



European Telecommunications Standards Institute (ETSI)



SESEI | Seconded European
Standardisation
Expert in India
Enabling Europe-India Cooperation on Standards

SESEI: Local Representative of EU Standardisation Bodies in India

SESEI (Seconded European Standardization Expert in India) *is a local face for the European standardization community in India: Dinesh Chand Sharma*

Launched in Jan'13, currently in its sixth phase (Aug'24 to July'27)



Priority Sectors/topics: Aligned with EU-INDIA TTC & Connectivity Partnership

Digitization: Strategic technologies, digital governance, and digital connectivity

- Smart Cities, ITS, Quantum Technologies, Smart Grid/Meter, AI, 5G/6G, Open RAN, M2M/IoT, DECT, Data Privacy, Satellite Communication, Blockchain, Digital Signature, Smart Manufacturing, e-Accessibility, cybersecurity, digital skills and R&I etc.

Green & Clean Technologies:

- Clean Energy, Energy Efficiency (Green ICT), Environment, Circular Economy including Resource Efficiency, Waste Management, Energy storage technologies, **Electric mobility**, Green Hydrogen, Advanced biofuels including R&I etc.

Market access & Other topics of mutual interests:

- Rail, Ropeways, Machinery Safety etc.

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Standard & Its importance



What is a Standard?

Common Misconceptions

- Standards are often perceived as barriers to innovation or unnecessary complexity.
- They are frequently confused with regulations, rules, or mandatory quality requirements.

What a Standard Really Is

- A standard is a **consensus-based document** that captures recognized good practices.
- It specifies **technical requirements, guidelines, recommendations, or principles** for products, services, processes, or methods.
- Standards help ensure **quality, safety, interoperability, compatibility, and performance** while supporting innovation and market growth.
- They provide a **common framework** for organizations to develop products and services that meet agreed expectations.

Developed Through Collaboration

- Standards are developed and maintained through consensus among: **Industry and businesses, Government, Consumers, Academia and research organizations, Standards bodies and other stakeholders**

"Standards do not hinder innovation—they provide a common foundation that enables innovation, interoperability, and trust"



Benefits of Standards

1(2)

Standards are Everywhere

- Standards underpin almost every aspect of modern life—from **communications, healthcare, transportation, energy, construction, manufacturing, food, and digital services** to emerging technologies.

Key Benefits of Standards

- **Safety & Reliability** – Improve product quality, safety, and user confidence while accelerating the adoption of new technologies.
- **Interoperability** – Ensure products, systems, and services from different vendors work seamlessly together.
- **Support for Policy & Regulation** – Provide a technical foundation for government policies, legislation, and regulatory compliance.
- **Innovation & Market Growth** – Enable open markets, economies of scale, faster innovation, and global competitiveness.
- **Consumer Choice & Trust** – Increase product compatibility, quality, accessibility, and choice while reducing costs through mass adoption.



Continue...

2(2)

Success Stories

- **GSM and its evolution (3G, 4G, 5G)** demonstrate how global standards can transform an entire industry.
- Other examples include **Smart Cards, DECT, TETRA, Short Range Devices (SRD), Medical Implants, and Electronic Signatures.**

Without Standards...

- Products may be **unsafe, unreliable, or of inconsistent quality.**
- Devices from different manufacturers may **not interoperate.**
- Innovation would become fragmented and more expensive.
- Consumers would face **vendor lock-in** with limited choice.
- Manufacturers would develop proprietary solutions, reducing competition and increasing costs.

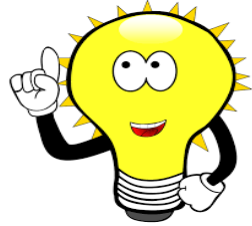
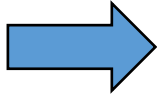
Standards are not barriers to innovation—they are the foundation for interoperability, trust, safety, global markets, and sustainable innovation.



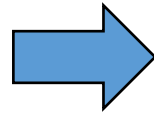
How Standards are Made?



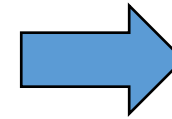
Anyone can suggest an idea for a new Standard



All ideas for new standards are assessed & stakeholders are consulted on the potential scope



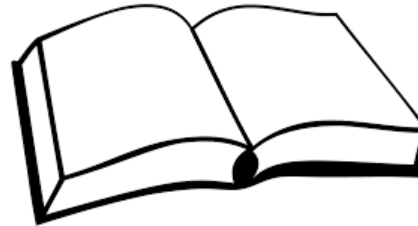
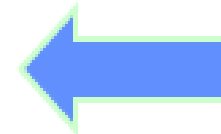
The Proposal is assessed and if approved a stakeholder group is formed



The Stakeholder group forms a committee to draft the standards



The draft is then issued for public consultation



Once the document passes final approval it is published



Standards are reviewed every five years some as early as two years from publication. The committee or drafting panel considers any comments they have received about standard and decides whether it needs to be withdrawn, confirmed or reconfirmed amended or revised. A decision to amend or revise the standard will lead to a new proposal for work

How a new regulation is framed in EU => Act & its implementation



Standards vs Législation

Standards :

