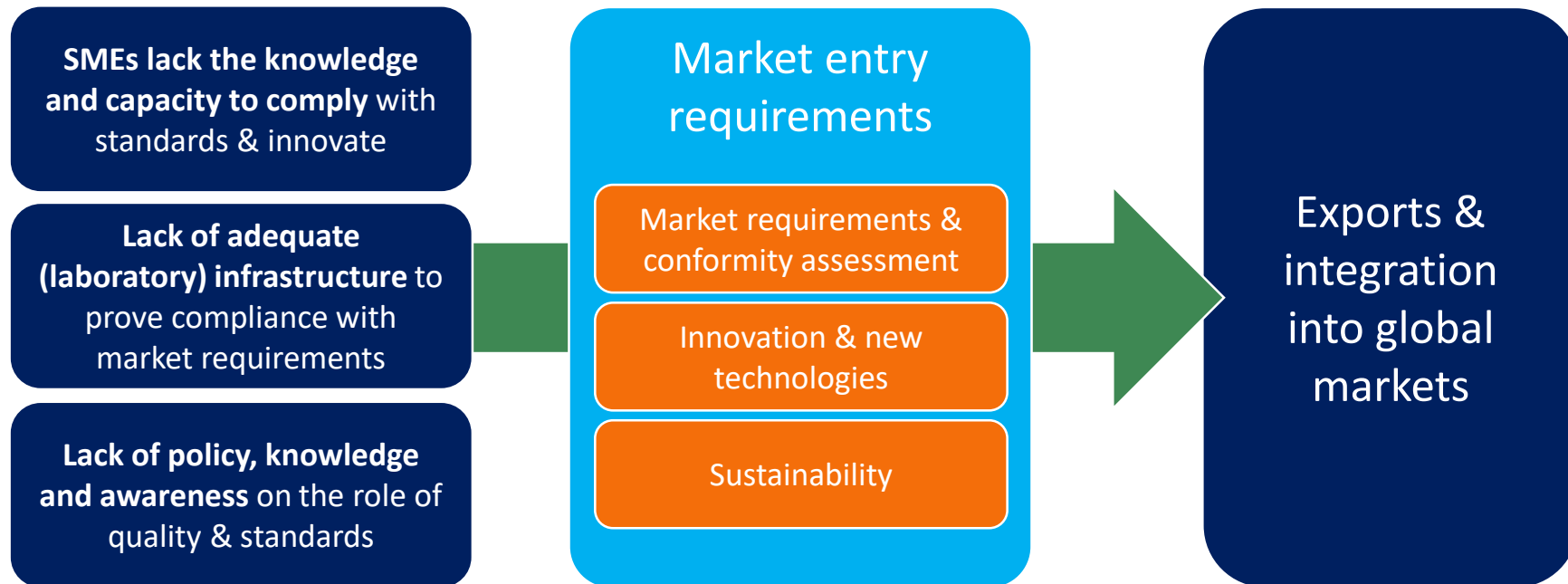


End hunger

by sharing knowledge and technology to help reduce post-harvest losses and increase food security.

Develop agribusiness value chains and providing job opportunities for youth.

Global trade is changing





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Sustainable value chains, circularity and energy efficiency





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Improving SMEs competitiveness and market access: UNIDO's dual approach





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Our contribution to Quality Infrastructure



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Quality Infrastructure

The system comprising the organizations (public and private) together with the policies, relevant legal and regulatory framework, and practices needed to support and enhance the quality, safety and environmental soundness of goods, services and processes.

The quality infrastructure is required for the effective operation of domestic markets, and its international recognition is important to enable access to foreign markets. It is a critical element in promoting and sustaining economic development, as well as environmental and social wellbeing.

It relies on metrology, standardization, accreditation, conformity assessment, and market surveillance.



This is the definition of Quality Infrastructure adopted by the members of the INetQI.



