National Quality infrastructure of the Kingdom of Saudi Arabia
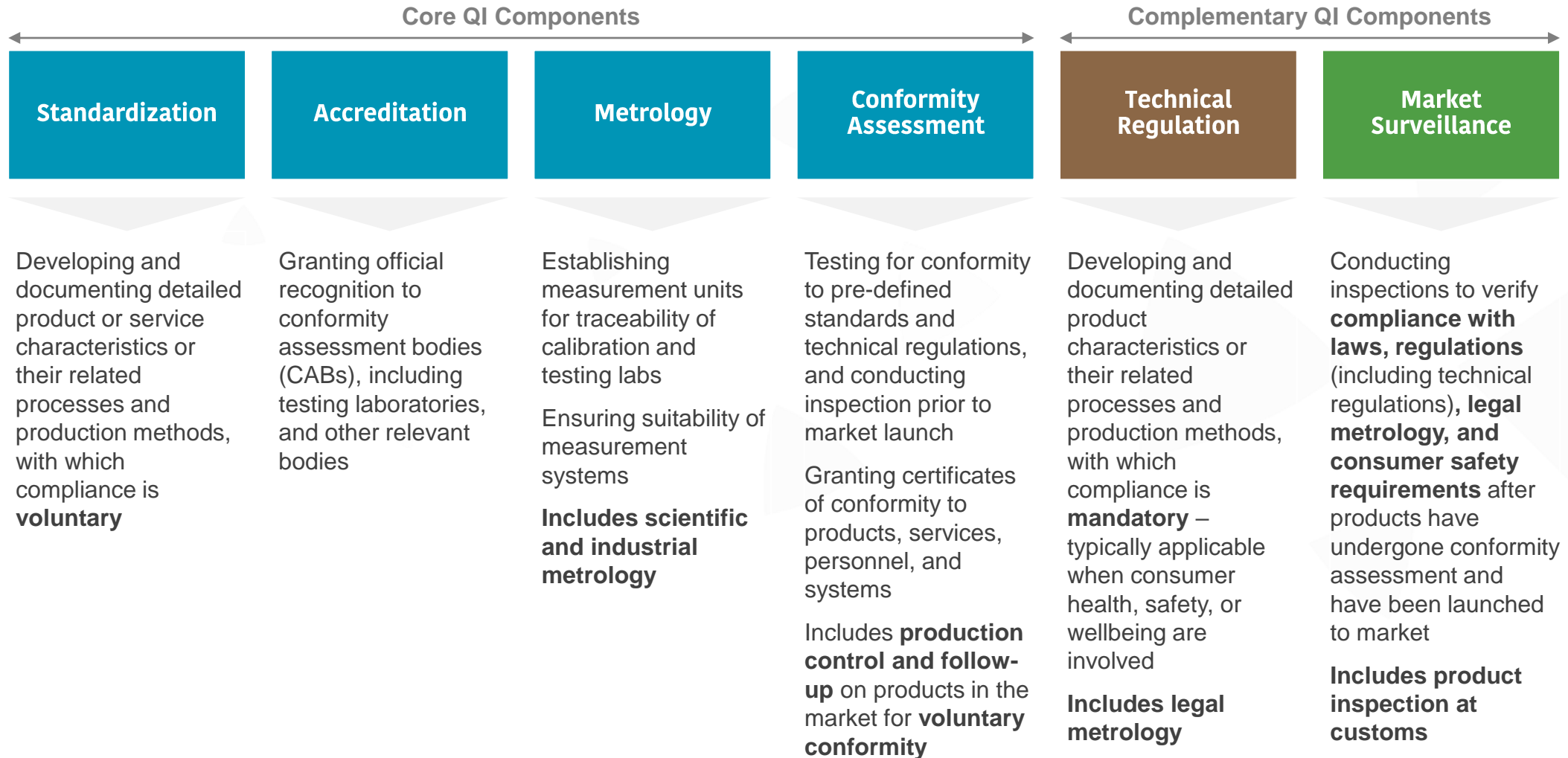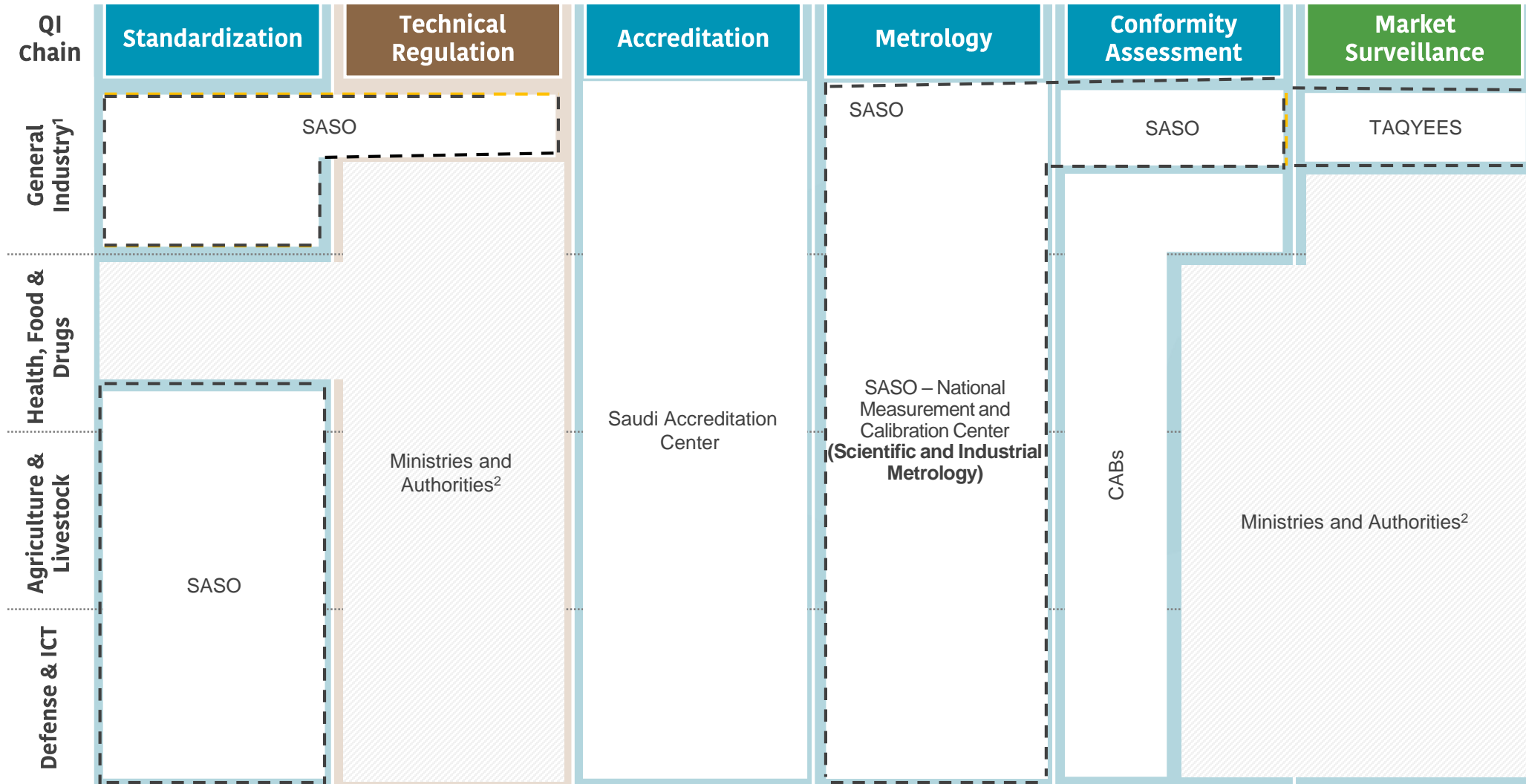
COMCEC