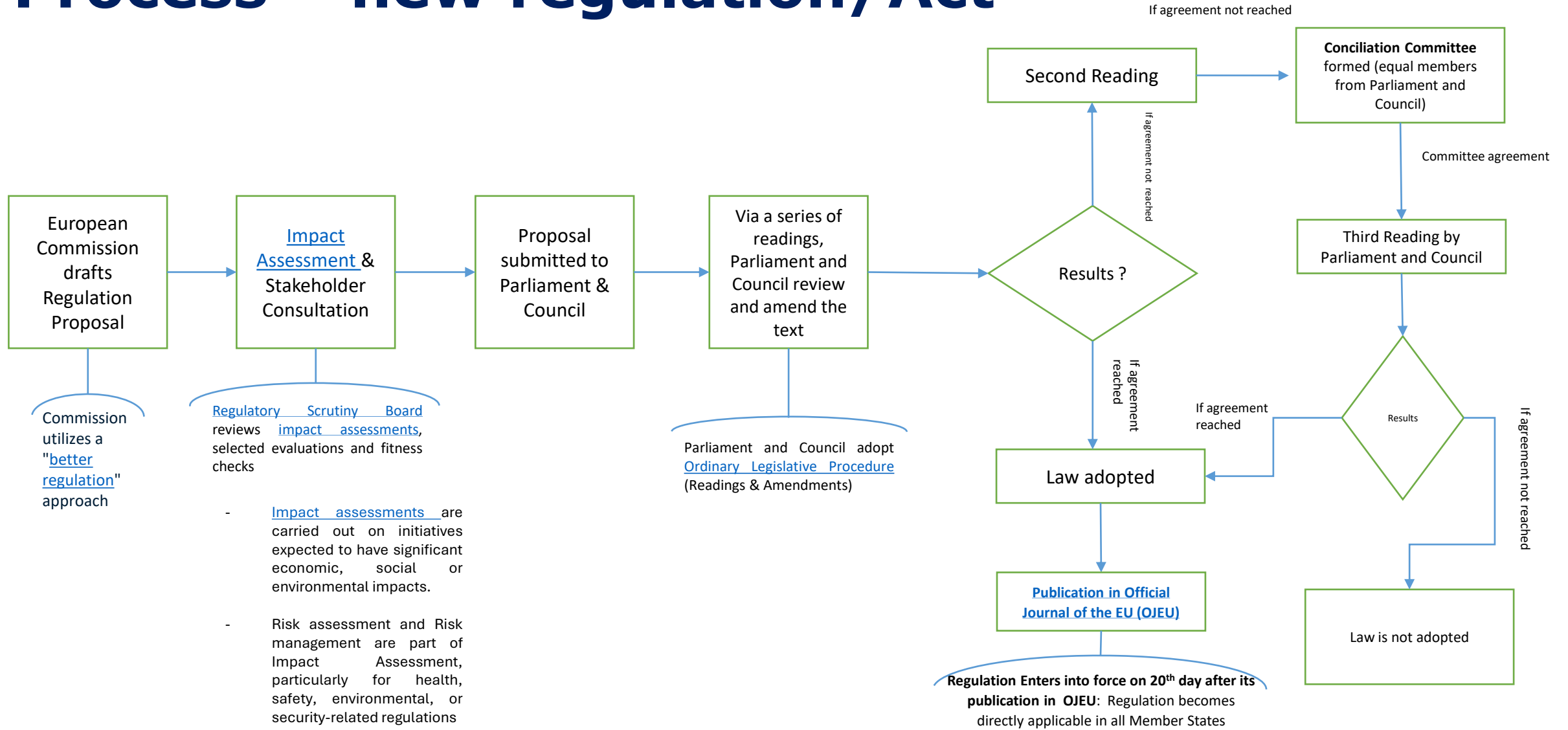
1. Voluntary
2. Consensual
3. Developed by independent organisations
4. Revised every 5 years
5. Provide specifications and test methods (interoperability, safety, quality, etc.)



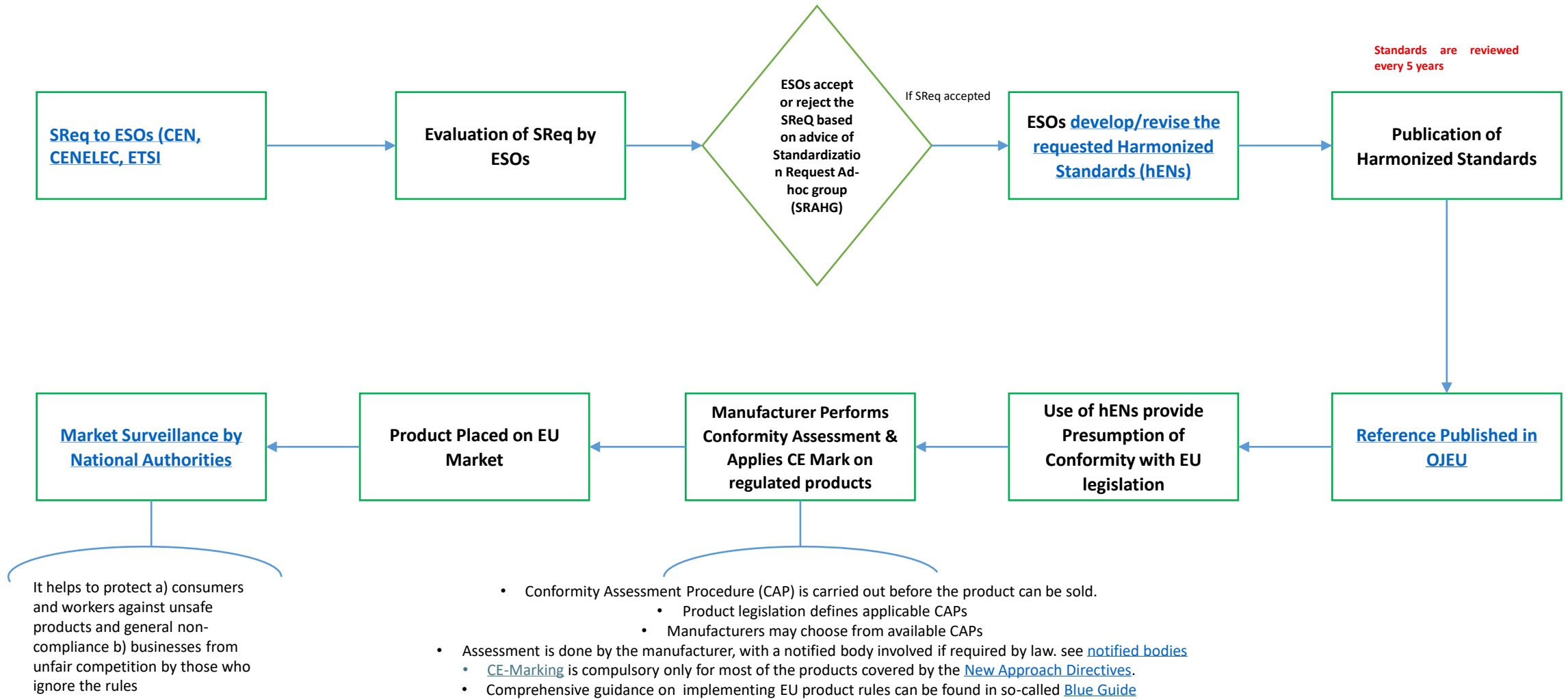
Legislation :

1. Mandatory
2. Imposed by Law
3. Established by public authorities
4. Revised when legislators decide
5. Gives requirements to protect public interests

Process – new regulation/Act



Process – Standards & Implementation



Smart and Better Regulation 1(3)