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UNIDO's Approach to Quality Infrastructure Development



1

TECHNICAL COOPERATION

- All areas of QI
- Continental
- Sub regional
- National



2

ANALYTICAL, RESEARCH AND POLICY ADVICE

- Global tools
- Rejection Analysis
- Culture for Quality
- QI Atlas / QI Map
- QI4VC tool
- Quality Policy



3

NORMATIVE & QUALITY-RELATED ACTIVITIES

- QI definition
- Trilogy on Quality Policy
- Laboratory Policy guidelines



4

STRATEGIC PARTNERSHIPS, KNOWLEDGE TRANSFER

- [INetQI](#)
- Knowledge Hub
- Pan-African Partnerships



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Effective harmonized policies & frameworks

- Development of legal and regulatory Frameworks for Quality Infrastructure Systems
- Implementation of quality and conformity assessment related policies implementation
- Guides and Tools for better informed Policy Decisions on QI as part of BE/Policy Reform
- Support to Pan-African and Regional Quality Policies
- Promotion of Quality Culture

Recognized compliance of products and services

- Value chain compliance with quality, standards and technical regulations and enhanced quality assurance system through development and international harmonization of technical regulation and standards on quality, safety and sustainability
- Mutual recognition and harmonization of conformity assessment schemes
- Support Value Chains from production to processing and conformity assessment to export requirements
- Capacitating economic, social and environmental compliance at production and post-production.

SME Competitiveness and Market Access

- Enterprise competitiveness and enhanced trade capacity through application of productive, resource efficient, clean and sustainable processing practices, establishing internal and supply chain traceability systems and enhance value addition
- Strengthening of the enabling business environment for enhancing compliance with TBT and other requirements
- Enhancing SME opportunities for business and export and supporting export promotion agencies capacity-building
- Support to private sector aggregation and clustering



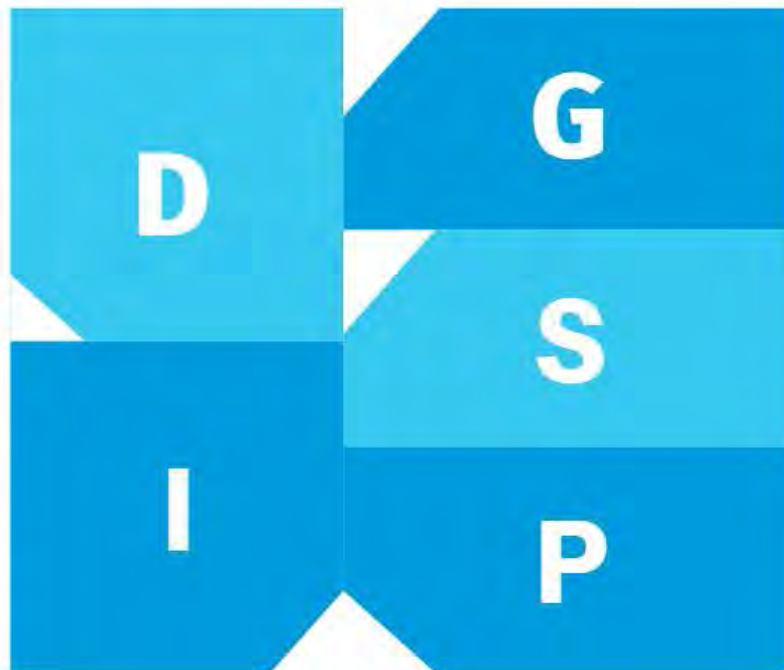
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Effective harmonized policies & frameworks

Development of legal
and regulatory
Frameworks for Quality
Infrastructure Systems

Implementation of
quality and conformity
assessment related
policies
implementation



Guides and Tools for
better informed Policy
Decisions on QI as part
of BE/Policy Reform

Support to Pan-African
and Regional Quality
Policies

Promotion of Quality
Culture



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Recognized compliance of products and services

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Mutual recognition and harmonization of conformity assessment schemes



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Setting up a Quality Infrastructure is one of the most positive and practical steps that a developing nation can take on the path forward to developing a thriving economy as a basis for prosperity, health and well-being and contributes to all three of the SDG themes:

people, prosperity, and planet.



