European Telecommunications Standards Institute (ETSI)

ETSI in a nutshell
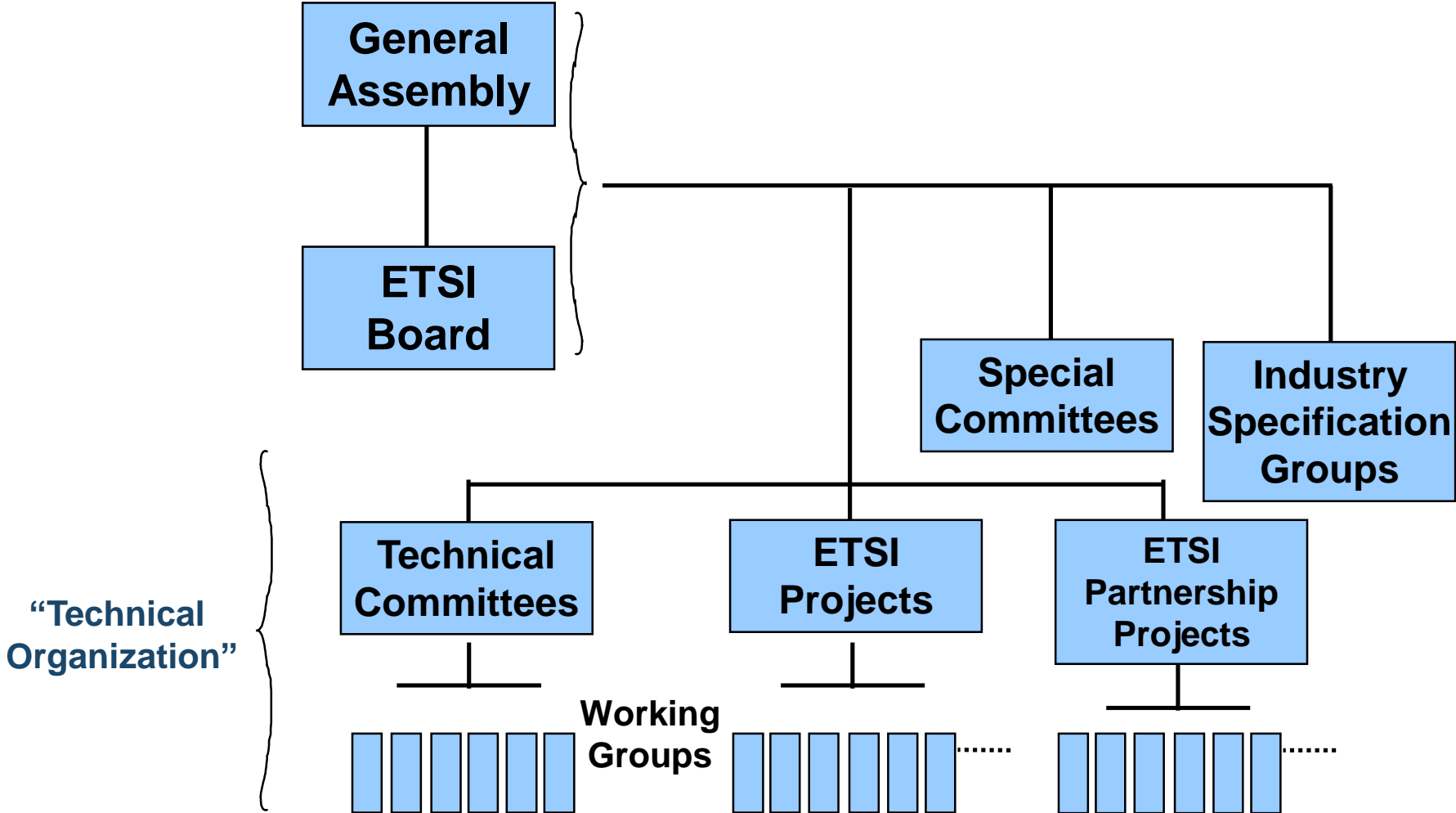
— Standards setting organization

— ICT and « ICT inside » e.g. IoT, M2M, intelligent transport, security, e-ID, etc

— Formally recognized by the EU

— Global membership with <u>direct participation</u>.

— All you can eat

— Free availability of deliverables

— Focus on Interoperability (CTI)

— Collaborative working and partnerships

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

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ETSI Cluster

A Connected World

- Security
- Home & Office
- Better Living with ICT
- Public Safety
- Content Delivery
- Interoperability
- Fixed Networks
- Connecting Things
- Wireless Systems
- Transportation

ETSI's three primary roles

ESO
European Standards Organization

GSP
Global Standards Producer

SPO
Service Providing Organization

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

- **Standards Making**
  - Produce high-quality standards for ICT across all sectors of industry and society
- **Testing and Interoperability**
  - Validation of our standards
  - Test specifications
  - Specialized tools and languages
- **Supporting R&D and Innovation**
- **Education about Standardization**
  - With the support of EC and EFTA Secretariat, we have developed a comprehensive textbook, "Understanding ICT Standardization: Principles and Practice"

Click here to read more…..

ETSI's five strategic directions

Being at the Heart of Digital

ETSI is at the forefront of the standardization of new and existing digital technologies and the preferred point of call for ICT related standardization. ETSI enables comprehensive end-to-end ICT architectures and technologies, including device, network and cloud.