QI consists of four core components complemented by technical regulation and market surveillance
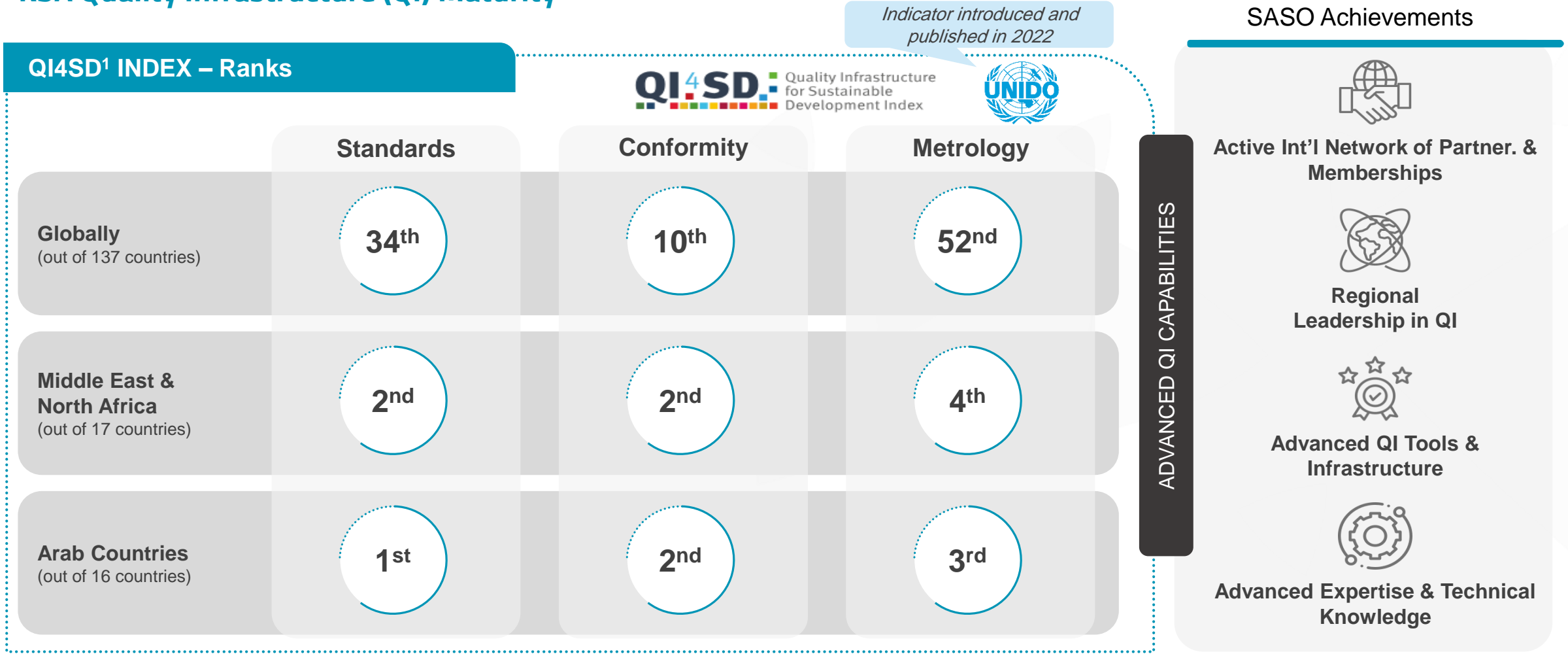## QI Chain Component Definitions

Core QI Components

Complementary QI Components

Standardization	Accreditation	Metrology	Conformity Assessment	Technical Regulation	Market Surveillance
Developing and documenting detailed product or service characteristics or their related processes and production methods, with which compliance is **voluntary**	Granting official recognition to conformity assessment bodies (CABs), including testing laboratories, and other relevant bodies	Establishing measurement units for traceability of calibration and testing labs Ensuring suitability of measurement systems **Includes scientific and industrial metrology**	Testing for conformity to pre-defined standards and technical regulations, and conducting inspection prior to market launch Granting certificates of conformity to products, services, personnel, and systems Includes **production control and follow-up** on products in the market for **voluntary conformity**	Developing and documenting detailed product characteristics or their related processes and production methods, with which compliance is **mandatory** – typically applicable when consumer health, safety, or wellbeing are involved **Includes legal metrology**	Conducting inspections to verify **compliance with laws, regulations** (including technical regulations)**, legal metrology, and consumer safety requirements** after products have undergone conformity assessment and have been launched to market **Includes product inspection at customs**

2

QI institutional setup

QI chain	Standardization	Technical Regulation	Accreditation	Metrology	Conformity Assessment	Market Surveillance
General Industry[1]	SASO		Saudi Accreditation Center	SASO	SASO	TAQYEES
Health, Food & Drugs		Ministries and Authorities[2]		SASO – National Measurement and Calibration Center **(Scientific and Industrial Metrology)**	CABs	Ministries and Authorities[2]
Agriculture & Livestock	SASO					
Defense & ICT						

1) Excludes food, drugs, agriculture & livestock, defense, and IT sectors
2) E.g. SFDA for health, food, and drugs, MEWA for agriculture and livestock, MoI (NIC) for defense, CITC for ICT
Source: Strategy& analysis

3

SASO worked hard towards the advancement of QI in KSA across standards, conformity, and metrology