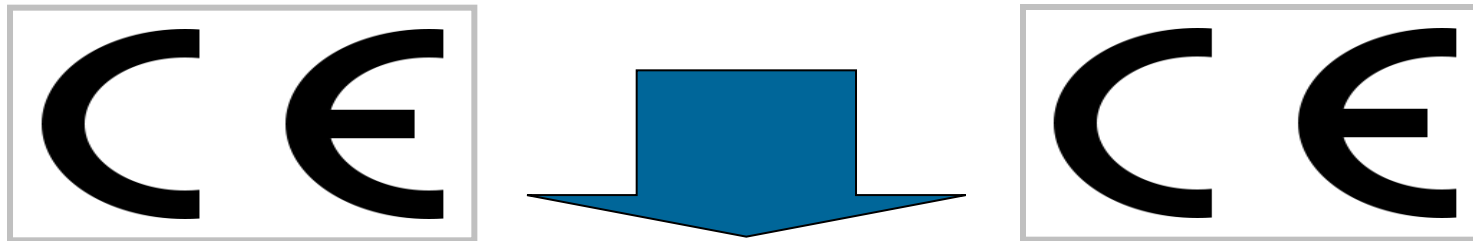
Smart Regulation – Better Regulation

- EU follow-s the principal of Better/Smart regulation:
 - Design EU policies and laws to achieve their objectives at **minimum cost** and ensure that policy is prepared, implemented and reviewed in an **open, transparent manner, well informed** by the best available evidence and backed up by **involving stakeholders, supported by Impact Assessment**
- Before EU takes action the Commission publishes [roadmaps and inception impact assessments](#) which
 - Describe the planned new initiatives and evaluations of existing legislation.
 - examine the potential economic, social and environmental consequences of proposed action through [Impact assessments](#)
- Regulatory Scrutiny Board (RSB): review the impact assessments reports/results
- REFIT (Regulatory Fitness and Performance Programme) to
 - make EU law simpler and to reduce regulatory costs, thus contributing to a clear, stable and predictable regulatory framework supporting growth and jobs
- Ensure Sufficient transition period
 - for standards 3 years and for any new/amended legislation it is 2 years: Concurrent application of both old and new standards are allowed during this transition period of three years post legislation.



CE MARKING

Facilitate **free movement of goods**
in the Internal Market whilst ensuring a
high level of protection for consumers



Elimination of barriers to trade through technical harmonisation

https://single-market-economy.ec.europa.eu/single-market/ce-marking_en

CE MARK Concept

- The **CE Mark** with a **Declaration of Conformity** is analogous to a passport for products exported to the EU.
 - Its intent is to IDENTIFY Compliant Products so they are not delayed or held in Customs.
- The **CE MARK** protocol is essentially an honor system accepted by EU member countries. Manufacturers can ***Self-Declare Compliance*** by adding CE MARKS and signing a Declaration of Conformity. It is also required that a Technical File be created.
- The **Technical File** is the backup document for the CE MARK and Declaration of Conformity. The Technical File is NOT typically included with the product shipment. The Technical File is intended to:
 - Identify the Importer or Purchaser who is resident within the EU
 - Describe the Product
 - List Safety and Compliance Critical Parts
 - Cite the applicable EU Directives
 - List all Safety, EMC and Other Tests performed to Validate Compliance
 - List Tests related to I.D. Number of each Test Standard used



CE MARK Deliverables

Detailed Findings Report is the first document generated. It is generated after the 1st safety review of the product. It is specific to the Clients Product. It includes viable suggestions for Corrections

The Declaration of Conformity provided as a draft

European Union Declaration of Conformity
By The Manufacturer:

Horiba Instruments
To The Following Council Directives of the European Union
EMC Directive: 2004/108/EC
Low Voltage Directive: 2006/95/EC
RoHS Directive: 2002/95/EC

CE

Equipment Type: Electrical Test and Measurement Instrument
Model Designations: **Slurry Sampler LY-9507-30 HII**

This Certificate is the Manufacturer's Declaration which states that the Model: **Slurry Sampler LY-9507-30 HII** is Compliant to the above noted EU Directives and are therefore, eligible to bear the CE MARK. This Declaration is further validated by an investigation and Testing conducted by **Garwood Laboratories Inc.**, an Independent and Competent 3rd Party Test Lab with facilities in San Clemente, California, USA. The Evaluations and Test Data is documented in the Technical Construction File, **GLI 4397** which is available on request. This equipment, as of the listed Date of Manufacture, is **technically exempted** from the RoHS Directive Requirements, not being classified as consumer electronics equipment.

EMC Directive Test Standards
EN 61326 entitled: Electrical Equipment for Measurement, Control and Laboratory Use EMC Requirements. This encompasses 10 individual Tests

Low Voltage Directive Test Standards
EN 61010 entitled: Electrical Equipment for Measurement, Control and Laboratory Use Safety Requirements

Manufacturer: **Horiba Instruments**
1912 W. 4th Street
Tempe, AZ 85281 USA

Importer/ EU Resident: Individual or Company Name
Street Address
City, Postal Code
EU Member Country

Models: **Slurry Sampler LY-9507-30 HII**

Date of Manufacture: MM/YY

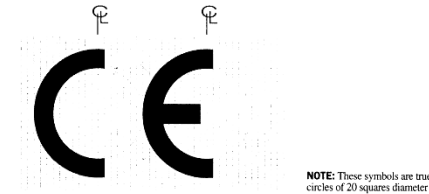
We the undersigned hereby declare that the Models **Slurry Sampler LY-9507-30 HII** referenced herein, fully conform to the requirements of the Low Voltage and EMC Directives and the noted, EU Standards.

Manufacturer	Importer/Agent- EU Resident
Signature _____	Signature _____
Typed Name _____	Typed Name _____
Title _____	Title _____
Date _____	Date _____

The Equipments listed above are also declared to be compliant, and eligible to bear the CE Mark by
Chuck Helton, Director of Product Safety, Garwood Laboratories Inc., San Clemente, CA 92673 USA

CE Marking

As defined by the Official Journal of The European Communities, Number L 169/43, Annex XII.
The CE Conformity Marking shall consist of the initials "CE" taking the following form:



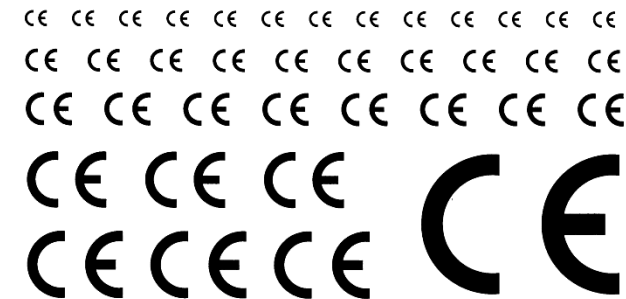
NOTE: These symbols are true circles of 20 squares diameter

If the marking is reduced or enlarged the proportions given in the above graduated drawing must be respected. The symbol may not be less than 5mm.

The minimum dimension may be waived for small-scale devices.

The following is provided to assist our clients with ready made artwork for use with labels, manuals, shipping containers and other copy needs.

REMEMBER... the smallest permissible vertical size is 5mm (.2 inches).



The Findings Report notes any discrepancy in the product's construction and offers suggestions for making corrections. When appropriate we even suggest sources for key components and alternatives.

