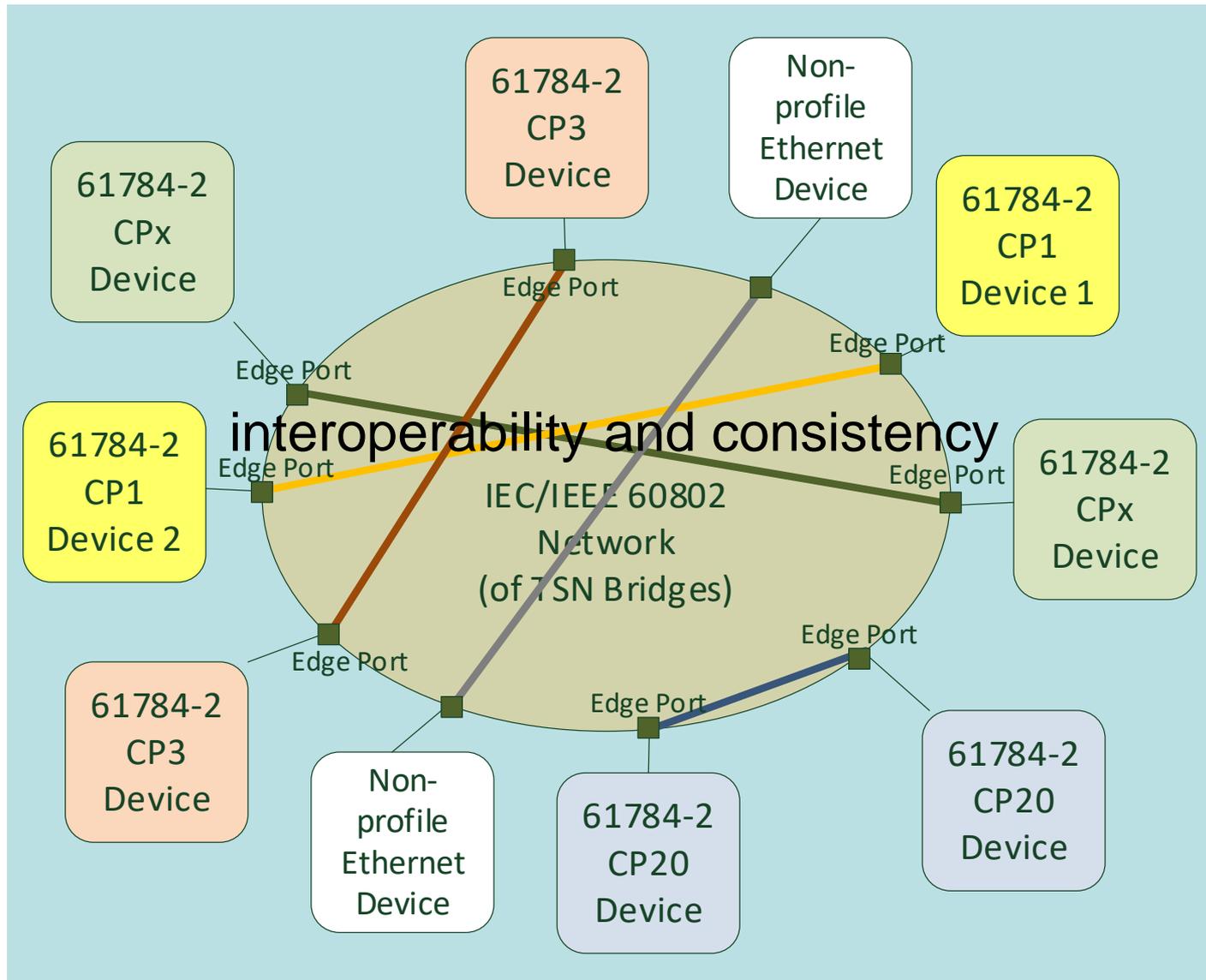


Motivation for a Collaborative Conformance Assessment for IEC/IEEE 60802



Ludwig Winkel
Steve Zuponcic

Multi-Vendor IEC/IEEE 60802 network

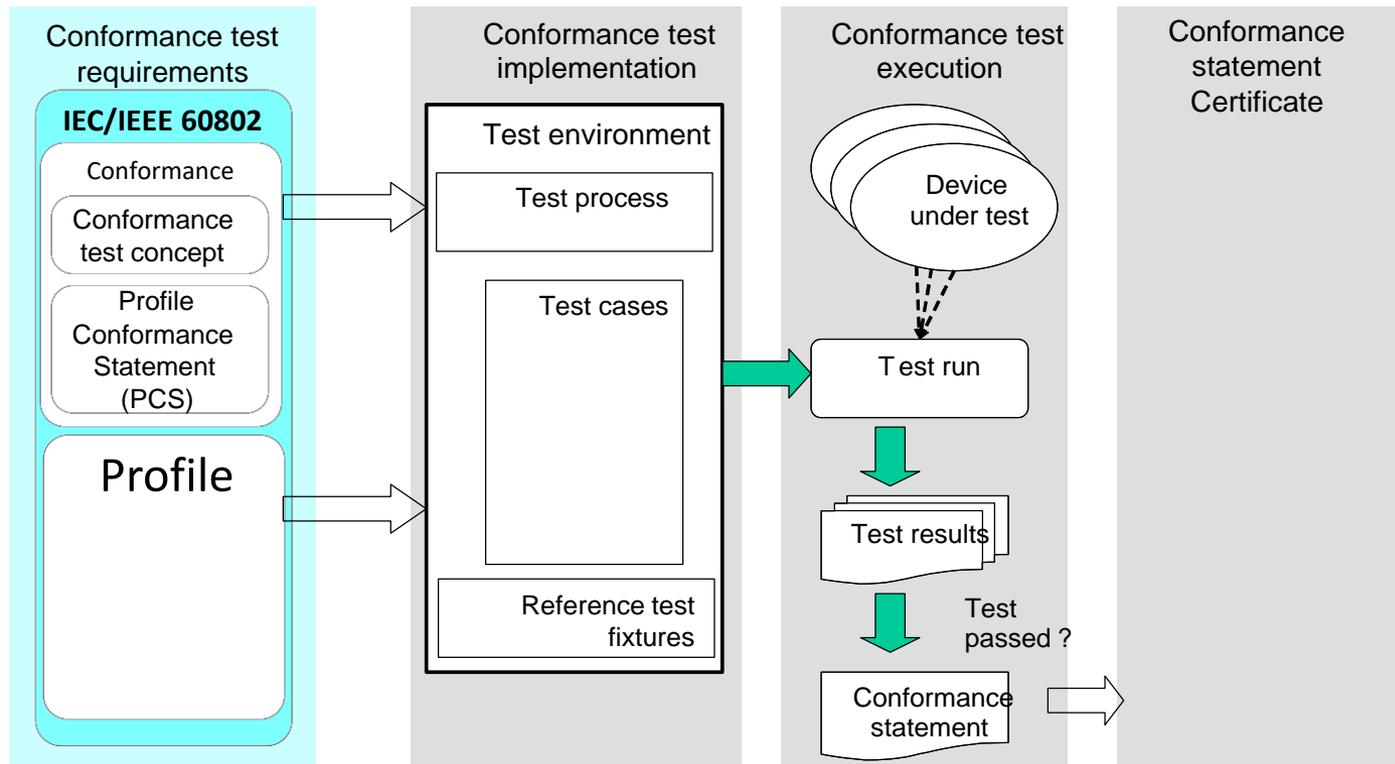


The Need for Collaborative Conformance Testing

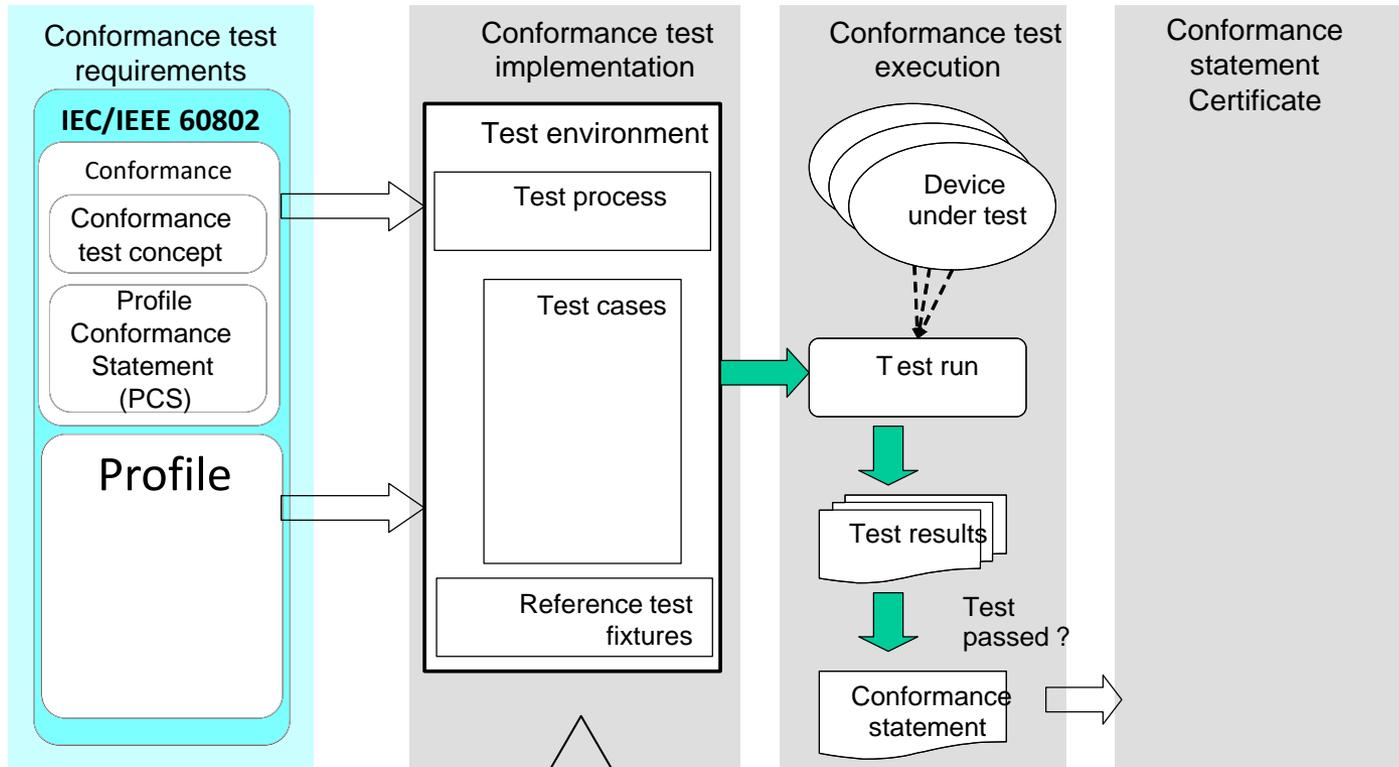
- TSN is a set of IEEE open standards
- The IEC/IEEE 60802 Joint Project is tasked with defining an interoperable implementation of these standards to allow for coexistence of different products and different brands on the same wire
- In order to validate implementation in products, active testing of products is required to assure compliance and to secure certification
- This movement to a single technology for all vendors is convergence
- In order for technologies to achieve true convergence, *all groups working on the same problem area must also converge* either organizationally or collaboratively
 - Otherwise there will be fragmentation and more than one solution is introduced.
- This presentation introduces a conformance *proposal* that includes a proposed conformance process as well as a proposal for convergence of multiple organizations to achieve a common objective

Conformance assessment concept

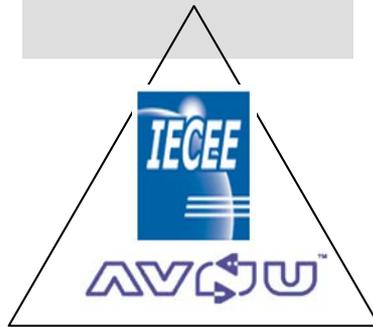
This presentation outlines a proposal for a collaborative conformance test for a compliant TSN-IA device. Conformance test implementation and conformance test execution are not defined in IEC/IEEE 60802. The concept of the conformance test is to verify the capabilities of the device under test (DUT) against IEC/IEEE 60802 with the goal of assuring interoperability between such devices.