KSA Quality Infrastructure (QI) Maturity

Indicator introduced and published in 2022

QI4SD[1] INDEX – Ranks

QI4SD – Quality Infrastructure for Sustainable Development Index — UNIDO

	Standards	Conformity	Metrology
Globally (out of 137 countries)	34th	10th	52nd
Middle East & North Africa (out of 17 countries)	2nd	2nd	4th
Arab Countries (out of 16 countries)	1st	2nd	3rd

ADVANCED QI CAPABILITIES

SASO Achievements

- **Active Int'l Network of Partner. & Memberships**
- **Regional Leadership in QI**
- **Advanced QI Tools & Infrastructure**
- **Advanced Expertise & Technical Knowledge**

1) Quality Infrastructure For Sustainable Development, Source: QI4SD Index, Strategy& Analysis

KSA has achieved a strong global ranking and regional leadership in standardization under UNIDO's QI4SD index

KSA Standardization Index Rankings

The **standardization dimension** of the QI4SD assesses a country standardization activities through **indicators** such as **adoption** of standards, international **memberships**, and participation in **technical committees** of **ISO and IEC**

Top 10 Countries Globally (QI4SD Standards Dimension Score, 2022)

Country	Score
🇬🇧	89
🇨🇳	84
🇺🇸	84
🇩🇪	83
🇫🇷	82
🇮🇹	80
🇯🇵	80
🇮🇳	79
🇰🇷	75
🇸🇪	74
🇸🇦 Rank 34	55
🌐 High Income Countries Median	53
🌐 Global Median	41
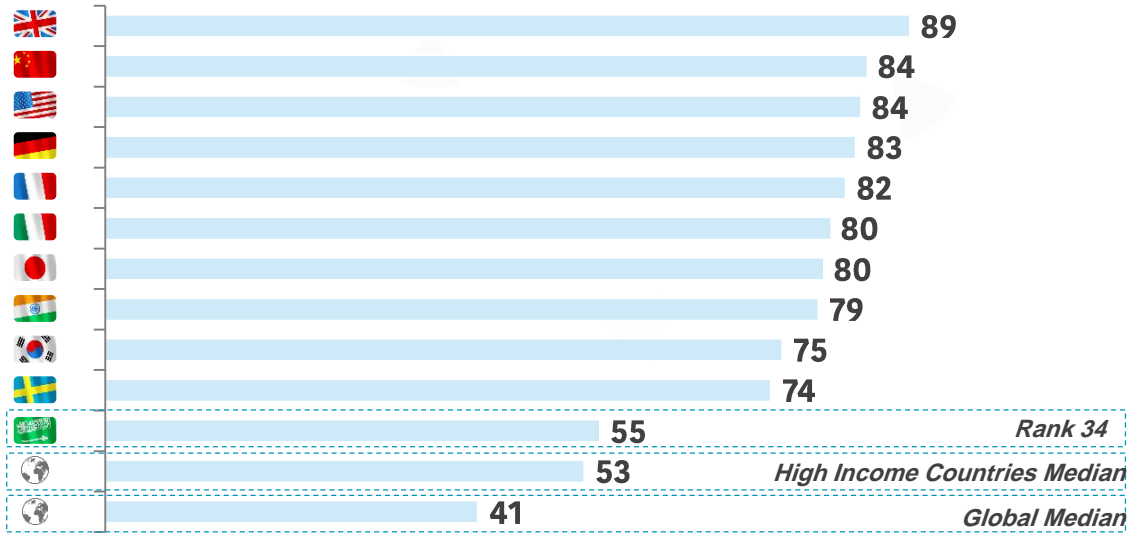
Top 10 Countries in Arab World (QI4SD Standards Dimension Score, 2022)

Country	Score
🇸🇦	55
🇦🇪	53
🇪🇬	51
🇲🇦	44
🇴🇲	44
🇩🇿	43
🇹🇳	43
🇶🇦	43
🌐 Arab World Median	42
🇮🇶	42
🇰🇼	42
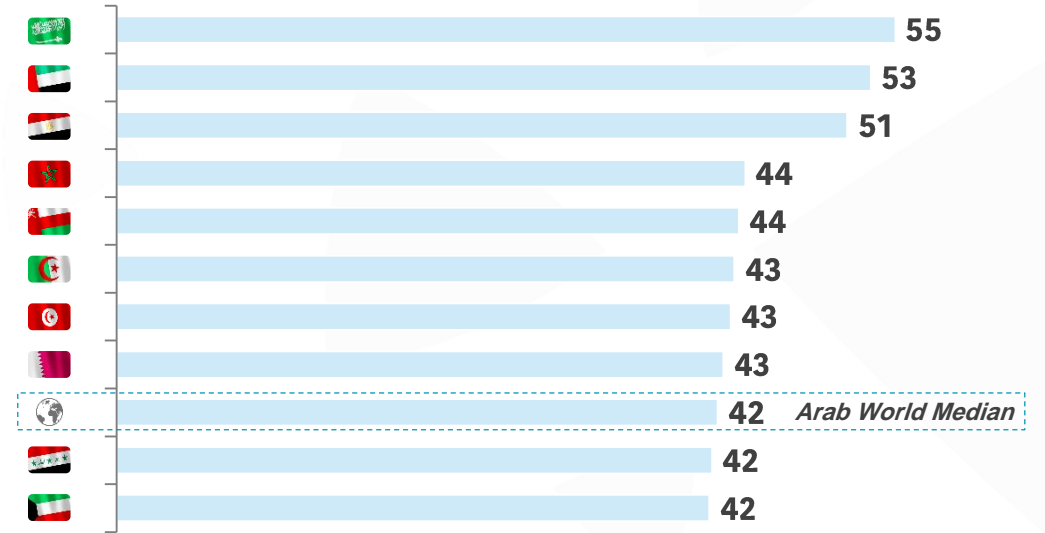
- In terms of standardization, KSA **ranks 34th globally**, positioning it **above** both the **global median** and the **median for high-income countries**
- KSA is the **top ranked country** in the Arab World

Source: UNIDO, Strategy& Analysis

KSA's advanced ranking links to SASO's ongoing efforts to expand and enhance its stock of standards across sectors

SASO Standardization Efforts

SASO Standard Development Activity by Sector

Stock of Active Standards released till 2022 by Sector

Total: 21,496

Sector	Value
Services	989
Mechanical and Metal Products	4,210
Calibration and Metrology	1,897
Electrical and Electronic	5,104
Chemical and Petroleum Products	5,438
Textiles Products	1,029
Construction & Building Products	2,829

New Standards Developed in 2023 by Sector

Total: 1,582

Sector	Value
Services	359
Mechanical and Metal Products	267
Calibration and Metrology	267
Electrical and Electronic	245
Chemical and Petroleum Products	232
Textiles Products	85
Construction & Building Products	73

