



The IECEE Electronic-Product Safety Certification Scheme (the CB Scheme): Systems and Operations

March 7, 2024

MRA International Workshop 2024











Vice Chair of the IEC/IECEE Certification Management Committee (CMC)
Chair of the IECEE Japan National Committee



Director: Toshiyuki Kajiya



Product Safety Certification Scheme Categories in Legally Compulsory/Voluntary Fields in Major Countries

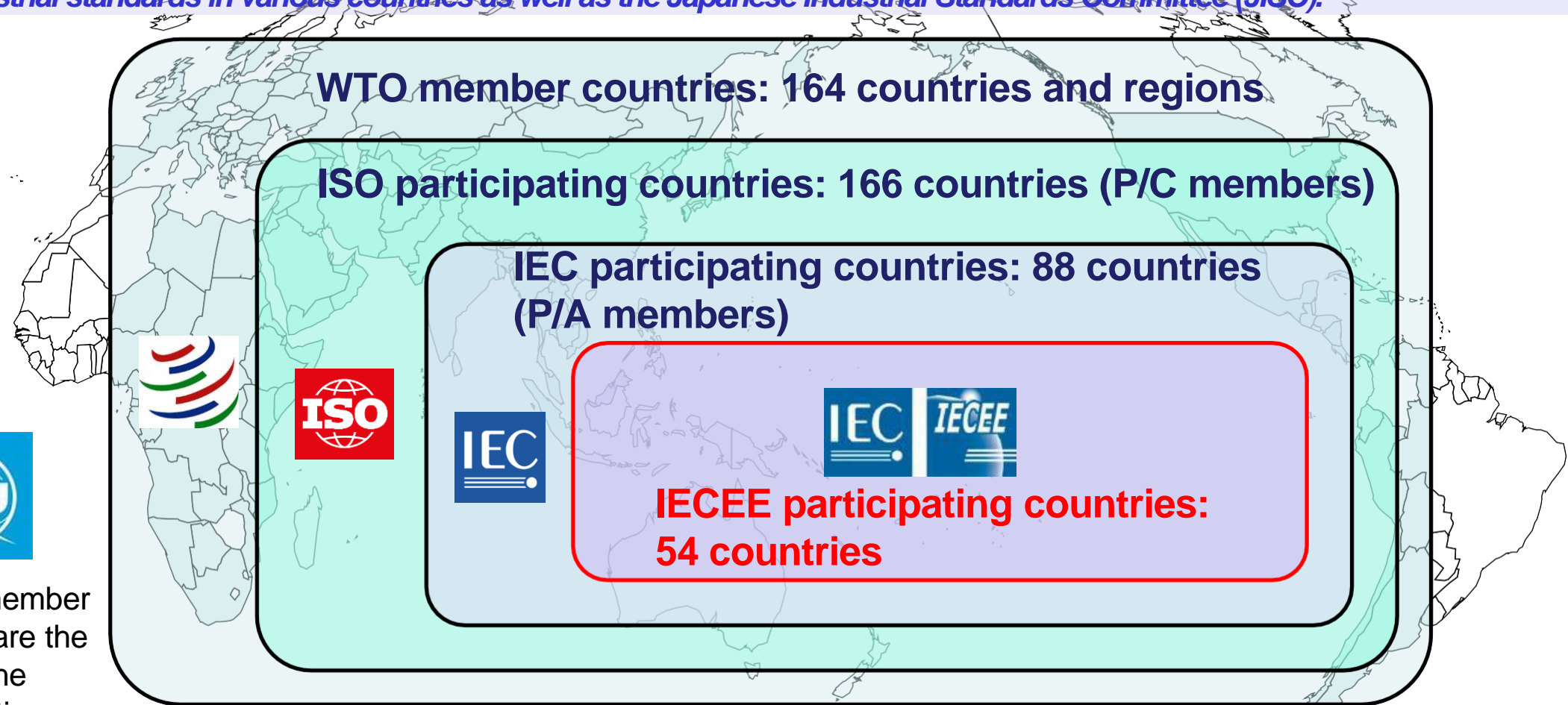
Category		Schemes based on laws and regulations			Private voluntary certification schemes
		Compulsory certification schemes	Voluntary certification schemes	Self-confirmation schemes	
Scope		Applied in product fields that have high potential risks, especially in terms of product safety	Applied as a complementary method for self-confirmation or in response to customer and market needs	Conformity confirmation by suppliers for products that have low potential risks	Independently used in accordance with standards agreed on at the industry level in terms of safety, performance, etc.
Examples	Japan	Electrical Appliances and Materials Safety Act 	Industrial Standardization Act 	Electrical Appliances and Materials Safety Act 	Steering Council of Safety Certification for Electrical and Electronic Appliances and Parts of Japan 
	Abroad	China Compulsory Certificate 	German Product Safety Act 	EU CE Marking Directives 	American UL Certification 
	Global	<p>The IECEE CB Scheme, which is used to handle product certification, is under the jurisdiction of the IEC Conformity Assessment Board (CAB). This scheme is used by member countries that have adapted the IEC Standards as their domestic standards in fields for which these standards have been declared as certification standards to achieve the mutual recognition of assessment results by member countries—regardless of whether certification is legally compulsory or voluntary—without any need to do the same assessment more than once.</p>			

A mark is displayed on certified products as proof of certification in both legally compulsory and voluntary fields.



The IEC's Position Among Major International Organizations

The IEC (International Electrotechnical Commission) formulates and internationally standardizes standards related to electrical and electronic technology. The commission was founded in 1906 and includes 88 participating countries. The commission's headquarters is in Geneva, Switzerland. The IEC's participants include bodies in charge of standardizing industrial standards in various countries as well as the Japanese Industrial Standards Committee (JISC).