Collaborative Conformance Testing Proposal

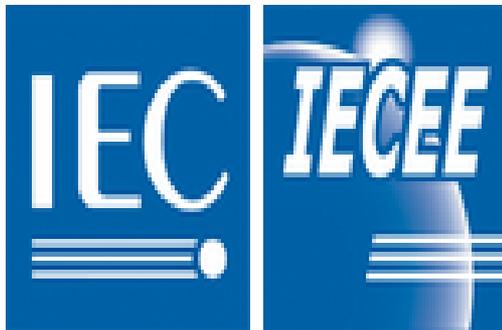


IEC/IEEE 60802



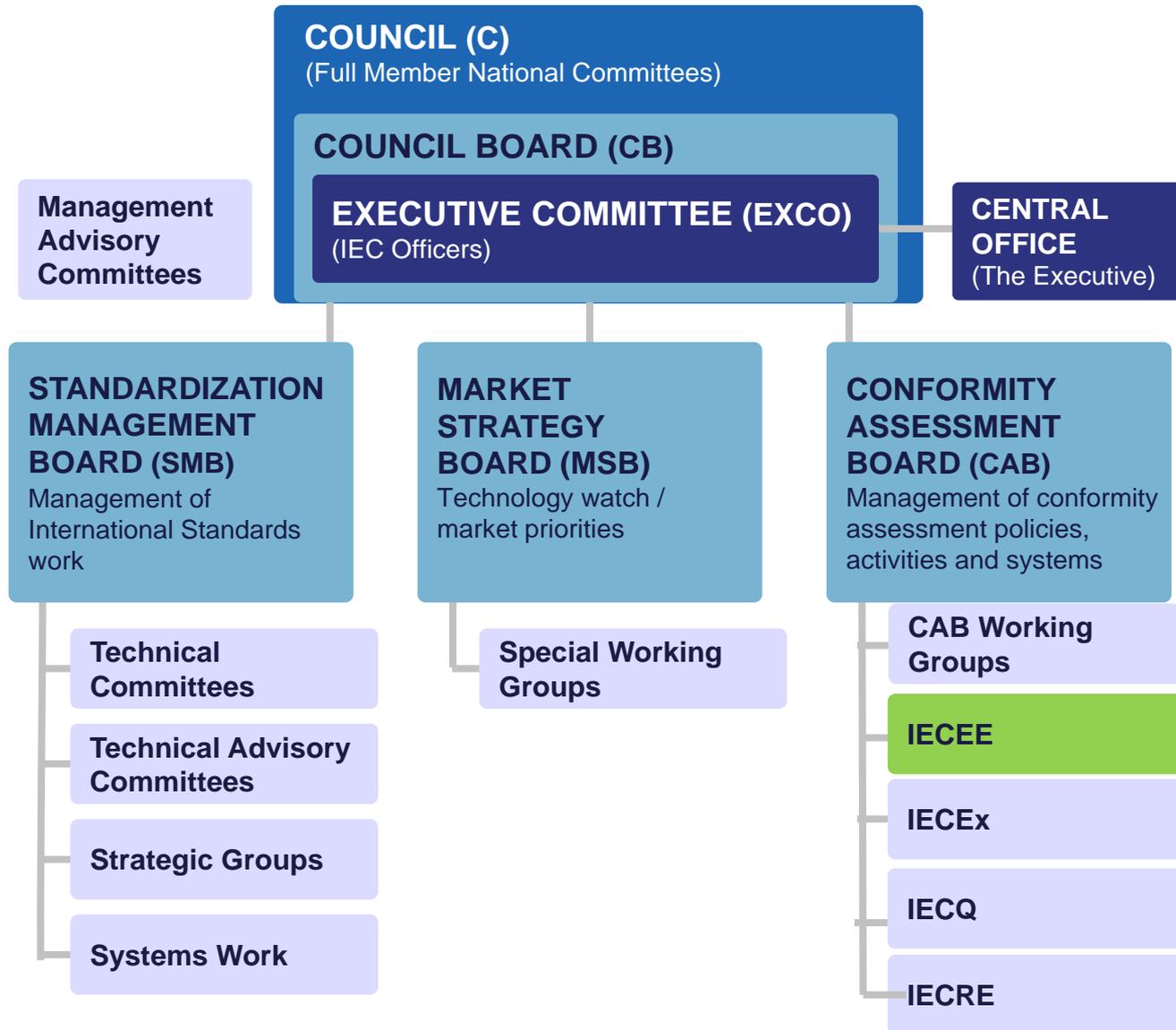
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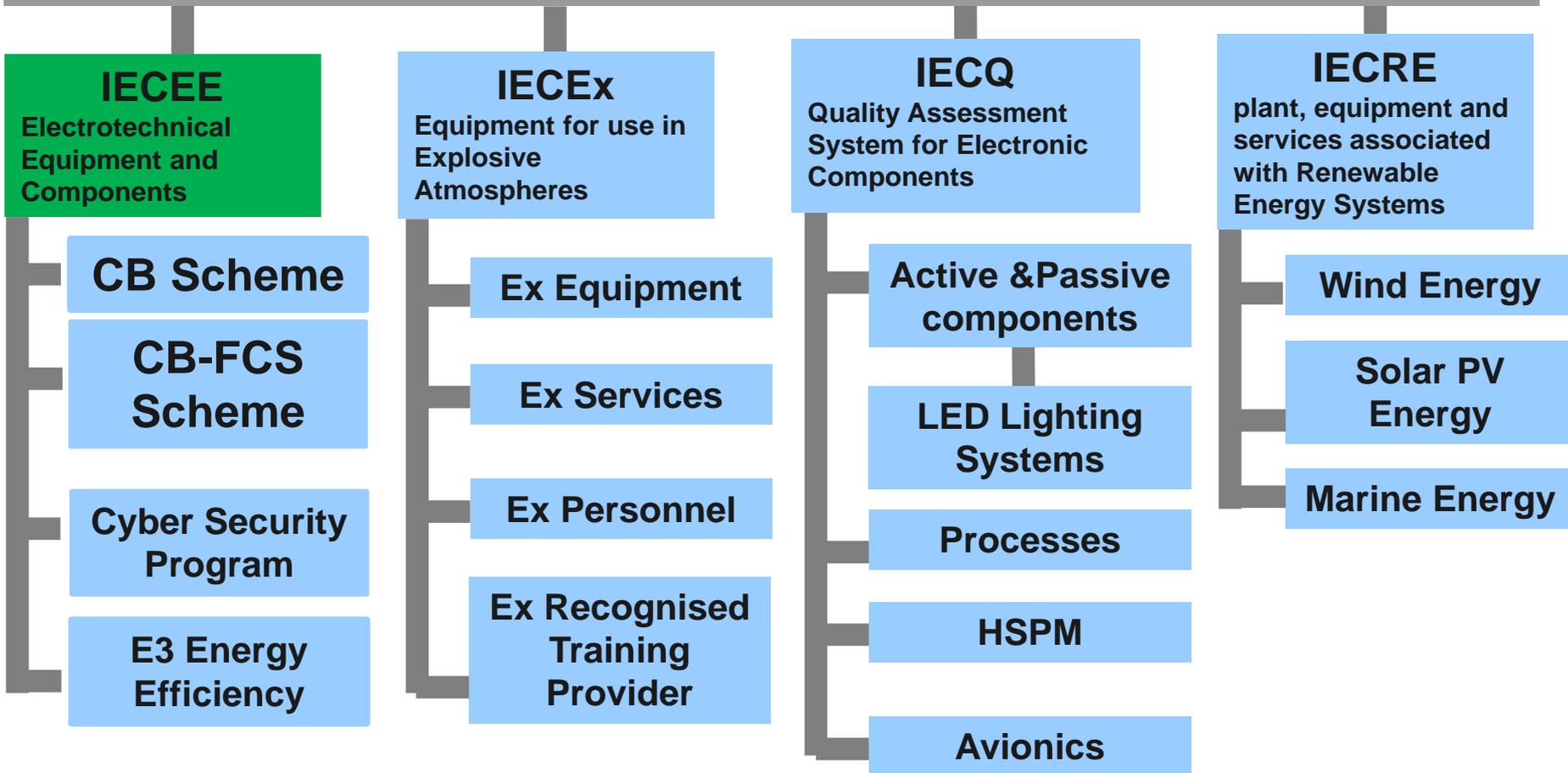