Key Insights

- SASO developed **1,582 new standards in 2023**, increasing its total stock of **standards by 7.4%**

- The focus in 2023 was on the **services sector**, where SASO increased its **stock of standards by 36%**

Standards priorities are determined through SASO's comprehensive analysis of national strategies

SASO Standard Issuing Strategy

Integration of National Priorities

SASO Standards Issuing Strategy

المواصفات السعودية
Saudi Standards

KINGDOM OF SAUDI ARABIA

STANDARDS ISSUING STRATEGY (SIS)

2022 – 2024

Empowering the national and regional economies

SASO analyzed and studied 50+ National Development Strategies

As a result of the analysis, SASO identified standards' needs

SASO consulted 150+ stakeholders around gap areas for standards

Sample Strategic Documents Reviewed by SASO in the SIS[1]

- KSA Vision 2030
- National Industry and Logistics Program strategy
- National transport strategy
- National Environment strategy
- Ministry of Commerce Strategic Plan 2019-2021
- NEOM strategy

- ICT sector strategy 2023 -
- Council of Saudi Chambers strategy
- National Strategy for Data & AI
- National Export strategy
- Saudi Exports Development Authority strategy
- Saudi Industrial Development Fund (SIDF) strategy

. . . .

1) Standards Issuing Strategy
Source: SASO Standard Issuing Strategy, Strategy& Analysis

KSA ranks among the top 10 internationally and second regionally on the conformity assessment dimension of the UNIDO's QI4SD index

QI4SD Conformity Assessment Index Rankings

The **conformity dimension** of the QI4SD assesses a country's conformity assessment activities through indicators such as **recognized certificates** and **memberships in IQNet, ISO,** and **IEC**

Top 10 Countries Globally (QI4SD Conformity Dimension Score, 2022)

Country	Score	
🇩🇪	77	
🇨🇳	74	
🇫🇷	66	
🇰🇷	59	
🇪🇸	58	
🇯🇵	56	
🇮🇹	52	
🇦🇪	52	
🇺🇸	51	
🇸🇦	46	Rank 10
🌐	18	High Income Countries Median
🌐	3	Global Median
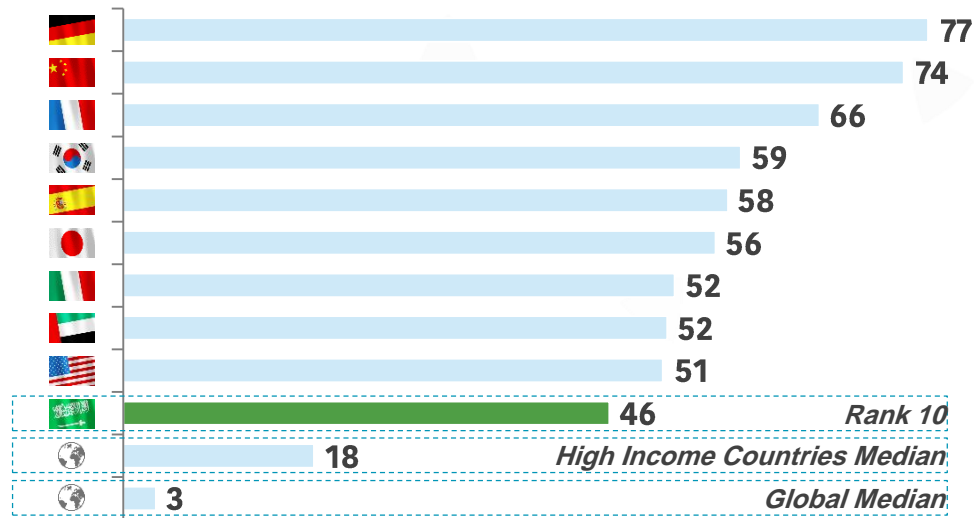
Top 10 Countries in Arab World (QI4SD Conformity Dimension Score, 2022)

Country	Score	
🇦🇪	52	
🇸🇦	46	
🇧🇭	8	
🇪🇬	4	
🇹🇳	4	
🇶🇦	3	
🇲🇦	3	
🇩🇿	2	
🌐	2	Arab World Median
🇱🇧	2	
🇮🇶	2	
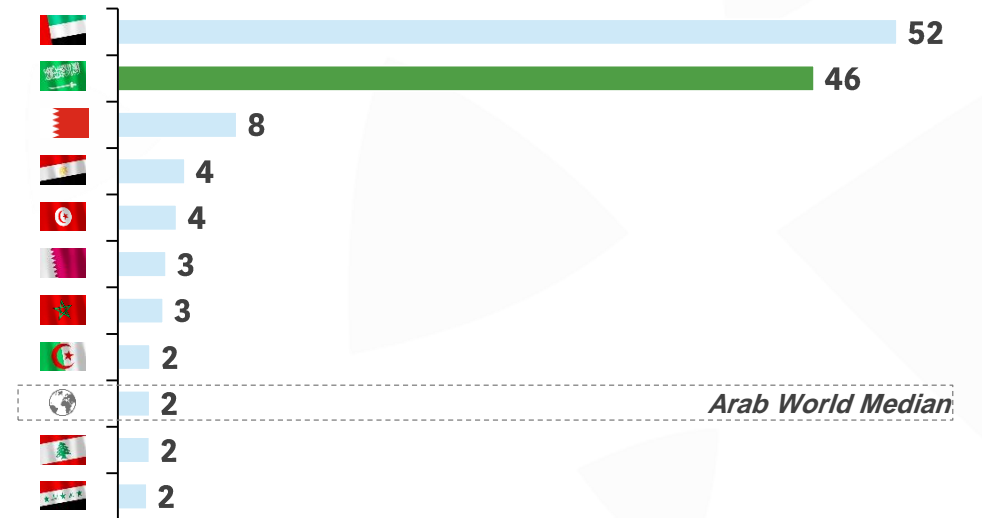
- **KSA ranks 10th globally**, surpassing both the **global median and the median for high-income countries**

- KSA has achieved **regional leadership by ranking 2nd** among Arab countries

Source: UNIDO, Strategy& Analysis

8

SABER, a notable success in conformity efforts, facilitated and streamlined products' registration process, thereby reducing private sector costs

KSA SABER Platform

SABER Platform

Launched by SASO 01/01/2019

The SABER platform is an **electronic system for registering** and **certifying products** to ensure they meet Saudi market **safety** and **quality standards**