The ITU member countries are the same as the United Nations.

Note: The figures are current as of 2018.

IEC Officers and Overall Deliberation System



J. Cops
President



P. Selva
Treasurer



V. Mahendru
VP, SMB Chair



Standard development sector

K. Tsutsumi
VP, MSB Chair



Market strategy sector



P. Metzger
General Secretary

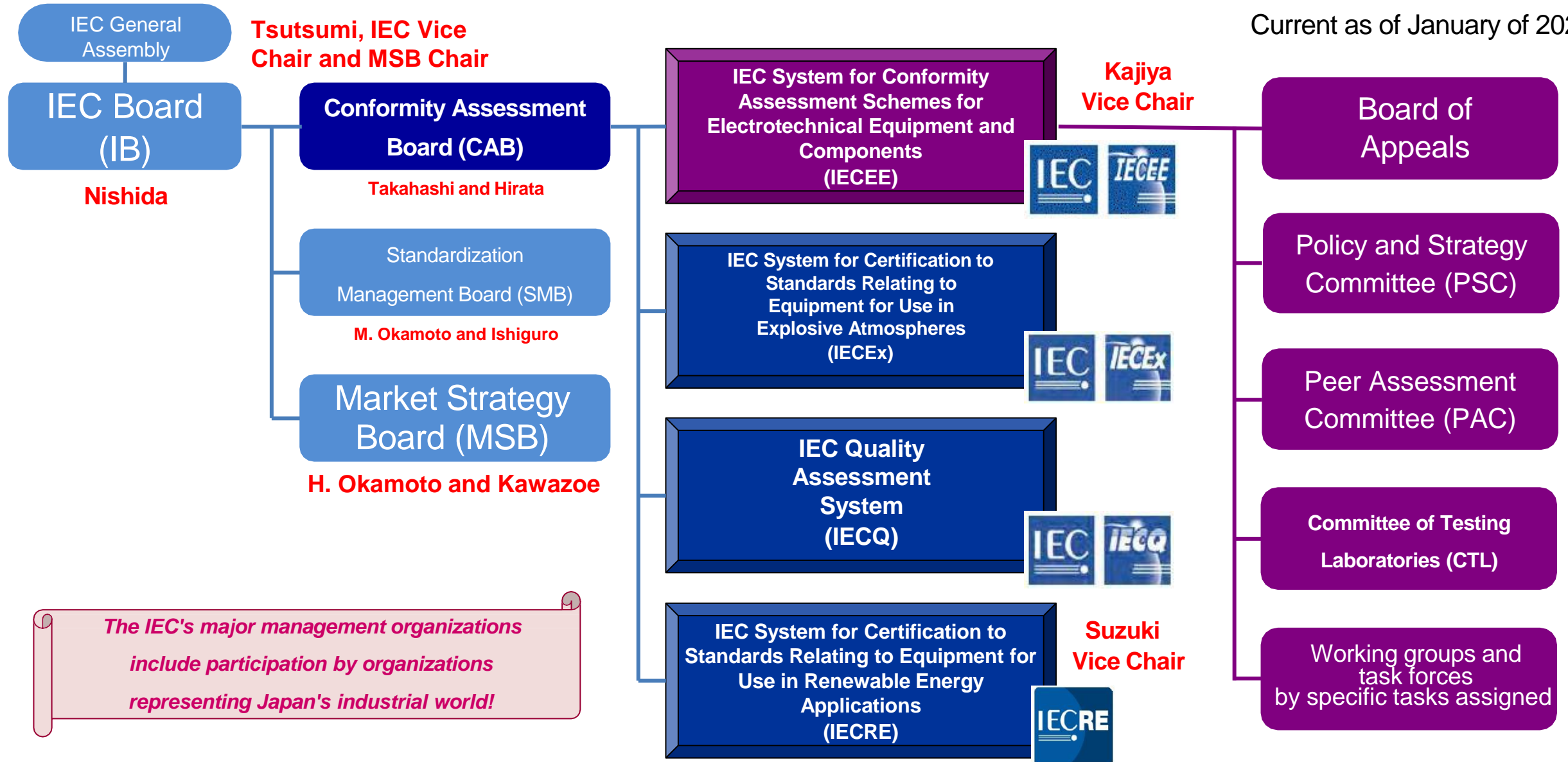


S. Margis
VP, CAB Chair

Conformity assessment sector

Current as of January of 2024

Current as of January of 2024



The IEC's major management organizations include participation by organizations representing Japan's industrial world!

◆ What is the IECEE?

- This stands for the *IEC System for Conformity Assessment Schemes for Electrotechnical Equipment and Components* (commonly called the **CB Scheme**).
- The CB Scheme is based on the IEC Standards and is intended to facilitate the **mutual utilization of data** by ensuring the acceptance of the results of each conformity certification test conducted at a CB testing laboratory (CBTL*) by 54 member countries (MBs*) and 93 certification bodies (NCBs*) without any need to do the same assessment more than once.
- The scheme is run based on IEC CA 01 (Basic Rules), IECEE 02 (Rules of Procedure), and related operational documents (ODs), and the conformity assessment capabilities of registered NCBs and CBTLs are maintained through regular **peer assessments**.
- IECEE slogan:

“One standard, one test performed anywhere, accepted everywhere!”

◆ What is the position of the IECEE in terms of international agreements?

- The WTO-TBT Agreement calls for:
 - *Making international standards/schemes the basis for domestic conformity assessment procedures in both compulsory and voluntary fields*
 - *Mutual recognition by member countries of assessment results obtained as a result of the above procedures*

The CB Scheme is recognized as a mechanism for satisfying the above.

◆ What is Japan's presence in terms of this scheme?