TACKLING CLIMATE CHANGE

Fostering trust in climate action
through quality and standards



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Standards for People, Planet and Prosperity

PEOPLE



SOCIAL INCLUSIVENESS

- Social responsibility e.g. **ISO 26000**
- Gender responsive standards

GOOD HEALTH AND WELLBEING

- **ISO 13485 Medical Devices**
- Medical laboratory services **ISO 15189**

FOOD SECURITY AND SUSTAINABLE AGRICULTURE

- Agricultural practices

PLANET



CLIMATE ACTION

- **ISO 14001 Environmental Management**

RESPONSIBLE CONSUMPTION AND PRODUCTION

- Metrology ensures accurate measurement
- **ISO 20400 Sustainable Procurement**

PROSPERITY



ECONOMIC GROWTH THROUGH TRADE

- National or regional QI enable cross-border trade and thus promote economic growth

INNOVATION

- Standards contribute to innovation e.g. **ISO 56002 Innovation Management**

COMPETITIVENESS

- Quality management standards for competitiveness e.g. **ISO 9000 Quality Management**



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Our Knowledge Tools



Analytical Tools and Methodologies for informed Policy Decisions

The screenshot shows the main interface of the 'Standards Compliance Analytics' tool. At the top, there is a navigation bar with 'LOG IN' on the right and a menu with 'WHO WE ARE', 'OUR FOCUS', 'INFO CENTER', and 'TRAINING ACADEMY'. Below this is a header with the 'KNOWLEDGE HUB UNIDO.ORG' logo. The main content area has a blue background with a circuit-like pattern. It features the title 'Standards Compliance Analytics' in large white text, preceded by a 'BETA' tag and the subtitle 'BORDER REJECTIONS IN MAJOR GLOBAL MARKETS'. To the right of the title, a text box explains: 'Information on the border rejections markets, for different products from countries, in order to help exporting countries navigate their efforts in improving compliance with their industries and thereby reduce the economic losses arising from border rejection.' At the bottom of the interface are three buttons: 'WORLD MAP', 'DATA EXPLORER', and 'COUNTRY PROFILE', followed by a link for 'GLOSSARY & DATA SOURCES'.

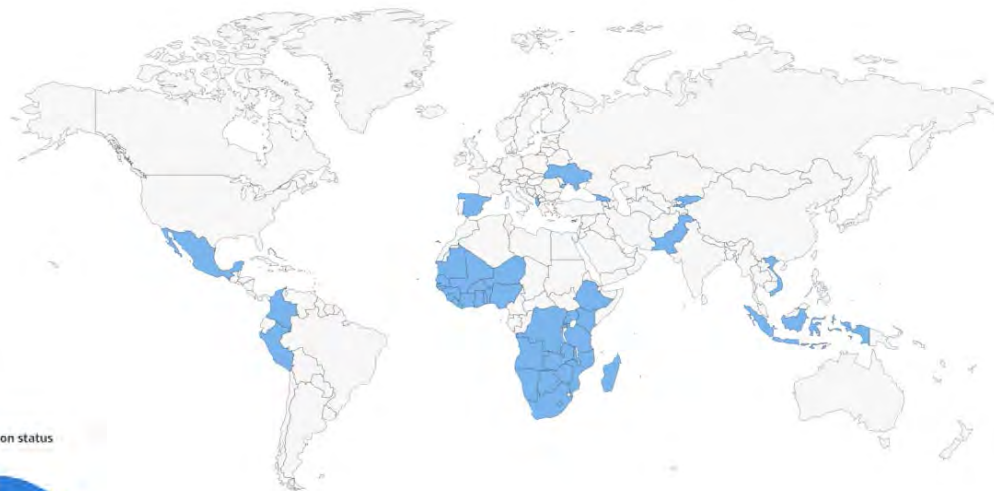
Information on trade rejection is a useful input to support the policy process, as well as technical-cooperation efforts in addressing compliance issues in a more effective and efficient manner. In other words, it is expected that information on rejection contributes to better preparedness of exporting countries to comply with export market requirements in the long term. As a result, the economic losses due to rejection would be avoided while reputation losses can be averted.





Laboratory Network (LabNet)

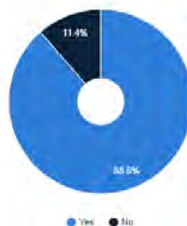
This innovative database provides information on services offered by Conformity Assessment Bodies (CABs) around the world in the area of calibration, testing, certification, and inspection.



Service providers by type

Overall Amount	Type of service provider	Registered CABs
1246	Calibration laboratory	292
	Certification body	79
	Inspection body	254
	Testing laboratory	621

Accreditation status



Scan me!