Saber Number of Registered Products

+62.62%

Effect of Covid

2019	2020	2021	2022	2023
854,156	1,484,000	708,345	1,576,818	5,973,433
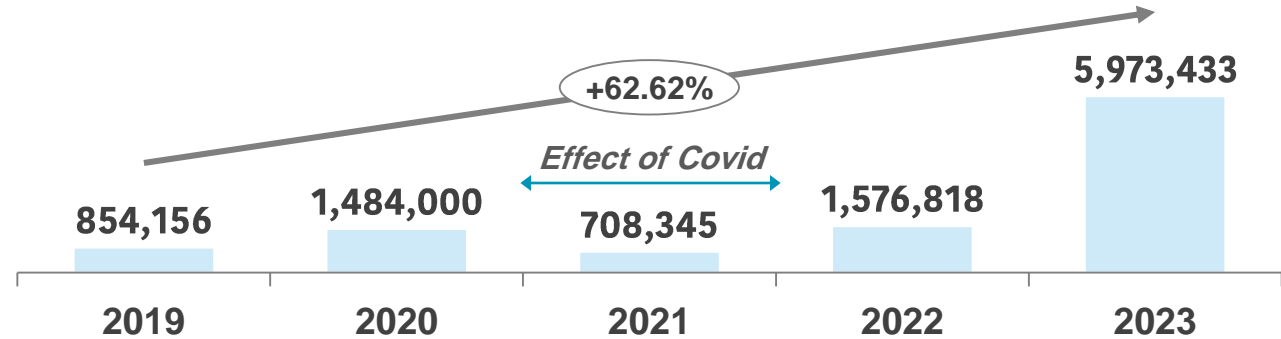
- The launch of the SABER platform **ensured product conformity is achieved in the country of origin**, **streamlined the registration process,** and **significantly increased the number of registered products**

BENEFITS

- ➢ **Reduced** private sector **costs** (e.g., shipment returns)
- ➢ **Accelerated** shipment **release time**
- ➢ **Enhanced** KSA's global **competitiveness scoring**

The conformity assessment landscape in KSA is growing rapidly, facilitated by SASO's efforts to encourage private sector participation

KSA CAB Landscape Growth

The Conformity Assessment landscape in KSA is undergoing expansion, driven by growth in private sector CABs

Number of Conformity Assessment Bodies (CABs) in KSA
(by category, 2022-23)

Legend:
- SASO
- Other Public Sector
- Private Sector

%75

172
- 15 (SASO)
- 25 (Other Public Sector)
- 132 (Private Sector)

301
- 16 (SASO)
- 64 (Other Public Sector)
- 221 (Private Sector)

2022   2023
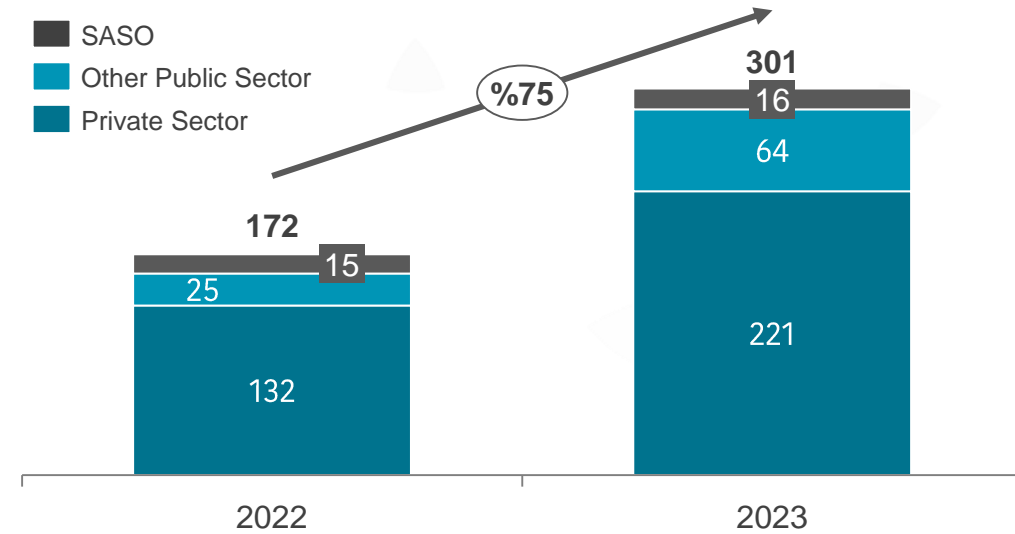
The number of CABs in KSA **grew by 75%** from 2022 to 2023, driven by private sector, which saw the **largest increase of 89 CABs** among categories

This growth has been facilitated by SASO's efforts in encouraging private sector participation

SASO Initiatives to Enhance Private Sector Participation (PSP)
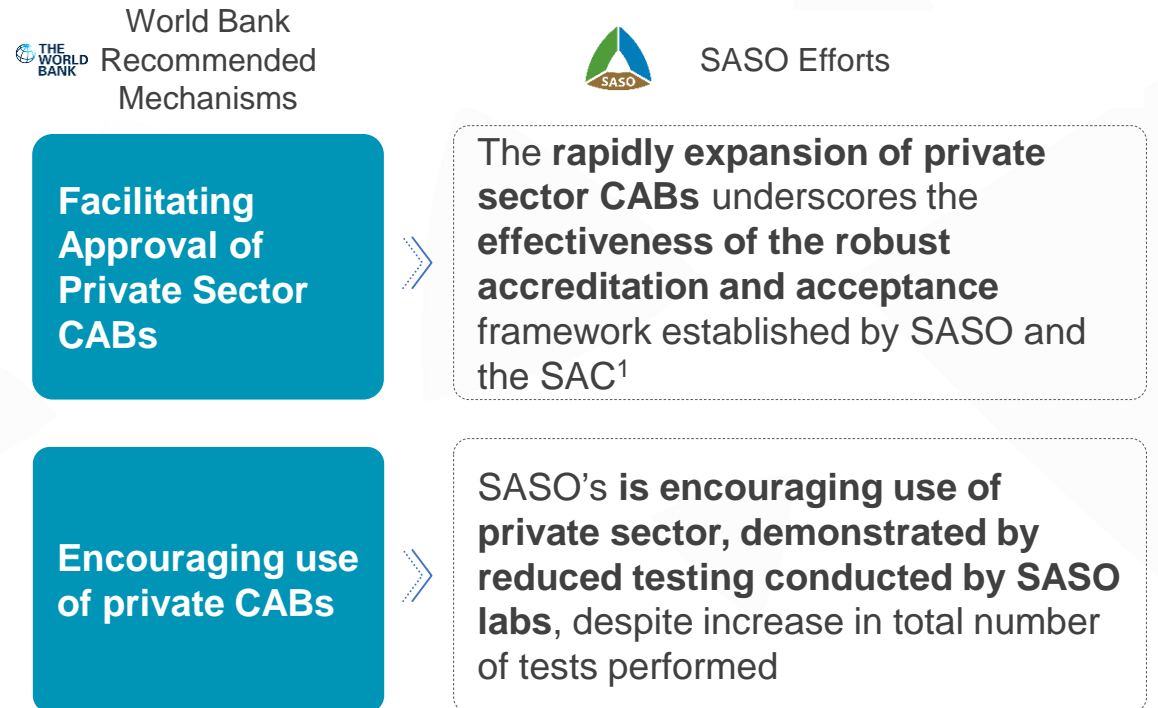
World Bank Recommended Mechanisms | SASO Efforts