CE Compliant Products Technical Report

EMC Test Report : EMC = Electro-Magnetic Compatibility

The “Technical File” or CE Mark Test Report

1. Includes a [Declaration of Conformity \(D.o.C\)](#). A separate D.o.C is also provided as a Certificate to accompany the shipping documents to an EU Port-of-Entry. Only one D.o.C. is required per shipment. This is regardless of the number of units in a single shipment.
2. The CE Mark Report is provided in pdf format and is known as a Technical File (TF). It is a detailed Report describing the product in detail and all of its testing. It bears the written opinion of a Competent and Independent 3rd Test Lab that the CE Marked Product has been evaluated and tested. It cites all of the Directives and Test Standards used in making the decision. The TF is used to set aside any challenges that a manufacturer may get as to the validity of the CE Mark.
4. If a customs official or a customer questions the validity of the CE Mark, a review of the TF should quickly set aside any concerns. Typically, one hard copy is kept at the main office and one sent to each Importer/Agent.



All About CE Marking, NANDO, MRA & Market Surveillance

- All About CE Marking



- NANDO

- [Nando \(New Approach Notified and Designated Organisations\)](#)

- MRA

- [Mutual recognition agreements](#)

- MS

- [Market surveillance](#)

All about ETSI



ETSI's Model: Openness, Inclusiveness and Global Reach

35+ Years at the Heart of Digital Standardisation

Connectivity (5G/6G), IoT, Cybersecurity, Network virtualisation, eID, Trusted Data Framework, Artificial Intelligence, Radio, Quantum and others.

From European Roots to Driving Global Standards

ETSI is both a European Standardisation Organisation (ESO) and a globally recognised Standards Development Organisation (SDO).

We bridge efforts to translate European leadership into global action by developing standards that strengthen the EU's competitiveness and values.

Over 900 Members: Direct Participation and Inclusiveness

ETSI offers a unique European platform for direct participation, fostering dialogue between governments, researchers, SMEs (25%), technology companies and societal stakeholders.

We promote inclusiveness, including strong collaboration with Annex III organisations and the open-source community.



Independence and WTO/TBT Principles

ETSI operates as an independent and neutral organisation.

Our work follows the WTO/TBT principles of openness, consensus, transparency and voluntary application, ensuring trust and legitimacy for all stakeholders.

Flexible Processes and Standards Free of Charge

ETSI offers a broad range of agile tools, including Technical Committees, Industry Specification Groups, Software Development Groups, Interop Testing/PlugTests, Special Committees, Specialist Task Forces, and the PAS process, to deliver timely results.

All ETSI standards are freely available, with over 60,000 published and more than 26 million downloads each year.

Global Reach and Partnerships

ETSI operates within a broad community, collaborating with the ECC and CEPT across 46 countries (radio equipment and spectrum), and the ITU.

We are a founding partner of global partnerships like 3GPP and oneM2M.

We also maintain over 100 partnerships and contribute to international cooperation projects like SESEI, SESEC, GIST and IndiCo-Global.

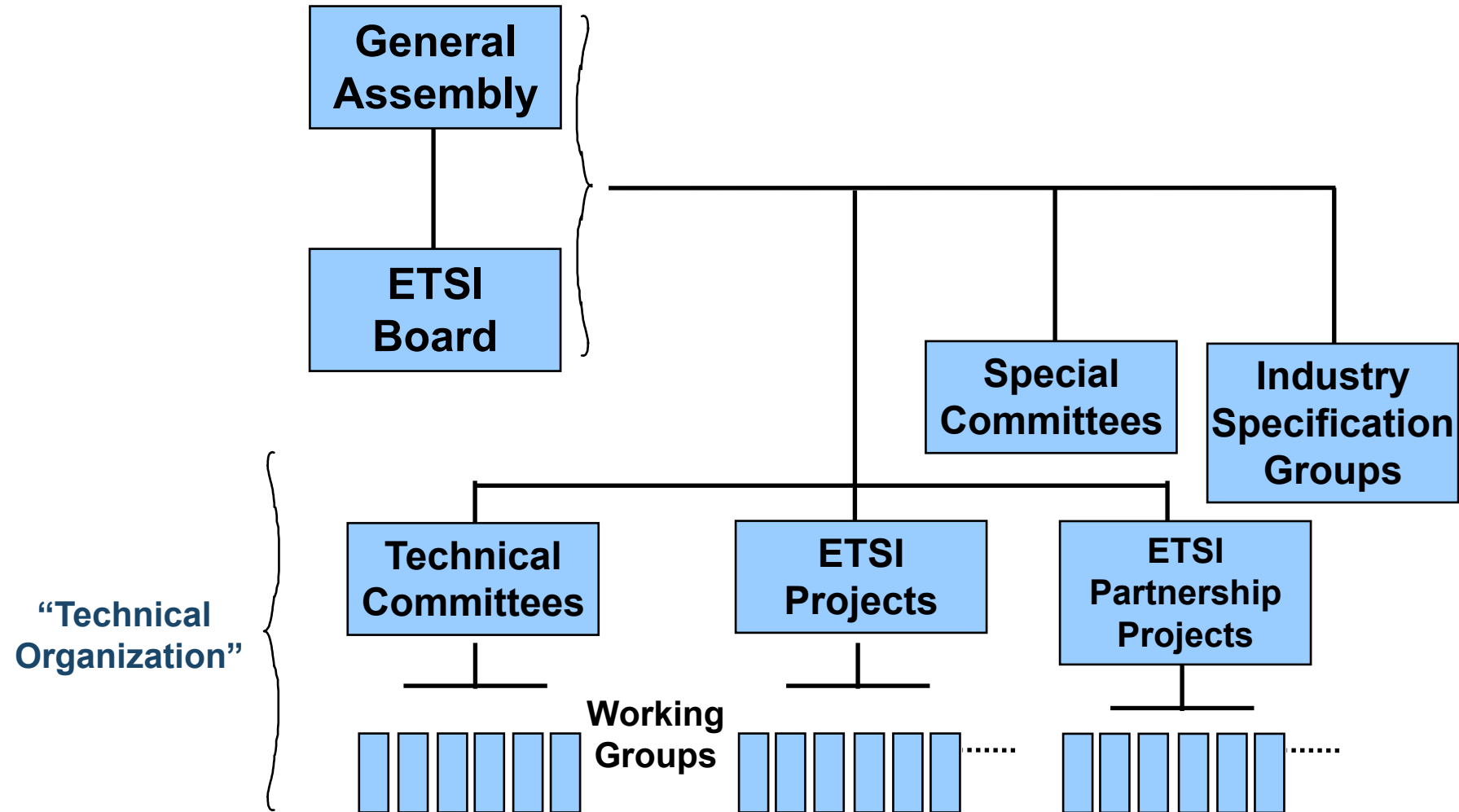


A European Standards Organization

- ETSI is a brainchild of European industrial policy
- It produces standards in support of European Union policies and legislation, e.g.
 - Radio
 - e-ID, e signatures
 - Security
 - Accessibility
- It contributes to ICT radio frequency requirements to the European co-ordination process
- ETSI works in close cooperation with CEN and CENELEC, the other two ESOs
- Work closely with National Standards Organizations (NSOs) in the European countries.
- EC and EFTA are Counsellors of ETSI



The ETSI Structure



The ETSI Secretariat gives support to all the different entities in the Organization

ETSI Cluster

A Connected World



ETSI's three primary roles



- ESO:** **European Standards Organization:** standardization for European needs
GSP: **Global Standards Producer:** standardization for the global level
SPO: **Service Providing Organization:** services such as interoperability testing, forum management etc.