The QI4SD Index

- Measures the readiness and contribution of QI to the SDGs using a composite indicator approach
- 1st edition: “General” QI index comprised of 5 QI dimensions, **36 indicators**, measuring **137 countries**
- 2nd edition: “General” QI index comprised of 5 QI dimensions, **38 indicators**, measuring **155 countries**
- Three “P-indexes” each measuring contributions of QI to People, Planet and Prosperity
- Developed in conjunction with INetQI
- **1st Edition launched in June 2022**
- **2nd Edition launched in November 2024**





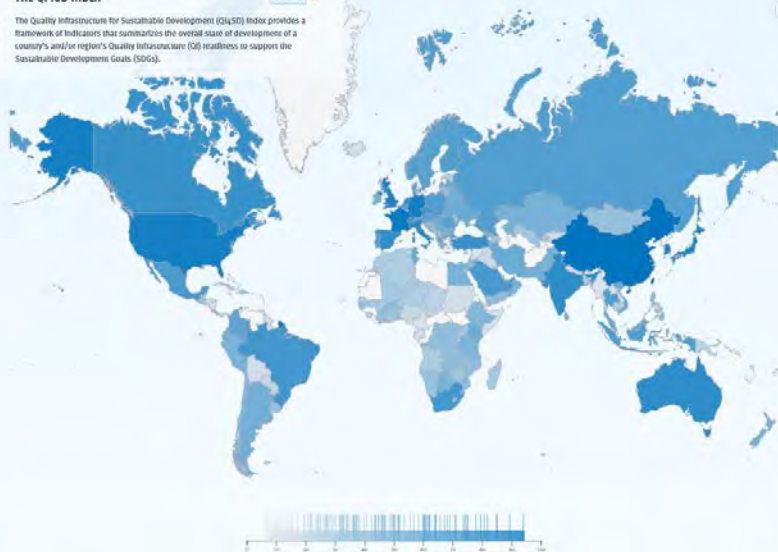
QI4SD Index Website

THE QI4SD INDEX

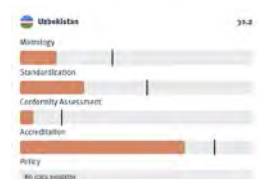
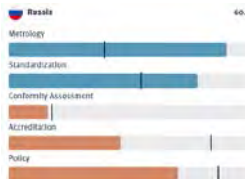
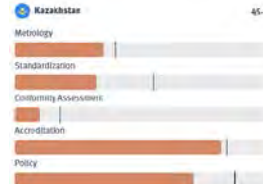
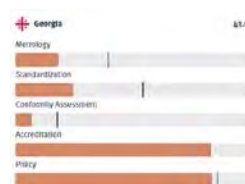
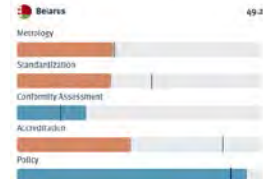
The Quality Infrastructure for Sustainable Development (QI4SD) Index provides a framework of indicators that summarizes the overall state of development of a country's and/or region's Quality Infrastructure (QI) readiness to support the Sustainable Development Goals (SDGs).

SHOW DATA FOR

2022



Scan me!



Sorry but no
data on
Tajikistan and
Turkmenistan

<https://hub.unido.org/qi4sd/>



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Publications





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SMART QUALITY INFRASTRUCTURE FOR SUSTAINABILITY

SUMMARY

SUMMARY

FOR SUSTAINABILITY
SMART QUALITY INFRASTRUCTURE



LABORATORY POLICY A GUIDE TO DEVELOPMENT AND IMPLEMENTATION

AND IMPLEMENTATION
A GUIDE TO DEVELOPMENT
LABORATORY POLICY



SUMMARY REMOTE CONFORMITY ASSESSMENT IN A DIGITAL WORLD

Opportunities, challenges
and implications for
developing countries

SUSTAINABLE
DEVELOPMENT
GOALS

GOALS
DEVELOPMENT
IMPLEMENTATION

Knowledge Centres
for Quality Infrastructure



REMOTE CONFORMITY ASSESSMENT IN A DIGITAL WORLD

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Our Partnerships and Networks



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International Network on Quality Infrastructure



UNIDO is a founding member, key convener of the International Network on Quality Infrastructure (INetQI)