Facilitating Approval of Private Sector CABs → The **rapidly expansion of private sector CABs** underscores the **effectiveness of the robust accreditation and acceptance** framework established by SASO and the SAC[1]

Encouraging use of private CABs → SASO's **is encouraging use of private sector, demonstrated by reduced testing conducted by SASO labs**, despite increase in total number of tests performed
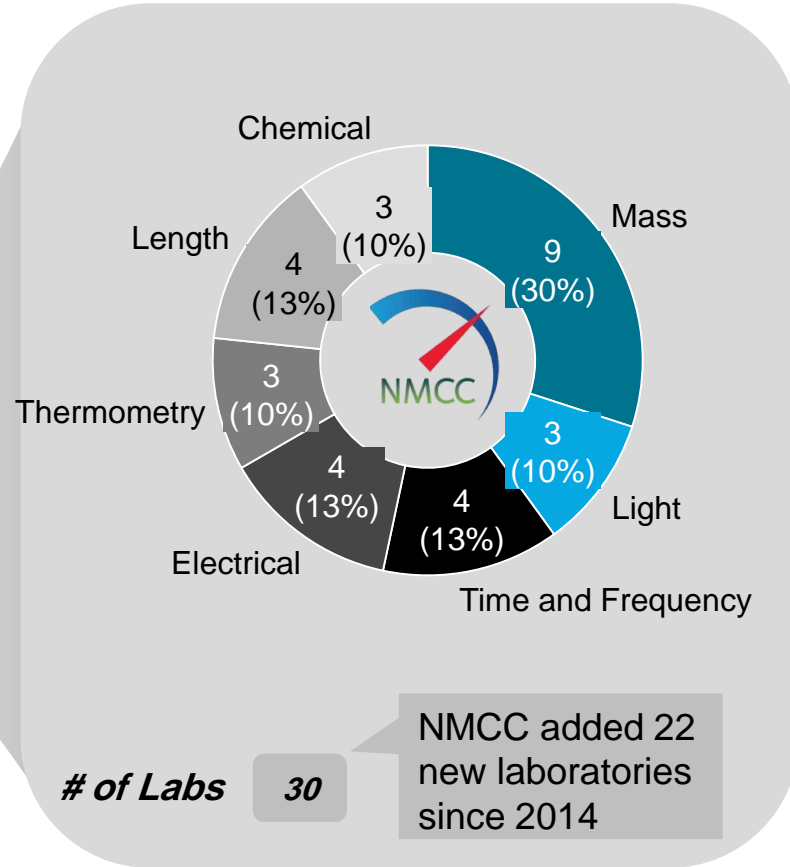
KSA's scientific metrology is led by the NMCC, a dedicated center with 30 labs and key activities in measurement standards, units, and calibrations

SASO Scientific Metrology

National Measurement and Calibration Center (NMCC) Integration

BIPM

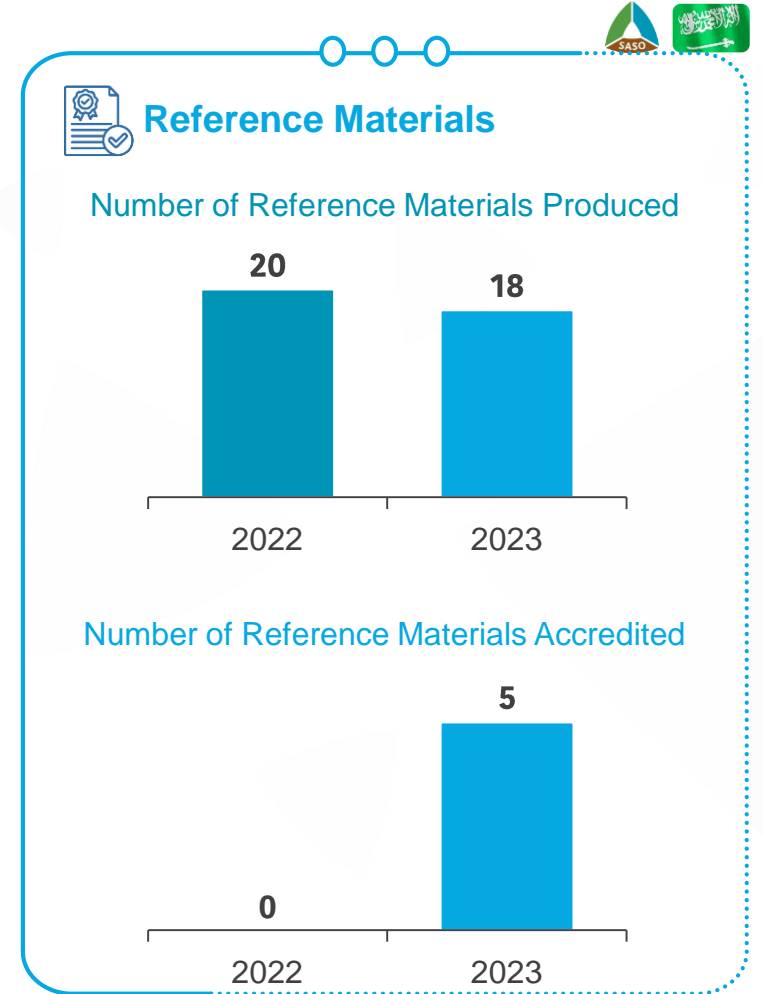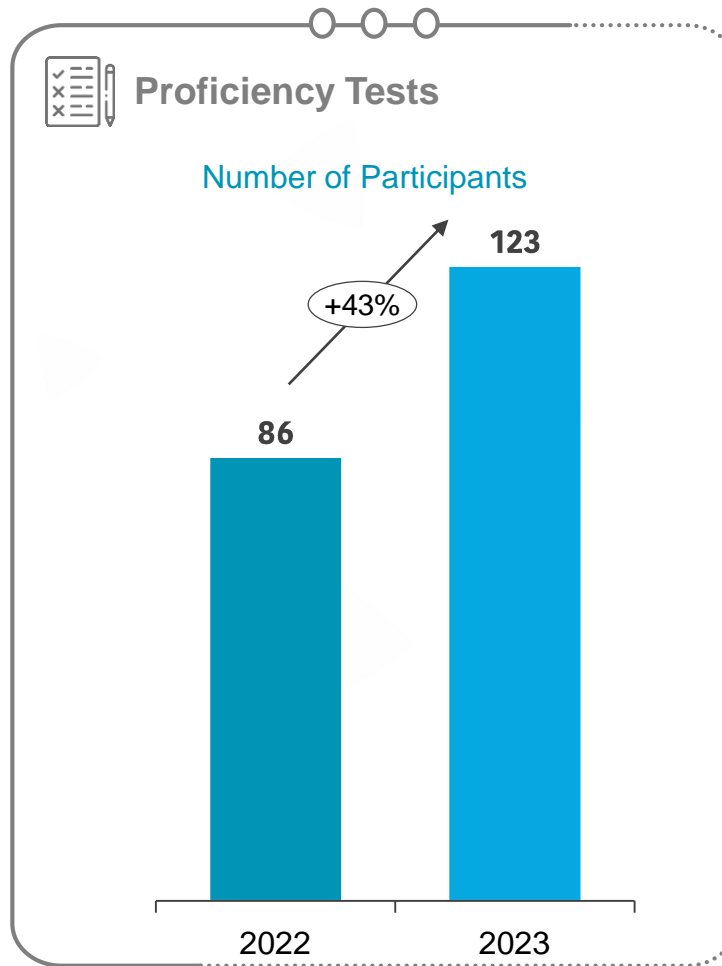**International Reference**
(Calibration with Int'l Metrology Bodies)