ETSI- a global Standards Producer

- ETSI was established as a European body and retains European responsibilities. But...
- ...many of ETSI's Members are global players...
- ...so ETSI seeks to have its standards adopted worldwide
- About 20% of ETSI's Members have no established operations in Europe
- Many of the other 80% are headquartered outside Europe

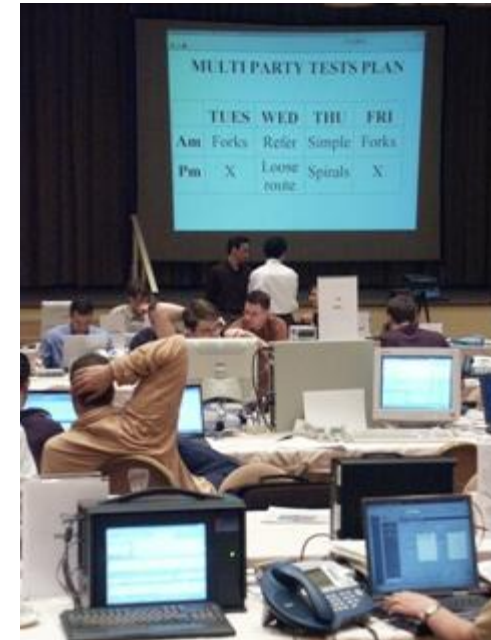


ETSI- a Service Provider

In addition to standards-making, ETSI provides a range of supporting services, notably...

- Creation of test specifications and methodologies
- Test methodology & development, Interoperability testing

- Forum hosting



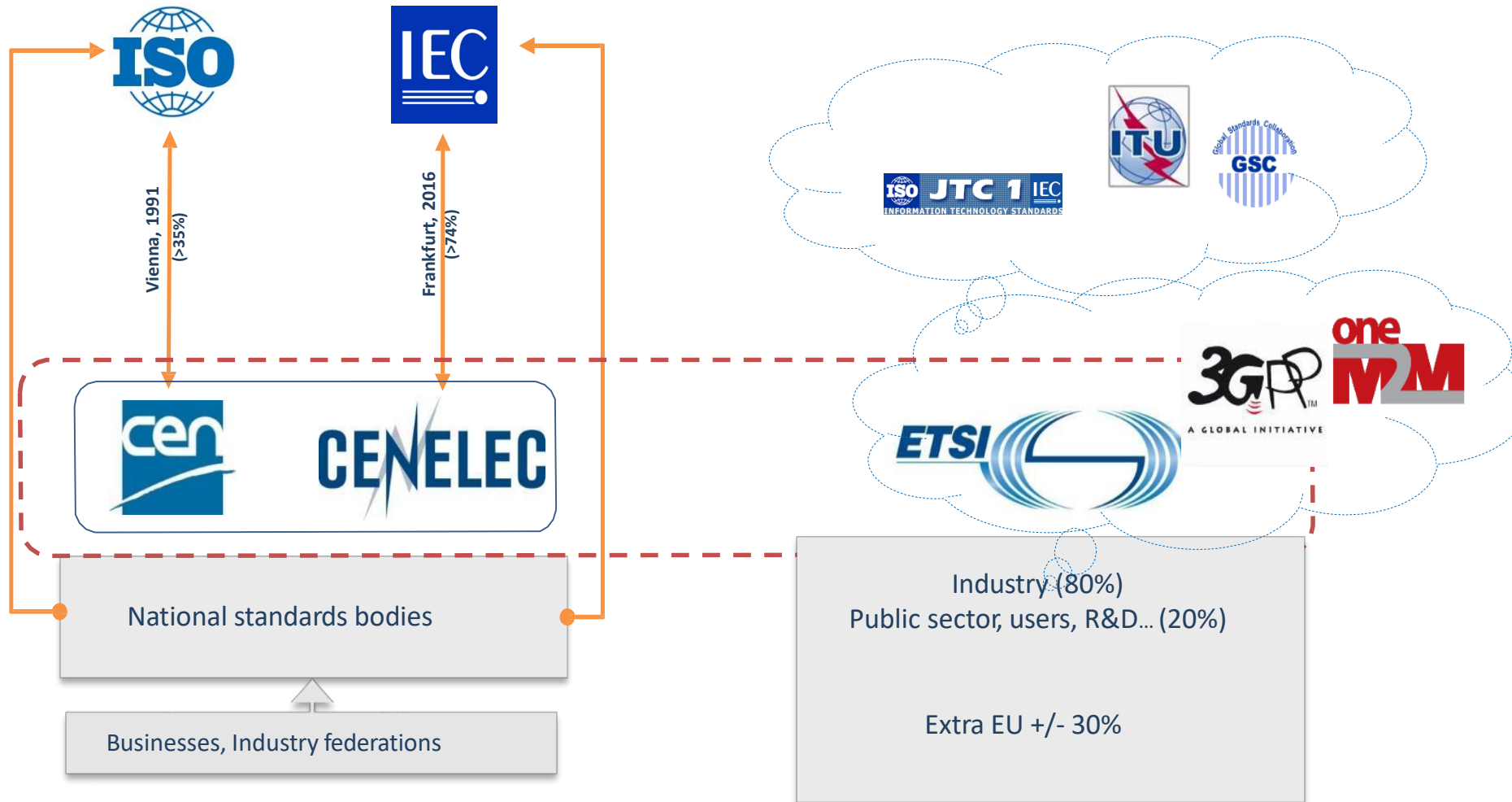
ETSI Expertise

Technical
Expertise



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ESOs- Similarities and differences