- The Japanese Industrial Standards Committee (JISC) joined as a member body in 1981, and five NCBs are currently registered as well: JET, JQA, TUV-Rh Japan, UL Japan, and COSMOS Corp.
- In Japan, the IECEE Japan National Committee functions as a mirror committee, which decides on Japan's action policy, participates in the meetings of the Certification Management Committee (CMC*) held once per year, and applies the results to opinions and Japanese policies.

MB: Member Body

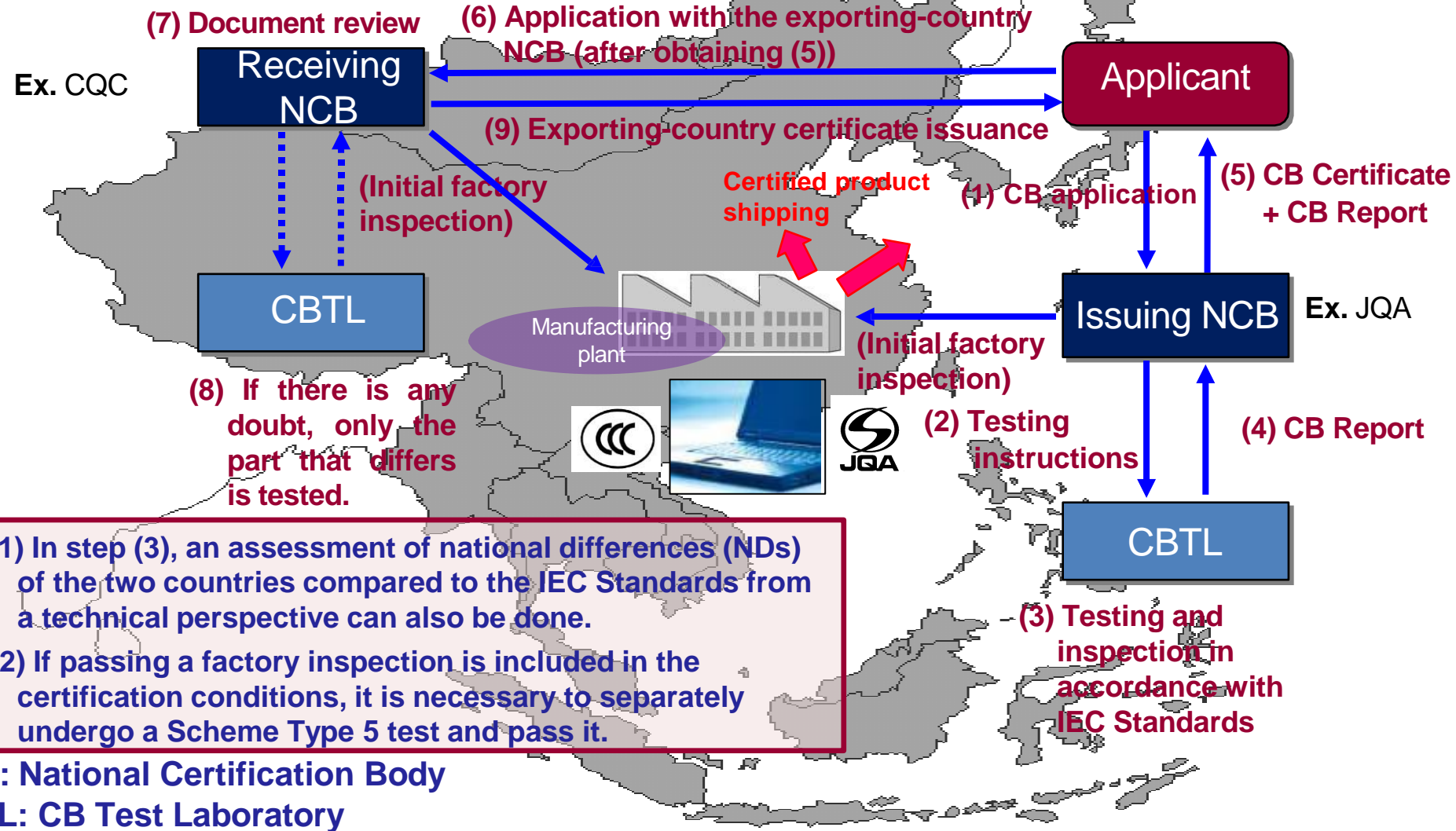
CBTL: CB Test Laboratory

NCB: National Certification Body

CMC: Certification Management Committee

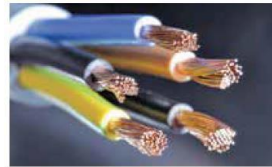
Example of a Multi-Certification Procedure Using the IECEE CB Scheme

Example of a product that was designed in Japan and manufactured in China receiving Chinese CCC Certification based on Japanese S Mark Certification

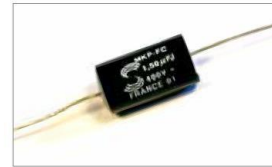




BATT
Batteries



CABL
Cables and cords



CAP
Capacitors as components



MEAS
Measuring instruments



MED
Electrical equipment for medical use



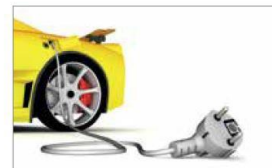
MISC
Miscellaneous



CONT
Switches for appliances and automatic controls for electrical household appliances