National Reference Labs
(NMCC Labs)

CAB[1]   **CAB**   **CAB**

NMCC National Labs (2024)

- Chemical: 3 (10%)
- Mass: 9 (30%)
- Length: 4 (13%)
- Light: 3 (10%)
- Thermometry: 3 (10%)
- Time and Frequency: 4 (13%)
- Electrical: 4 (13%)

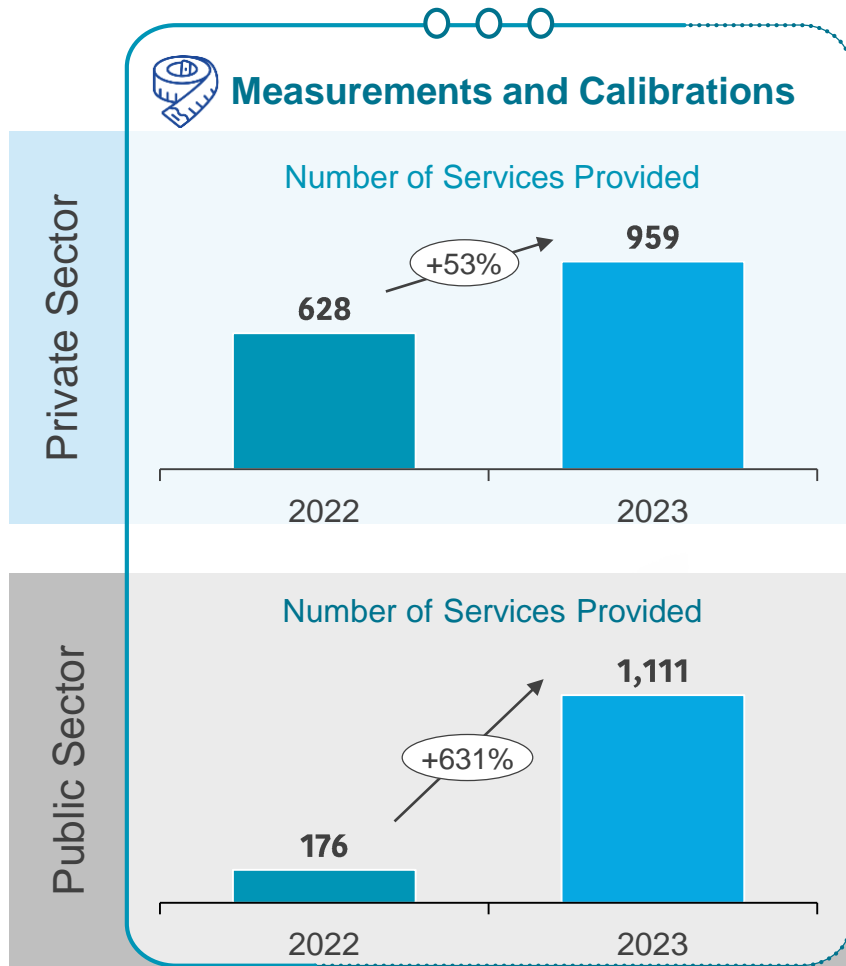*# of Labs*   30
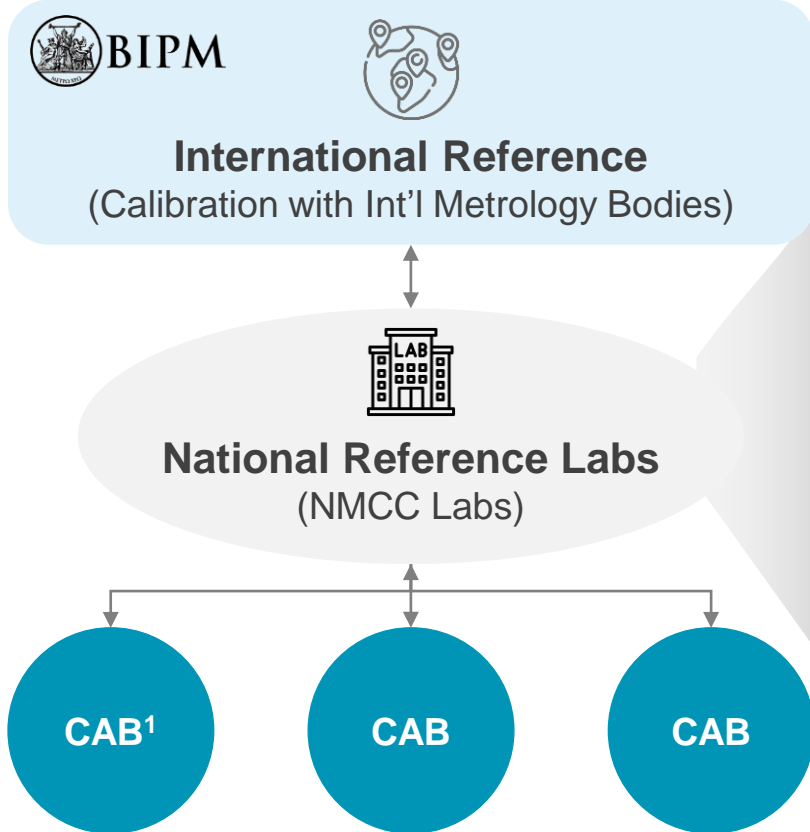
NMCC added 22 new laboratories since 2014