*IEC System of Conformity Assessment Schemes for
Electrotechnical Equipment and Components (IECEE)*

IEC Management Structure



CAB - Conformity Assessment Board



Members of the IECEE System

■ The Members and service providers of the IECEE System are:

- 54 Member Bodies - 1 per Country
- 79 Certification Bodies - 1 or more per Country
- 515+ Testing Laboratories - 1 or more per Country
- More than 2000 Customers' Testing Facilities (Manufacturers) under the responsibility of the relevant National Certification Body

IECEE Participating Member Countries

53 participating countries

 Argentina	 Finland	 Malaysia	 Slovakia
 Australia	 France	 Mexico	 Slovenia
 Austria	 Germany	 Netherlands	 South Africa
 Bahrain	 Greece	 New Zealand	 Spain
 Belarus	 Hungary	 Nigeria	 Sweden
 Belgium	 India	 Norway	 Switzerland
 Brazil	 Indonesia	 Pakistan	 Thailand
 Bulgaria	 Ireland	 Poland	 Turkey
 Canada	 Israel	 Portugal	 Ukraine
 China	 Italy	 Russian Federation	 United Arab Emirates
 Colombia	 Japan	 Saudi Arabia	 United Kingdom
 Croatia	 Kenya	 Serbia	 United States
 Czech Rep.	 Korea Rep. of	 Singapore	 Viet Nam
 Denmark			

SGS Fimko Ltd



SLG Prüf- und Zertifizierungs GmbH



INSTITUTO ARGENTINO DE NORMALIZACIÓN Y CERTIFICACIÓN



SABS



bsi.



Product Service



LCIE



JQA



AENOR

SGS



ASOCIACIÓN DE NORMALIZACIÓN Y CERTIFICACIÓN, A.C.



KERI



JET



KTR

DEKRA

electrosuisse



kti



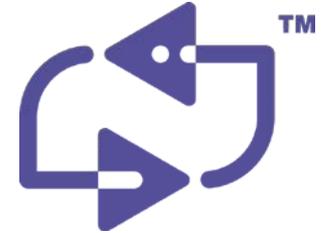
VDE



المهنة السعودية للمواصفات والمقاييس والجودة Saudi Standards, Metrology and Quality Org.

What is Avnu Alliance?

Enabling a certified ecosystem to bring **precise timing, reliability** and **compatibility** to networks



- Team of 80+ companies worldwide promoting open standards for deterministic networking, such as AVB/TSN
- Spans many industries: pro A/V, consumer A/V, automotive, energy, manufacturing, and more
- Provides TSN conformance and certification tools to ensure interoperability and compatibility among products and brands