E3
Electrical energy efficiency



ELVH
Electrical vehicles



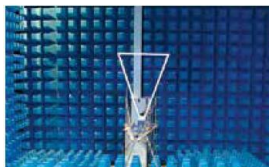
OFF
IT and office equipment



POW
Low voltage, high power switching equipment



PROT
Installation protective equipment



EMC
Electromagnetic compatibility



HOUS
Household and similar equipment



INDA
Industrial automation



PV
Photovoltaics



SAFE
Safety transformers and similar equipment



TOOL
Portable tools



INST
Installation accessories & connection devices



ITAV
Information technology audio video



LITE
Luminaires

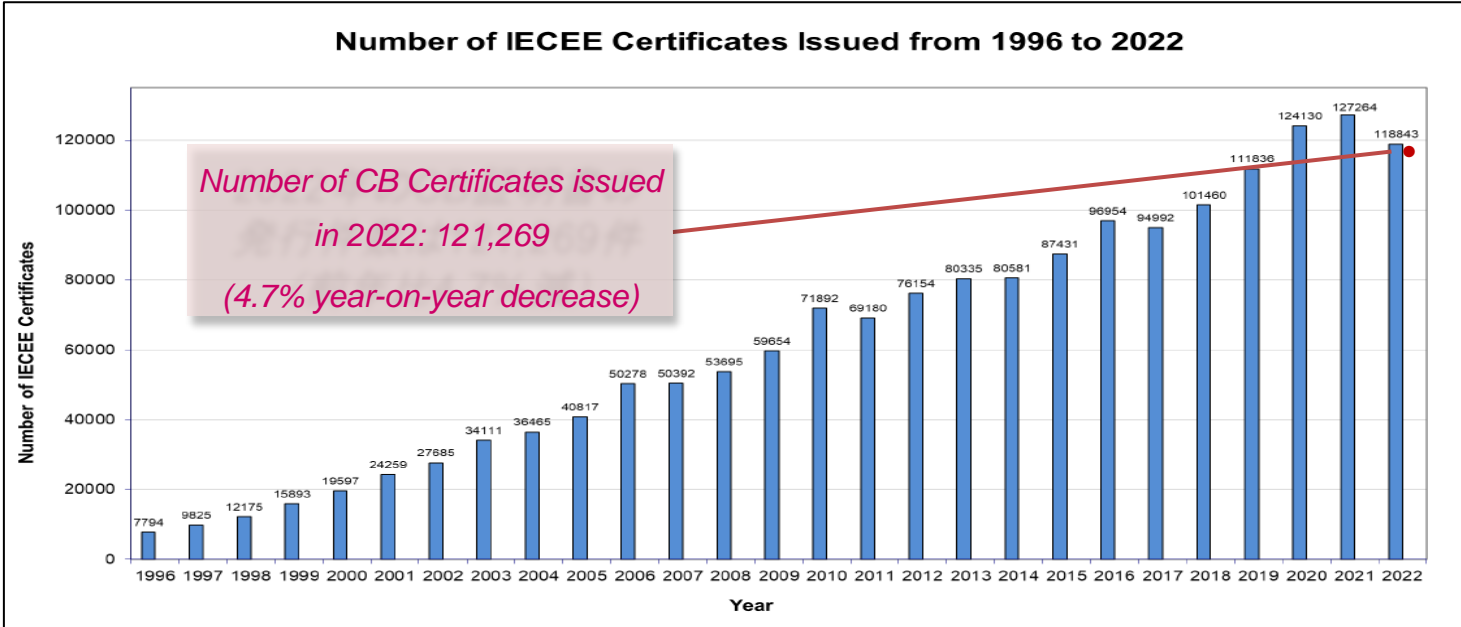


TRON
Electronics, entertainment



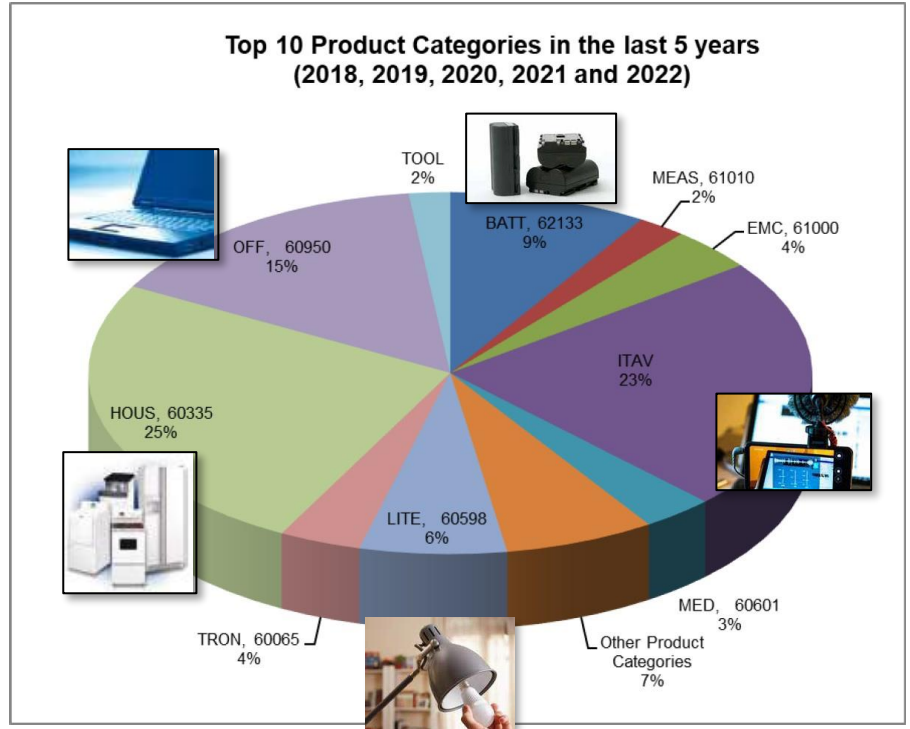
CYBR
Cyber security

Excerpt from the 2023 edition of the “IECEE - Taking conformity assessment further” booklet