NMCC Activities

- Establishment and maintenance of measurement standards
- Definition of basic measurement units
- Calibration and quality control services
- Technical consultancy, research and educational activities
- International representation and participation

1) Conformity Assessment Body

Source: SASO, Strategy& Analysis

In fact, the NMCC increased its activities across calibration, proficiency tests and accreditation of reference materials in 2023

NMCC[1] Activities

Measurements and Calibrations

Private Sector

Number of Services Provided

- 2022: 628
- 2023: 959

+53%

Public Sector

Number of Services Provided

- 2022: 176
- 2023: 1,111

+631%

Proficiency Tests

Number of Participants

- 2022: 86
- 2023: 123

+43%

Reference Materials

Number of Reference Materials Produced

- 2022: 20
- 2023: 18

Number of Reference Materials Accredited

- 2022: 0
- 2023: 5

1) National Measurement and Calibration Center

Source: SASO, Strategy& Analysis

SASO launched Taqyees in 2018 as the legal metrology authority with functions around type approvals, verifications, and market surveillance

Taqyees Program Overview

Overview

➢ The Taqyees program was **launched in 2018** as a **dedicated centre** for legal metrology

➢ The program currently covers **four measuring instruments** (electricity meters, fuel pumps, water meters and trade balances) and its functions include **type approvals, initial** and **periodic verifications,** and **market surveillance**

Taqyees Functions

Type approvals: granting national certificate to measuring devices for market entry based on a model certificate from OIML[1] accredited laboratories to demonstrate compliance with Saudi regulations

Initial verification: technical inspection to ensure that measuring devices are manufactured according to the approved model

Periodic verification: technical inspection to ensure that measuring devices are working properly, carried out either based on a request from the manufacturer/ service provider or after maintenance work is carried out on the device

Market surveillance: unannounced checks (either random or based on a consumer report) to ensure that measuring devices operate properly throughout period of use
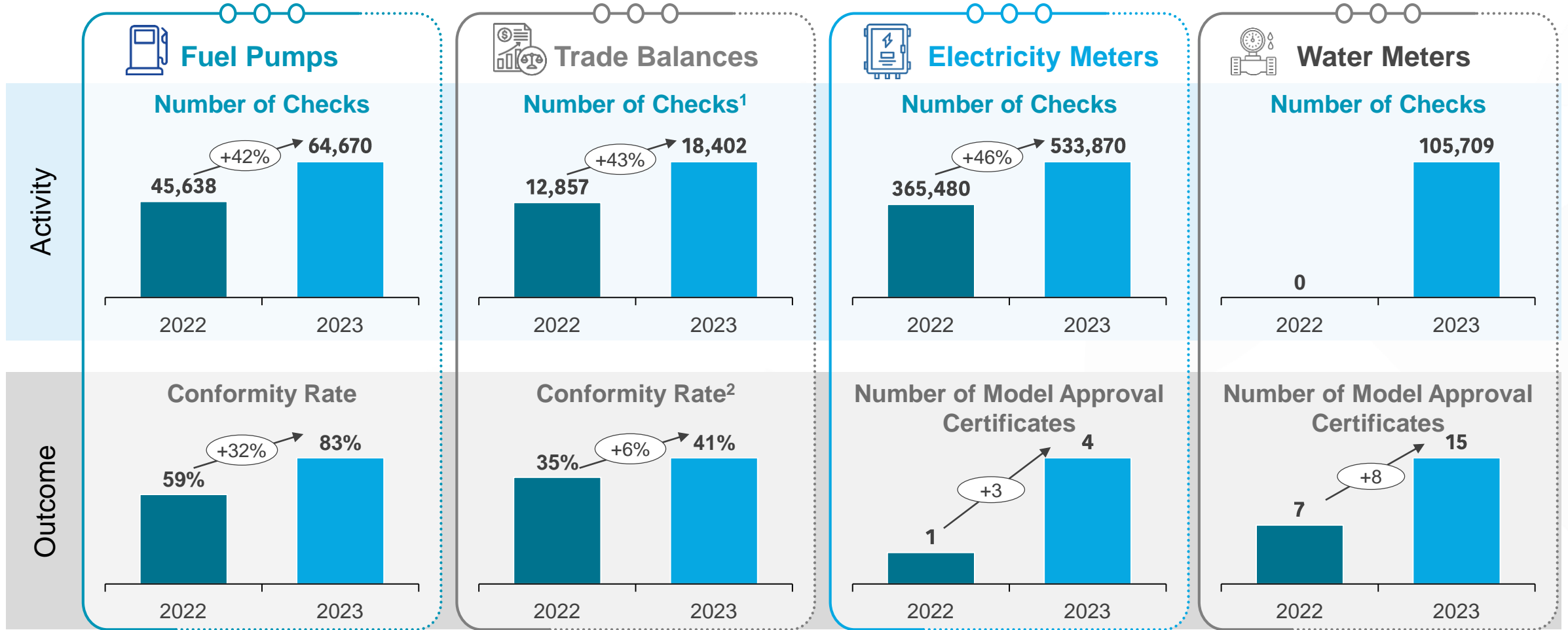
Taqyees **qualifies private sector verification bodies** who then provide the initial and periodic verification services, e.g., Taqyees **increased number of qualified verification** bodies for water meters from 3 entities in 2022 to 12 entities in 2023

1) International Organization for Legal Metrology

Source: SASO, Strategy& Analysis

Taqyees' efforts to expand activities across the four instruments have improved conformity and certification outcomes

Taqyees Expanded Activities

Fuel Pumps

Activity

Number of Checks

- 2022: 45,638
- 2023: 64,670 (+42%)

Outcome

Conformity Rate

- 2022: 59%
- 2023: 83% (+32%)

Trade Balances

Number of Checks[1]

- 2022: 12,857
- 2023: 18,402 (+43%)

Conformity Rate[2]

- 2022: 35%
- 2023: 41% (+6%)

Electricity Meters

Number of Checks

- 2022: 365,480
- 2023: 533,870 (+46%)

Number of Model Approval Certificates

- 2022: 1
- 2023: 4 (+3)

Water Meters

Number of Checks

- 2022: 0
- 2023: 105,709

Number of Model Approval Certificates

- 2022: 7
- 2023: 15 (+8)

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1) Total number of trade balance includes 5 categories: gold, hypermarket, oud perfumes, grocery stores, roasters), 2) Percentage of conformity to scales (commercial)

Source: SASO, Strategy& Analysis

Thank You