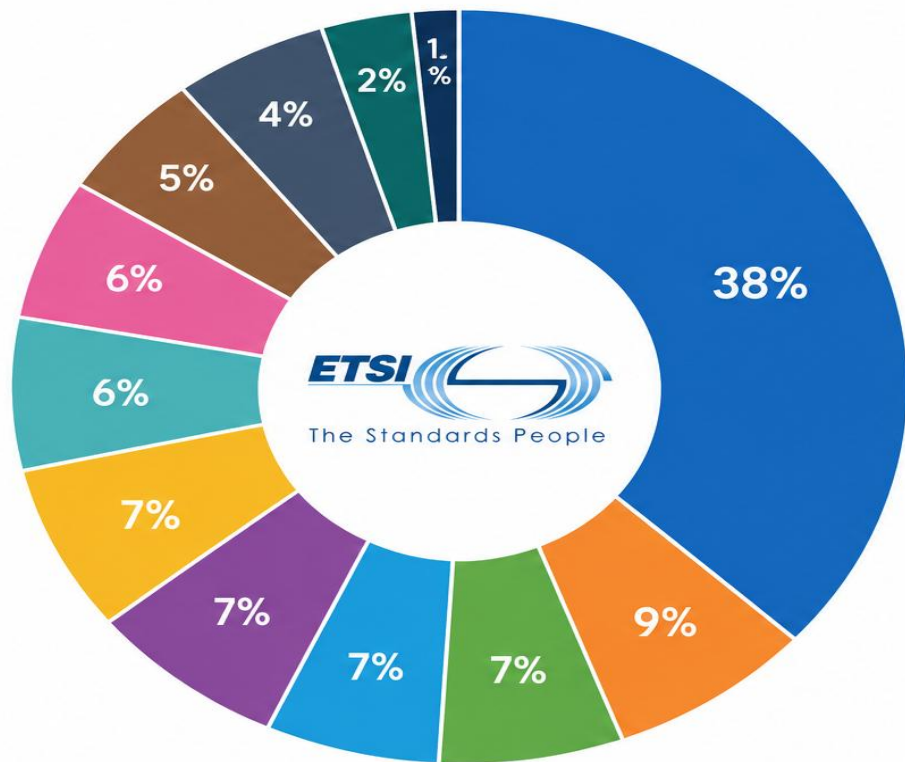
A Global Standards Organization

- Global footprint of standards implementation (incl. HENs)
- Global membership
- Operates in partnership with peers worldwide (US, India, China, Japan, Korea)



950+ Members from all over the world

ETSI MEMBERS BY CATEGORY IN %



Manufacturer	38%
Service Provider	9%
Network Operator	7%
Consultancy-Companies/partnership	7%
Other Governmental Bodies	7%
Universities	7%
Public Research Bodies	6%
Others	6%
Users	5%
Administrations	4%
Private Research Bodies	2%
National Standards Organizations	1%

950+
Members

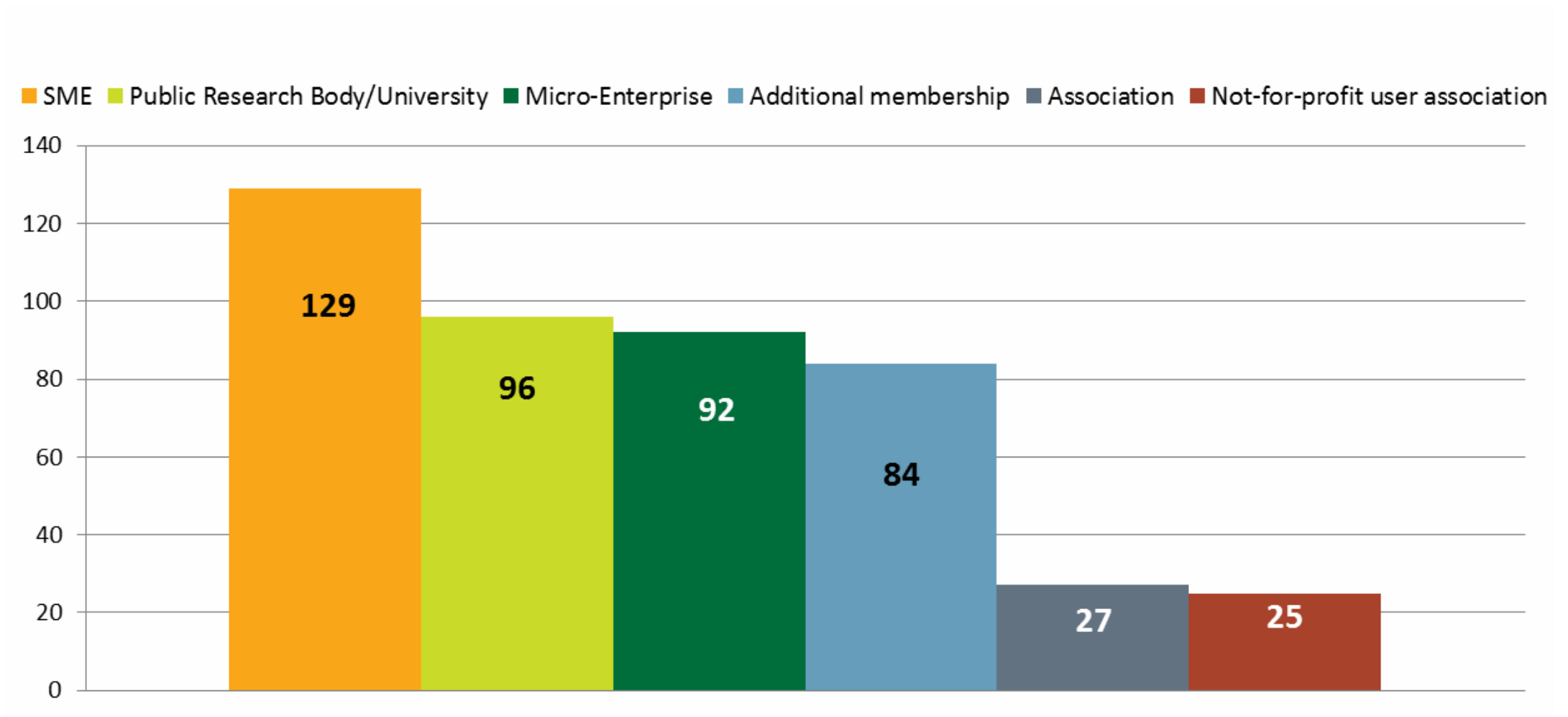
60
Countries

5
Continents

60+
Standardization
Groups

60,000+
Standards Published

Not only for the big guys



54 % of ETSI members are SME, ME, research & academia, Associations, NFP user association or additional membership

ETSI Technical Groups

Technical Committees

ATTM Access, Terminals, Transmission and Multiplexing	BRAN Broadband Radio Access Networks	BROADCAST EBU/CENELEC/ETSI on Broadcasting	CABLE Integrated Broadband Telecommunication Networks
CYBER Cybersecurity	DATA Data Solutions	DECT Digital Enhanced Cordless Telecommunications	EE Environmental Engineering
eHealth eHealth	EMTEL Emergency Communications	ERM EMC and Radio Spectrum Matters	ESI Electronic Signatures and Trust Infrastructures
HF Human Factors	INT Core Network and Interoperability Testing	ITS Intelligent Transport Systems	LI Lawful Interception
MSG Mobile Standards Group	MTS Methods for Testing and Specification	RRS Reconfigurable Radio Systems	RT Railway Telecommunications
SAFETY Safety	SAGE* Security Algorithms	SAI Securing Artificial Intelligence	SES Satellite Earth Stations & Systems
SET Secure Element Technologies	SmartBAN Smart Body Area Network	SmartM2M SmartM2M	STQ Speech and multimedia Transmission Quality
TCCE TETRA and Critical Communications Evolution	TSA* TETRA Security Algorithm	USER* User Group	QT Quantum Technologies

Partnership Projects



3rd Generation
Partnership Project



IoT Common Service Layer
Partnership Project

* Special Committees

Can be closed groups with
restricted access to deliverables.