Comparison of major countries in terms of the number of CB certificates issued (2022)

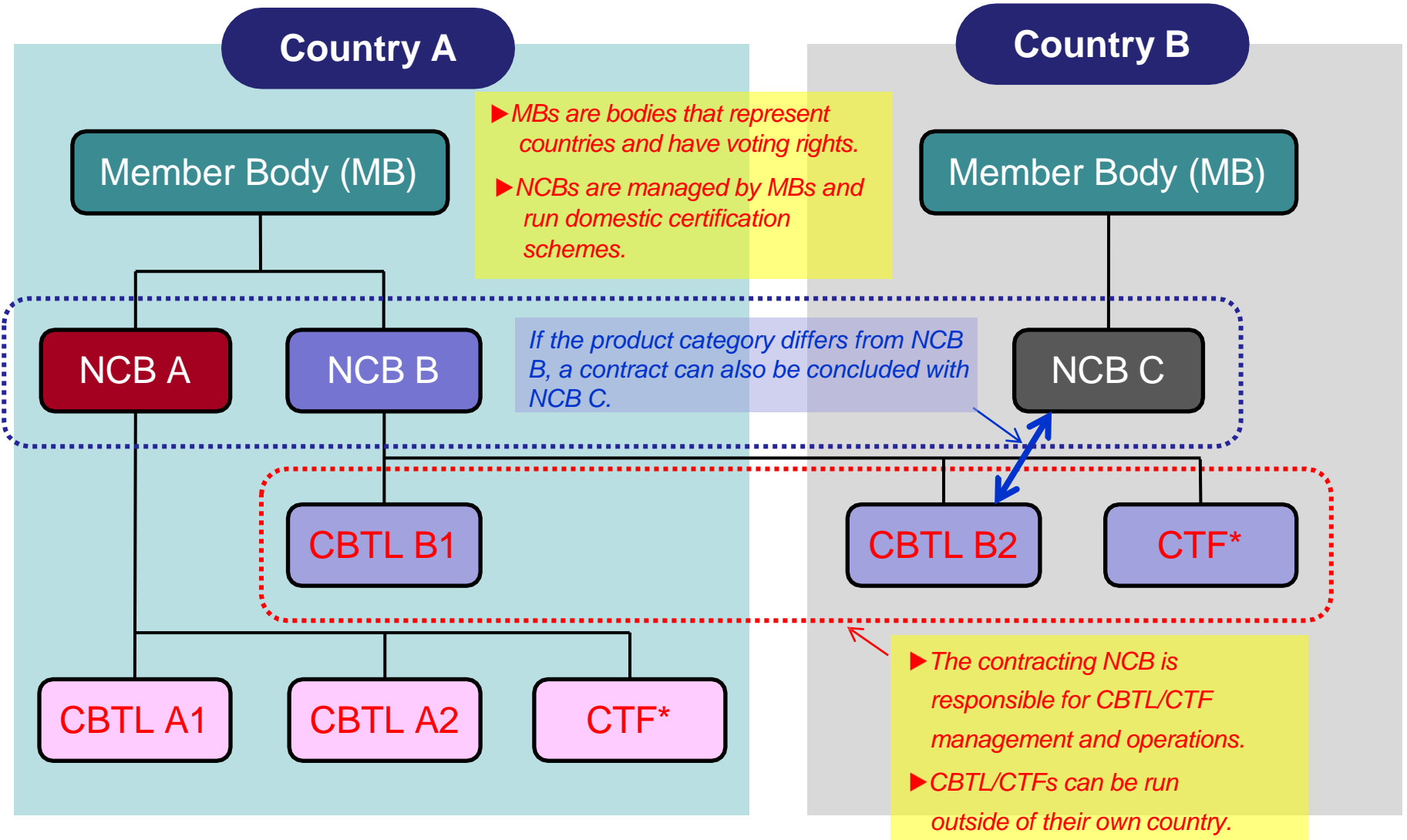
Country name	Japan	USA	Germany	China
Number of NCBs	5	5	9	7
CBTL total	63	36	76	44
Number of CBTCs issued	21,820 (18.0%)	4,804 (4.0%)	9,750 (8.0%)	5,199 (4.3%)



- ### Top 5 by Product Category
- 1) 60335 (HOUS) : 25%
 - 2) 62368 (ITAV) : 23%
 - 3) 60950 (OFF) : 15%
 - 4) 62133 (BATT) : 9%
 - 5) 60598 (LITE) : 6%