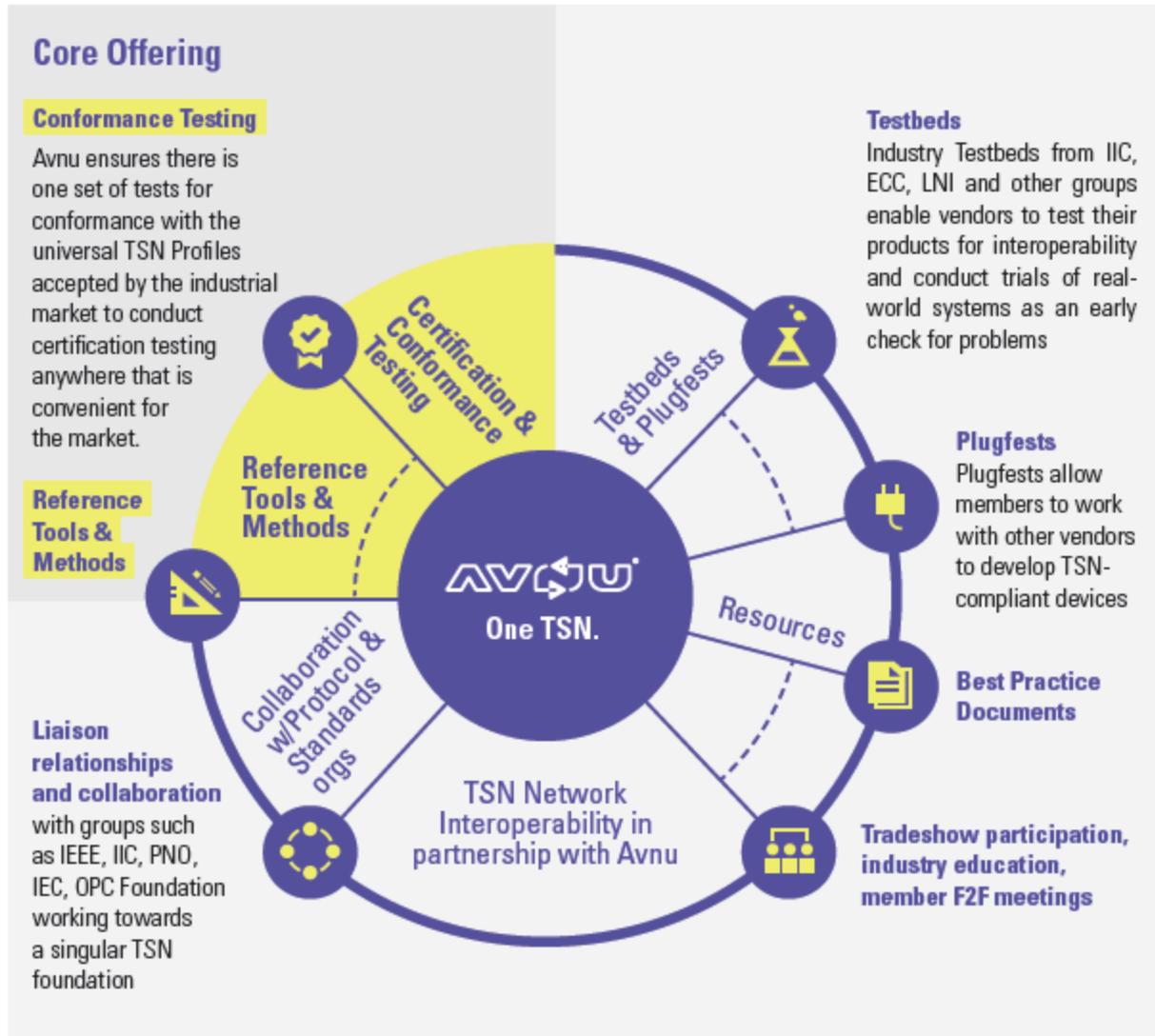
Avnu Alliance Membership



The Role of Avnu

- Promotes “One TSN” interoperability in the industry by normalizing conformance tools and methods
- Focused on providing tools for conformance and certification testing of TSN specifications in products
 - Written test plans
 - Reference test hardware
 - Test tools
 - E.g., Test scripts and open-source test tools
- Can provide conformance testing and certification directly
 - OR -
- Will provide conformance testing tools and plans to other standards organizations or test houses for “one stop” conformance and certification testing at those facilities
 - Including distribution to Industrial standards organizations

Avnu Products and Community of Practice



Collaborative Conformity Assessment through Avnu and IEC EE provides the best of both organizations

IEC

- Global recognition - industry
- International recognition
- IEC Reports and Certificates are used Nationally
- Open and Transparent Process
 - Clear Rules
 - Transparency in process and results
- Industry have a say and provide direct input.
- Consistency in CA processes among participating Certification/Test Bodies