Industry Specification Groups

ARF Augmented Reality Framework	CDM European Common information sharing environment service and Data Model	CIM Cross-cutting Context Information Management
ENI Experimental Networked Intelligence	F5G Fifth Generation Fixed Network	ISAC Integrated Sensing and Communication
MAT Multiple Access Technologies	MEC Multi-access Edge Computing	NFV Network Functions Virtualisation
OEU Operational Energy Efficiency for Users	PDL Permissioned Distributed Ledger	QKD Quantum Key Distribution
RIS Reconfigurable Intelligent Surfaces	THz TeraHerz Technology	ZSM Zero-touch network and Service Management

Software Development Groups:

OCF Open CAPIF	OOP Open Operator Platform	OSL OpenSlice	OSM Open Source Mano
TPS TeraFlow SDN			

Interoperability testing:



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Shaping Tomorrow's Digital Standards Today

- 6G (3GPP)
- Trusted Data Framework & Data Sharing
- Quantum Technologies
- Cybersecurity and Cyber Resilience
- Digital identities, e-signatures, and trust services
- Trustworthy AI Systems and Models

Focus on future challenges:

- Interoperability
- Security
- Energy efficiency
- Accessibility

ETSI's fostering of open competition and responsible IP practices ensures that innovation remains accessible, sustainable, and fair.

Several kinds of deliverables

(all free of charge online)

- European Standard (EN) and Harmonized Standard (HS)
 - Developed by Technical Body, approved by NSOs
- ETSI Standard (ES) and ETSI Guide (EG)
 - Developed by Technical Body, approved by ETSI members
- Technical Specification (TS) and Technical Report (TR)
 - Developed and approved by Technical Body
- Group Specification (GS) and Group Report (GR)
 - Developed and approved by ISG

ETSI Standard developing Process

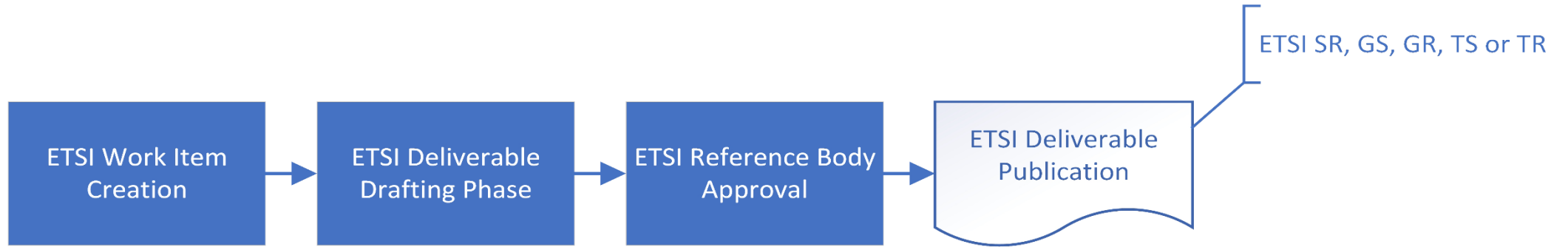
- A proposal to start an item of work, such as to create a new standard or to update an existing one, must come from at least four members of ETSI and be agreed by the relevant standards group.
- Who writes the standards?
 - **Technical committees or other types of working groups**, made up of representatives of our members and led by a 'Rapporteur', draft most of our standards. Our members may participate in any group and work activity (other than certain security-related work where participation is controlled by the ETSI Board).
 - Specialist Task Forces (STFs) set up to **accelerate** the work where there is an urgent need. STFs are groups of technical experts who come together for a defined period to work intensively on specific items.
 - Industry Specification Groups offering an effective **alternative to industry fora**. They can be set up quickly to address specific technology areas.
- Who approves the standards?
 - Depending on the document type, it will be approved by either:
 - the participants in the relevant committee or
 - the entire ETSI membership
 - In the case of European Standards, ETSI's National Standards Organizations give the final approval.
 - We provide a range of web-based approval mechanisms, to make this a highly pragmatic and visible process.



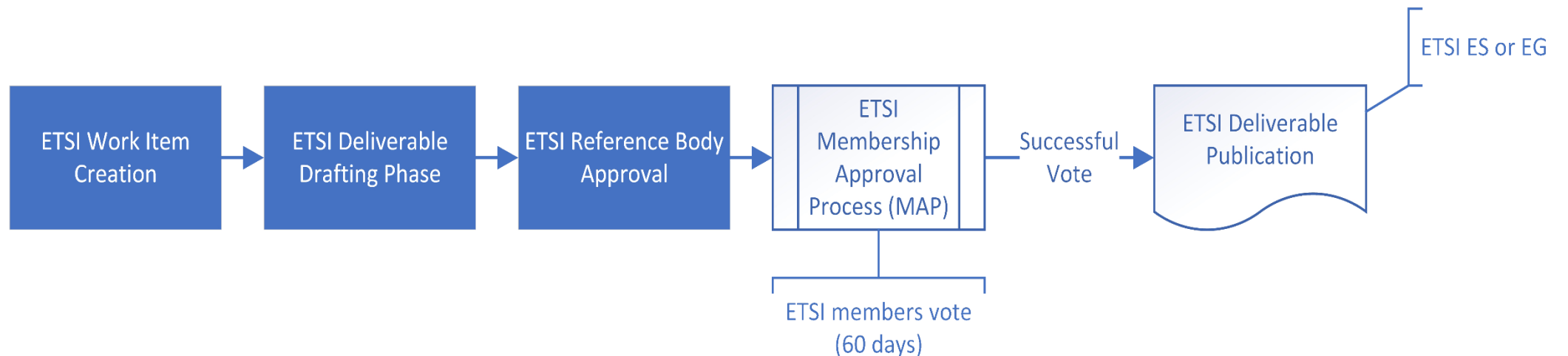
ETSI Standards approval Process

Different approval procedures are used depending upon the type of standard being created.