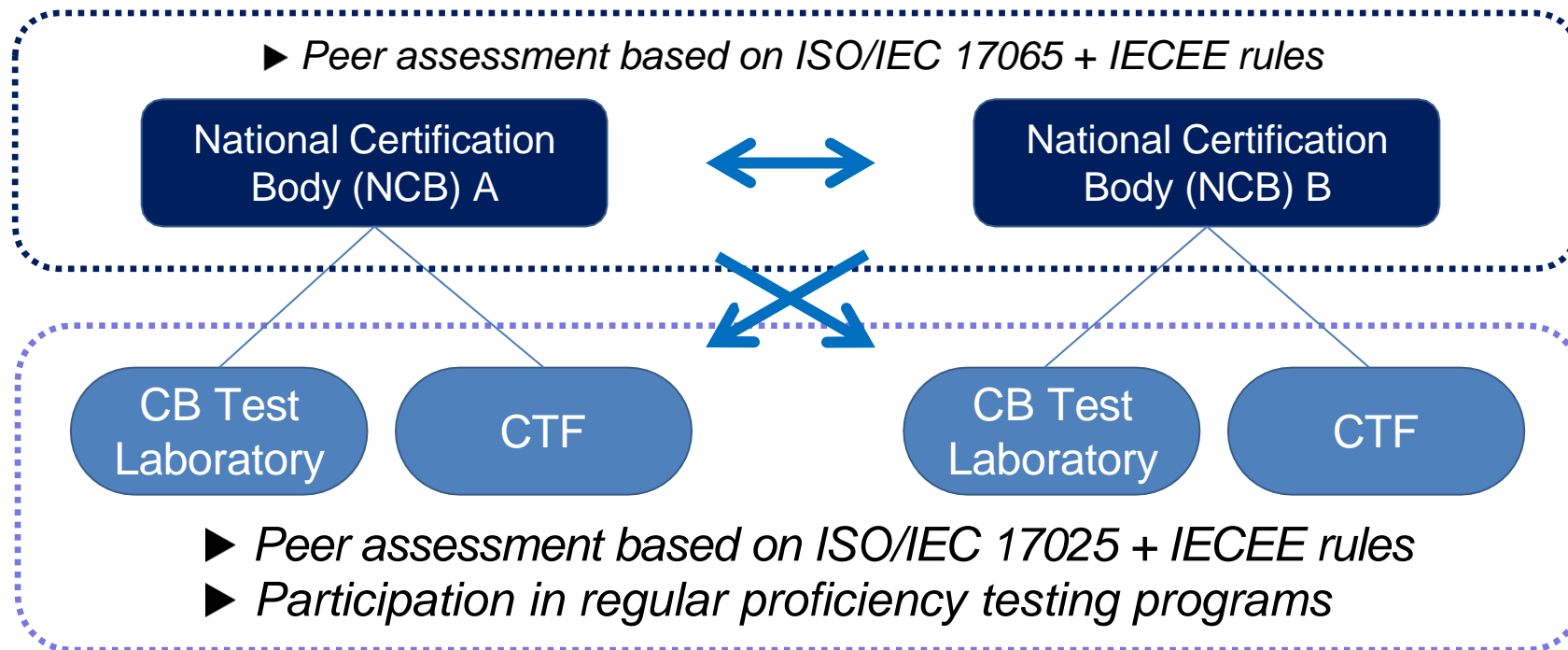
Extracted from;
IECEE-CMC/2426/INF

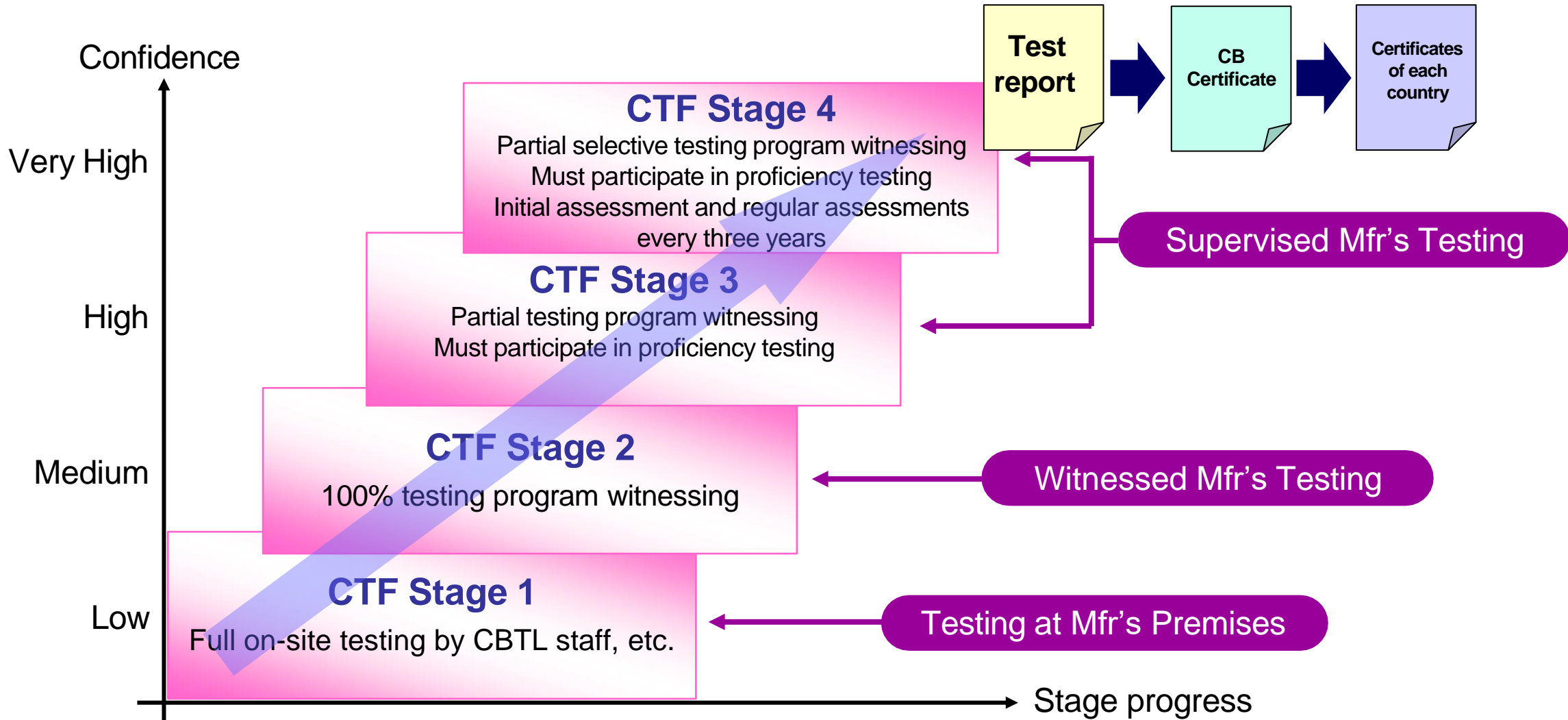
- ▶ The applicant applies for testing with the NCB in their country.
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* CTF: Customer Testing Facility (specifically customer testing facilities and manufacturer laboratories)

- ◆ NCB/CBTL capability assessments are done by having a registered-body expert team confirm the equivalence from both technical and MS perspectives, which is a peer assessment.
- ◆ Manufacturer laboratories (CTFs) are assessed according to prescribed IECEE rules, and then they are assigned a CBTL-equivalent status according to the level of involvement of NCBs in line with their laboratory capability.
- ◆ The contracting NCB is responsible for management related to suitable CBTL/CTF testing and inspection.