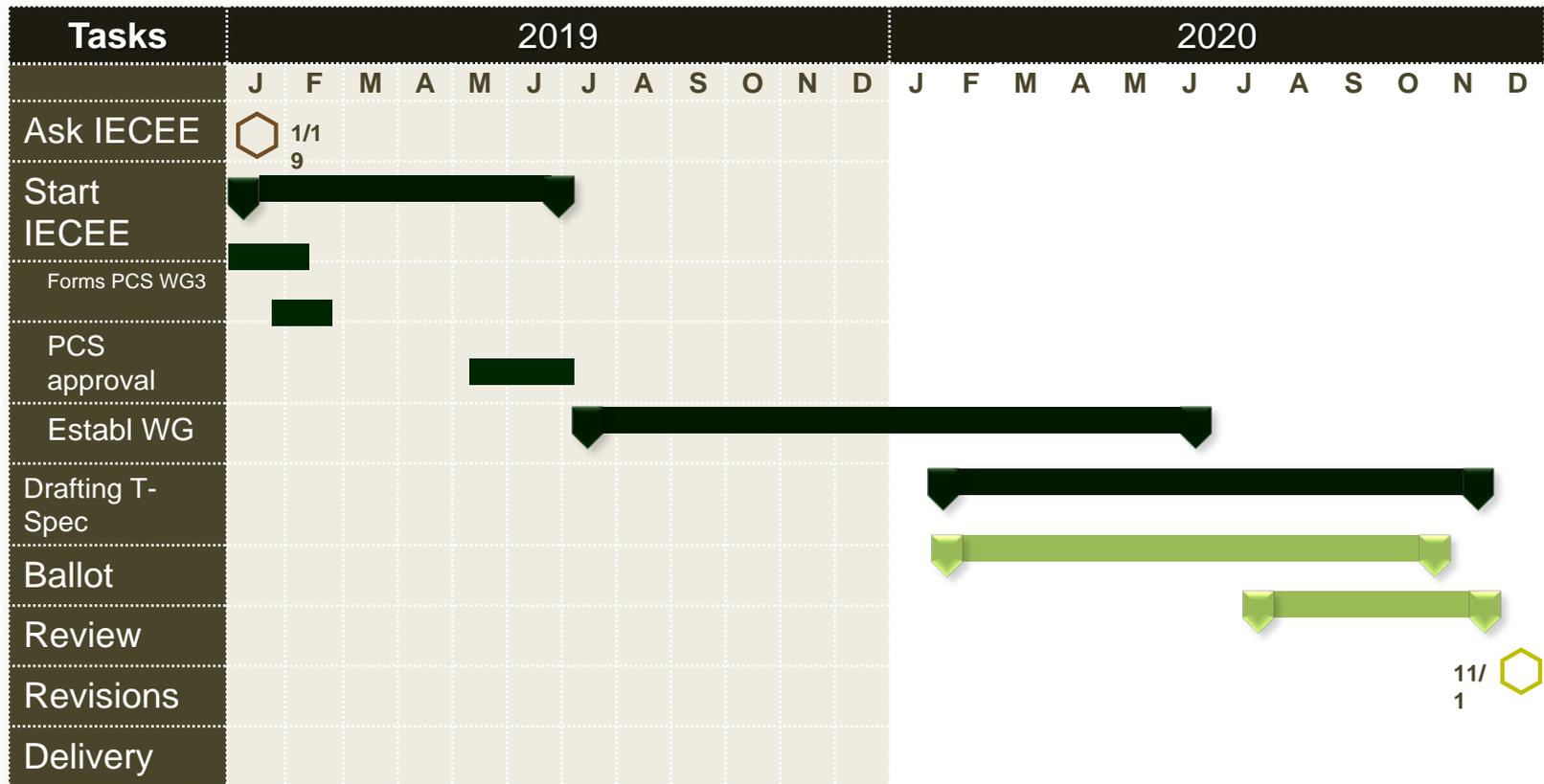
Avnu

- Multi-market collaborative organization dedicated to TSN conformance and certification tools and methods
 - Written test plans
 - Reference tools
 - Reference test hardware
- Collaboration with IEEE, IEC, OPC, IIC, others
- Industry participation and contribution

Links

- IECEE Website: <https://www.iecee.org>
- What is IECEE? <https://www.iecee.org/about/what-it-is/>
- Brochure IECEE: <https://www.iecee.org/about/brochures/>
https://www.iec.ch/about/brochures/pdf/conformity_assessment/IECEE_brochure_LR.pdf
- Brochure on INDA / industrial automation “IECEE services for industrial automation” <https://basecamp.iec.ch/download/brochure-iecee-services-for-industrial-automation-en/>
- Avnu Website: <https://avnu.org>
- Avnu Whitepapers: <https://avnu.org/whitepapers/>
- Avnu Specifications: <https://avnu.org/specifications/>

Possible Time – Line for Conformity Assessment of IEC/IEEE 60802



Unused slides