- Technical Specifications (TS), Technical Reports (TR), Group Specifications (GS), Group Reports (GR) and Special Reports (SR)

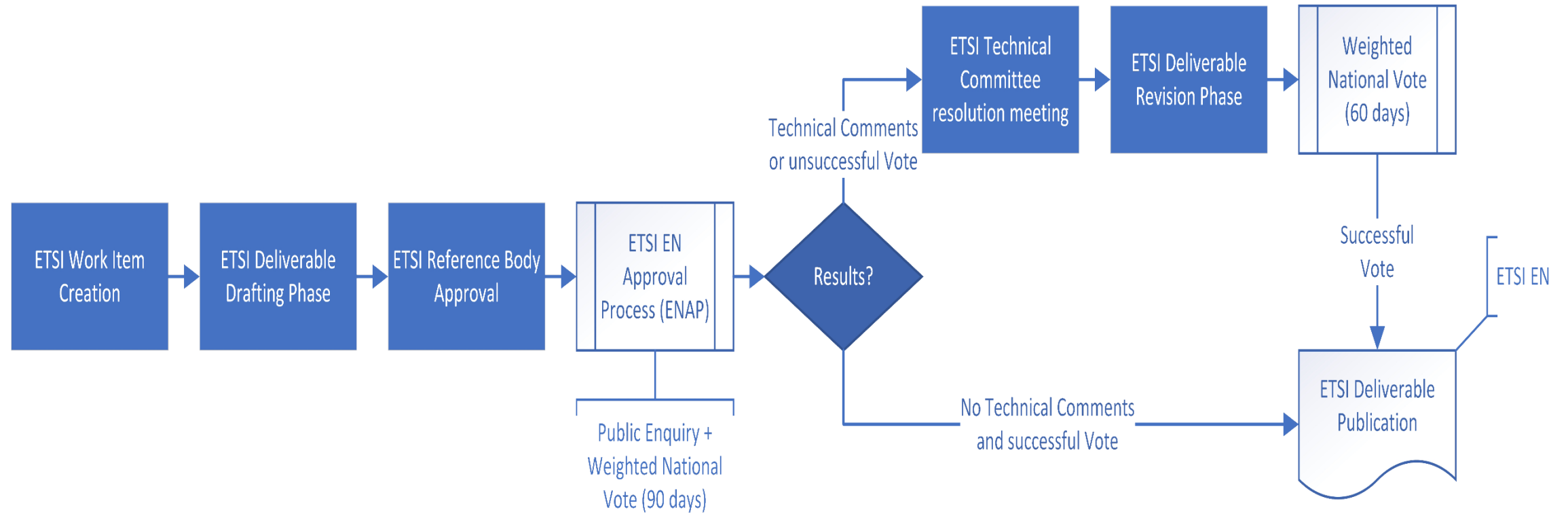


- ETSI Guides (EG) and ETSI Standards (ES)



ETSI Standards approval Process

- European Standards (EN)



Votes are successful if at least **71%** of the weighted votes cast are in favour of the draft.

ETSI cooperation with INDIAN SDOs

- **MoU signed with Bureau of Indian Standards (BIS)**
 - to perform & promote international standardization, which will benefit both by adopting a complimentary approach to the standardization, fostering closer cooperation, and further strengthening their relationship.
- **TEC, an associate member of ETSI as other government body**
 - Participates in the ETSI meetings, submit contributions for the meetings, work with technical bodies work programme etc.
 - National Standards by TEC based on OneM2M Release 2 Specifications
 - WTO-TBT for Telecom/ICT Products
- **Telecommunications Standards Development Society, India (TSDSI) signed a cooperation agreement with ETSI**
 - TSDSI has also signed agreements with 3GPP and oneM2M partnership projects, of which ETSI is a founding member.

ETSI is supported in India by the Seconded European Standardization Expert for India (SESEI) project, established by ESOs i.e. CEN, CENELEC and ETSI and the European Commission and the European Free Trade Association (EFTA). A seconded standardization expert, Mr. Dinesh Chand Sharma, has been appointed in India to increase the visibility of European standardization and to promote EU/EFTA-India cooperation on standards and related policies and legislations.



The ETSI Portal



- the interface for accessing information on the technical activities for each ETSI TB
- the Portal can either be accessed:
 - anonymously: all public information can be consulted; or
 - with username & password
 - you can then create your own workspace
- <https://portal.etsi.org/home.aspx>

ETSI Applications - Access



☐ [Account Request](#)

☐ On-line account request for a username & password



☐ [Change Password](#)

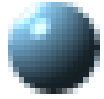
☐ On-Line password change



☐ [Access Rights Maintenance](#)

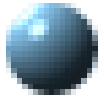
☐ Access Rights Maintenance for Technical Organization

ETSI Applications - Work programme



☐ [ETSI Work Programme](#)

☐ Query the ETSI Work Programme



☐ [Standstill Consultation](#)

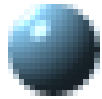
☐ Check Standstill status



☐ [Publications Download](#)

☐ Catalogue search & download

ETSI Applications - Work programme



☐ Transposition & Withdrawal

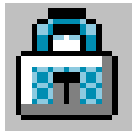
☐ Find the national equivalent of EN...



☐ E-Approval

☐ National Votes, Public Enquiries, etc

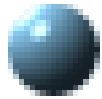
☐ Vote on ETSI Standards & ETSI Guides



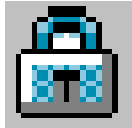
☐ Decision Support

☐ TB voting application

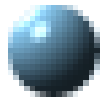
ETSI Applications – Contacts & meetings



- ☐ [ETSI Membership Information](#)



- ☐ [Contact Information](#)



- ☐ [Calendar of Meetings](#)



- ☐ [Meeting Management](#)

- ☐ ETSI Full Members, Associate Members, Observers & Counsellors

- ☐ View and modify personal and company details

- ☐ Search

- ☐ Register

- ☐ View participants

- ☐ Reserve document number

- ☐ View room allocation

- ☐ (TB Officials) Create & modify meetings, request rooms

ETSI Applications – Contacts & meetings



☐ [TB Membership/
exploder lists](#)

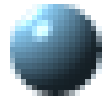
☐ **Subscribe and unsubscribe to
one or more exploder lists**



☐ [3GPP meeting
registration](#)

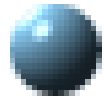
☐ **On-line registration for 3GPP
meetings**

ETSI Applications - Miscellaneous



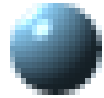
☐ [IPR](#)

☐ Intellectual Property Rights declarations



☐ [LISTSERV](#)

☐ LISTSERV Interface



☐ [Webstore](#)

☐ Purchase ETSI's documentation

Useful links

- European Telecommunications Standards Institute (ETSI)
 - <https://www.etsi.org/>
- ETSI Portal
 - <https://portal.etsi.org/home.aspx>
- 3GPP
 - <https://www.3gpp.org/>
- oneM2M
 - <https://www.onem2m.org/>
- EU Project SESEI (Seconded European Standardization Expert in India)
 - <http://sesei.eu/>

Thank you!

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