European Quality Infrastructure Partners



Instituto Português da Qualidade



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IDDA III Partners/Focal Points



AUDA-NEPAD
AFRICAN UNION DEVELOPMENT AGENCY



United Nations
Economic Commission for Africa



UN-OHRLS





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Some Project Examples



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Support to Quality Infrastructure in Armenia

Output 1

The Republic of Armenia's capacity to effectively participate in the international and regional metrology community is strengthened

Output 2

The institutional capacity (legal, regulatory, governance and leadership) of NBSM is further developed in line with international recommendations and best practices

Output 3

NBSM calibration laboratories are prepared for international recognition

Support Armenia in developing modern and internationally recognized metrology system



Budget:

EUR 4,100,000



Duration:

Jan 2022 -
March 2025
(39 months)



Main counterparts:

- Ministry of Economy
- National Body for Standards and Metrology

Stakeholders have a greater understanding of the importance of metrology and are trained in critical aspects of metrology

Output 4



Four calibration laboratories developed for international recognition

Four state-of-the-art calibration laboratories established at NBSM

Capacity Building

Accreditation

Four modern calibration labs established (Electrical, Time and Frequency, Torque & Pressure, Dimensional, and Chemical)

- ✓ Equipped with over 80 high-precision and state-of-art instruments
- ✓ Total investment over EUR 2 million
- ✓ Local availability of calibration services reducing production and trade costs

Capacity building towards international recognition

- ✓ Tailored capacity-building to develop NBSM staff competence as per relevant international standards
- ✓ Partnership with European metrology institutes for capacity building

Three measurement fields internationally accredited:
Electrical, Torque and Pressure





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Strengthening the capacity of China's food inspection and testing bodies to improve trust for trade along the Belt and Road



TRADE CONFIDENCE BUILDING & TRADE FACILITATION



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SUPPORTING CHINA-CENTRAL ASIA COOPERATION ON QUALITY INFRASTRUCTURE FOR ELECTRIC VEHICLE CHARGING FACILITIES TO PROMOTE GREEN E-MOBILITY (new)

Duration	September 2026 – August 2029
Budget	1,200,000 USD
Main national counterparts	• China State Administration for Market Regulation (SAMR) • Kazakhstan Institute of Standardization and Metrology (KazStandard) • Center for Standardization and Metrology (Kyrgyzstandard) • Uzbek National Institute of Metrology (UzNIM)

Project Objective: Strengthen quality infrastructure (QI), particularly metrology, for EV charging facilities in Kazakhstan, Uzbekistan, and the Kyrgyz Republic. The project enhances legal, institutional, and technical capacities to ensure safe, accurate, traceable, and reliable EV charging systems, leveraging UNIDO's holistic QI development approach and China's expertise in the EV sector.

1. Enhanced Understanding of Quality Infrastructure Related to EV Charging Facilities
2. Improved Metrology Testing Capabilities for EV Charging Facilities
3. Strengthened Metrology Legal and Regulatory Framework for EV Charging Facilities

Outputs and Activities

OUTPUT 1

Enhanced Awareness of QI Needs

Establish a strong evidence base through assessments, knowledge generation and awareness raising.

Key activities

- Assess national QI systems and capacity gaps
- Develop curricula and technical guidance aligned with international standards and Chinese experience
- Deliver regional and national training workshops for QI institutions and regulators

Expected result

Clear understanding of national priorities and capacity needs for safe, reliable EV charging infrastructure.

OUTPUT 2

Strengthened Metrology & Calibration

Enhance capabilities for accurate, fair and trustworthy EV charging measurements.

Key activities

- Supply priority metrology and calibration equipment
- Develop training on verification, calibration, testing and traceability
- Conduct hands-on training, study visits, comparisons and proficiency testing with China

Expected result

Improved measurement accuracy, traceability and consumer confidence in EV charging services.

OUTPUT 3

Strengthened Regulatory & Technical Frameworks

Support implementation of technical regulations and metrological specifications for EV charging infrastructure.

Key activities

- Draft and adapt technical regulations and metrological specifications
- Organize expert group meetings and technical working groups
- Run stakeholder workshops and study visits to China for knowledge exchange

Expected result

Stronger regulatory and technical frameworks aligned with international good practice and Chinese experience.



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THANK YOU