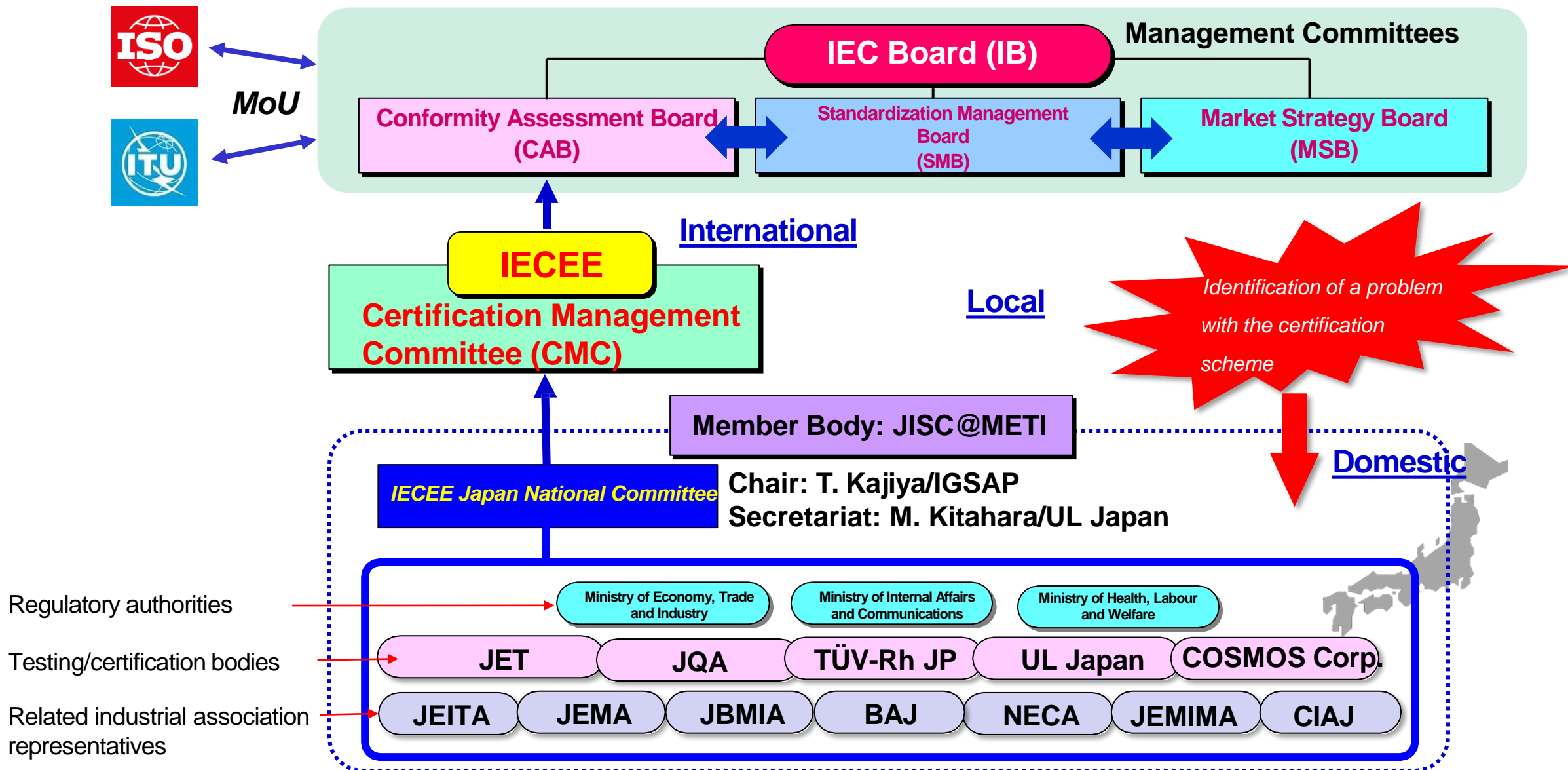


Note 1: Under the CB Scheme, manufacturer laboratories are instead called CTFs (customer testing facilities).

Note 2: Conventional TMP/WMT/SMT testing has been switched to Stage 1 to Stage 4 based on the CTF program.

Major Rules for IECEE CB Scheme Operation

- ◆ The applicable standards are the “IEC Standards + differences registered to the IECEE Secretariat,” and it is possible to apply with the issuing NCB for testing, including differences compared to the receiving NCB country.
- ◆ In cases where the standards of the receiving NCB country expire, to avoid CB Certificate issuance for the corresponding standards, it is necessary to notify the issuing NCB of the situation no later than one year before the expiration.
- ◆ In some fields where there are industrial or domestic standards but no IEC or ISO standards, they will be considered applicable after obtaining the approval of the higher level committee (the CAB).
- ◆ CB Certificates (CBTCs) are only considered effective alongside the corresponding test reports (CBTRs).
- ◆ CB Certificates do not guarantee that the receiving NCB can omit testing, and it might be necessary to conduct additional testing to confirm product conformity.
- ◆ The CB Scheme is a model-testing certification scheme (Type 1), and—if passing an on-site factory inspection is including in the certification conditions of the receiving NCB (Type 5)—a separate factory inspection will be necessary.
- ◆ The items on a CB Certificate can be changed up to three times without making the certificate invalid, but it is necessary to apply with the issuing NCB for a new certificate if any more changes are made.



① Compliance with legal regulations of each country

- Compliance certificates can be obtained in IEC member countries and regions implementing safety regulations without any duplicate testing, regardless of whether this is legally compulsory or not.
- CB Certificates can also be directly received as Proof of Compliance (in terms of product safety) in some non-IEC member countries as well.

② More efficient and prompt product certification activities

- Because testing/certification bodies can be freely selected, bodies that are close to the design site can be selected to reduce transportation costs and the time required while also avoiding communication-related language problems.

③ Effective utilization of in-house laboratories

- CB Certificates that indicate equivalence to CBTLs can be obtained by in-house laboratories that satisfy the prescribed certification requirements, which contributes to the effective utilization of in-house resources.

④ An effective SDoC (Supplier's Declaration of Conformity) support tool

- The CB Scheme can be used to provide supporting documents in the form of internationally recognized certificates to demonstrate conformity assessment results that are essential for SDoC issuance, including the EU's CE Marking scheme.

***One standard, one test performed
anywhere, result accepted everywhere!***

Thank you for listening.



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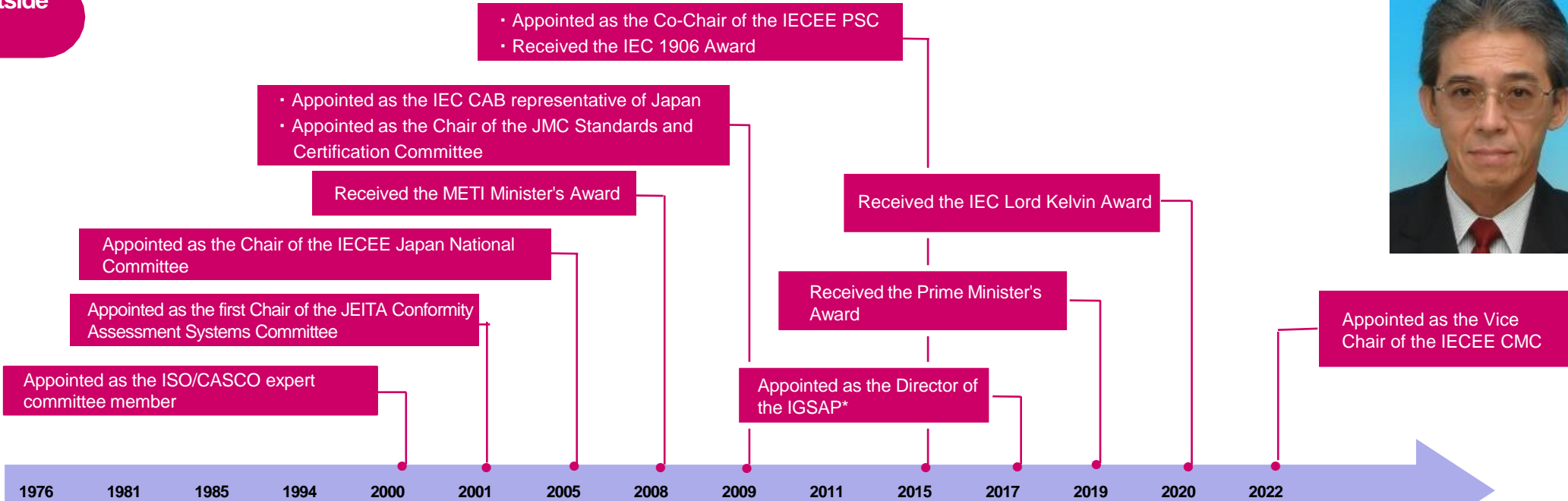




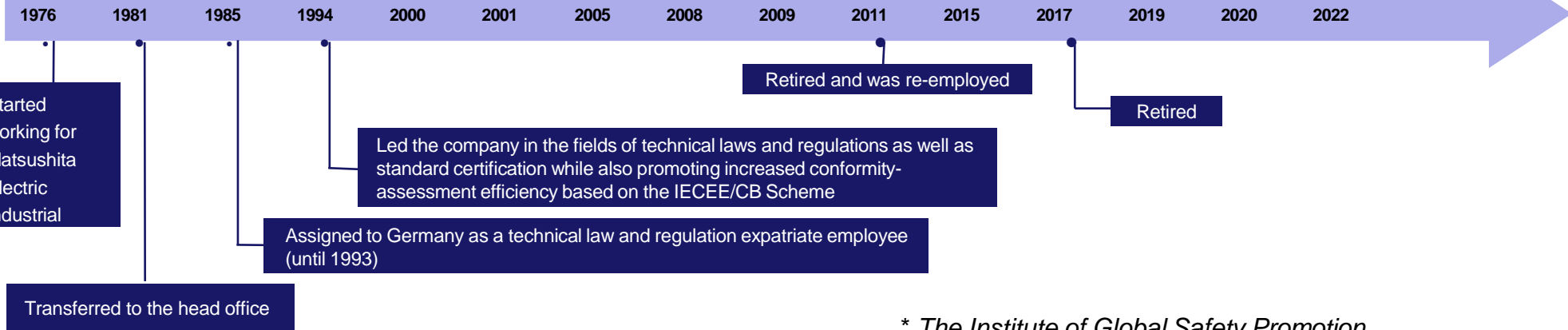
Speaker Biography



Personal history outside the company



In-house personal history



* The Institute of Global Safety Promotion