Being an Enabler of Standards

ETSI provides support and a range of tools to enable the identification of the needs and requirements for standards and their production and adoption, in response to regulatory, legislative, policy and market needs.

Being Global

ETSI creates standards intended for global use, with a membership from across the world and partnerships covering all regions and relevant sectors for ICT. ETSI builds on its ESO status to contribute to the European economy.

Being Versatile

ETSI innovates in its working methods, creating room for wide participation, innovation, timely deployment, and the global acceptance of its standards. ETSI works with developer communities to support the creation and maintenance of test suites and tools and additional standard-related software material.
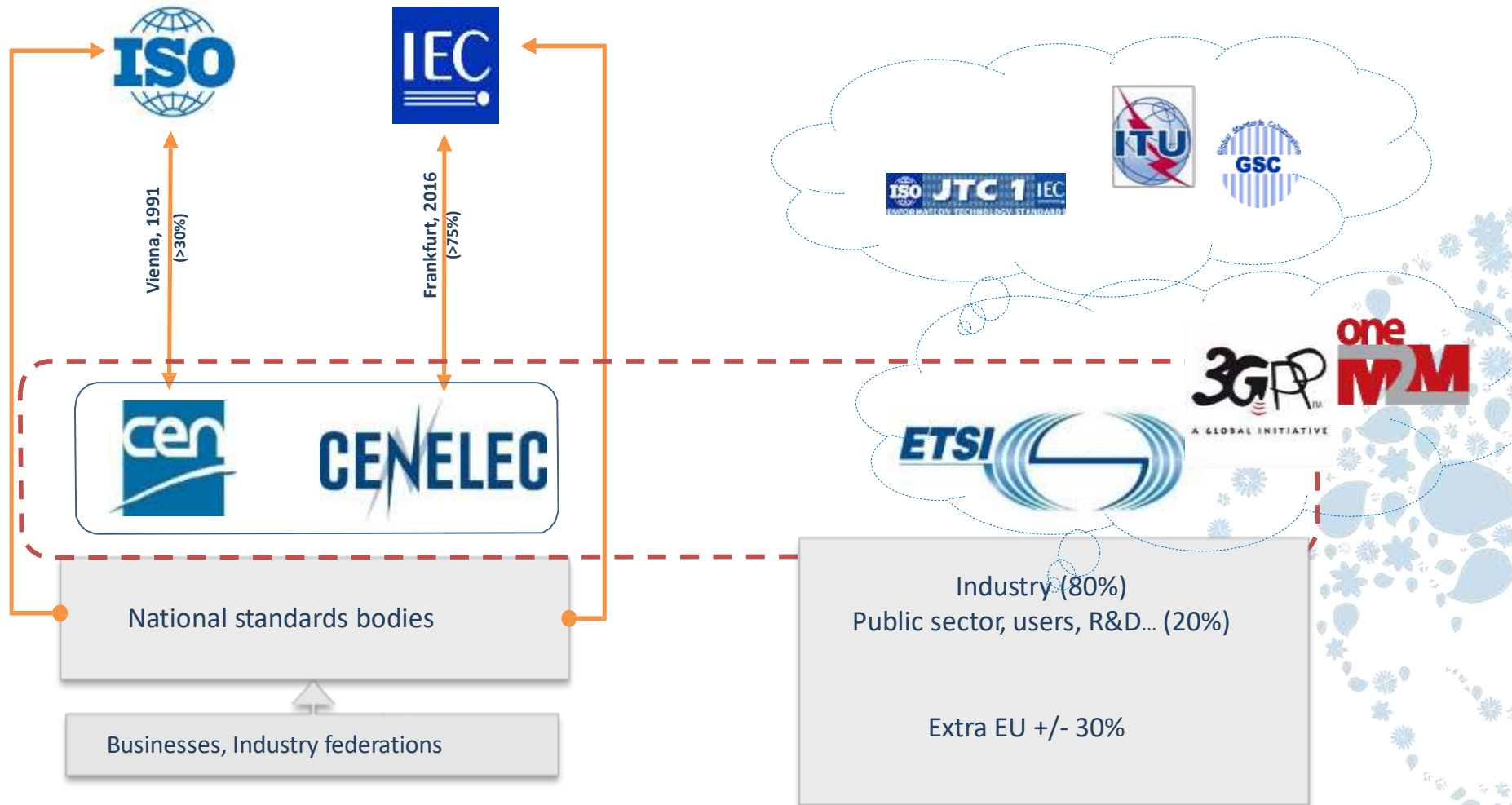
Being Inclusive

ETSI's membership represents real market and societal needs, from local to global, leveraging the digitization of business and industry, circular economy and the sustainable development of modern society. ETSI comprises large and small companies and research organizations, as well as other business, consumer, societal and environmental stakeholders.

Learn more about ETSI's Strategy at:
https://www.etsi.org/about/our-strategy

ESOs- Similarities and differences

National standards bodies

Businesses, Industry federations

Industry (80%)
Public sector, users, R&D... (20%)

Extra EU +/- 30%

Vienna, 1991 (>30%)

Frankfurt, 2016 (>75%)

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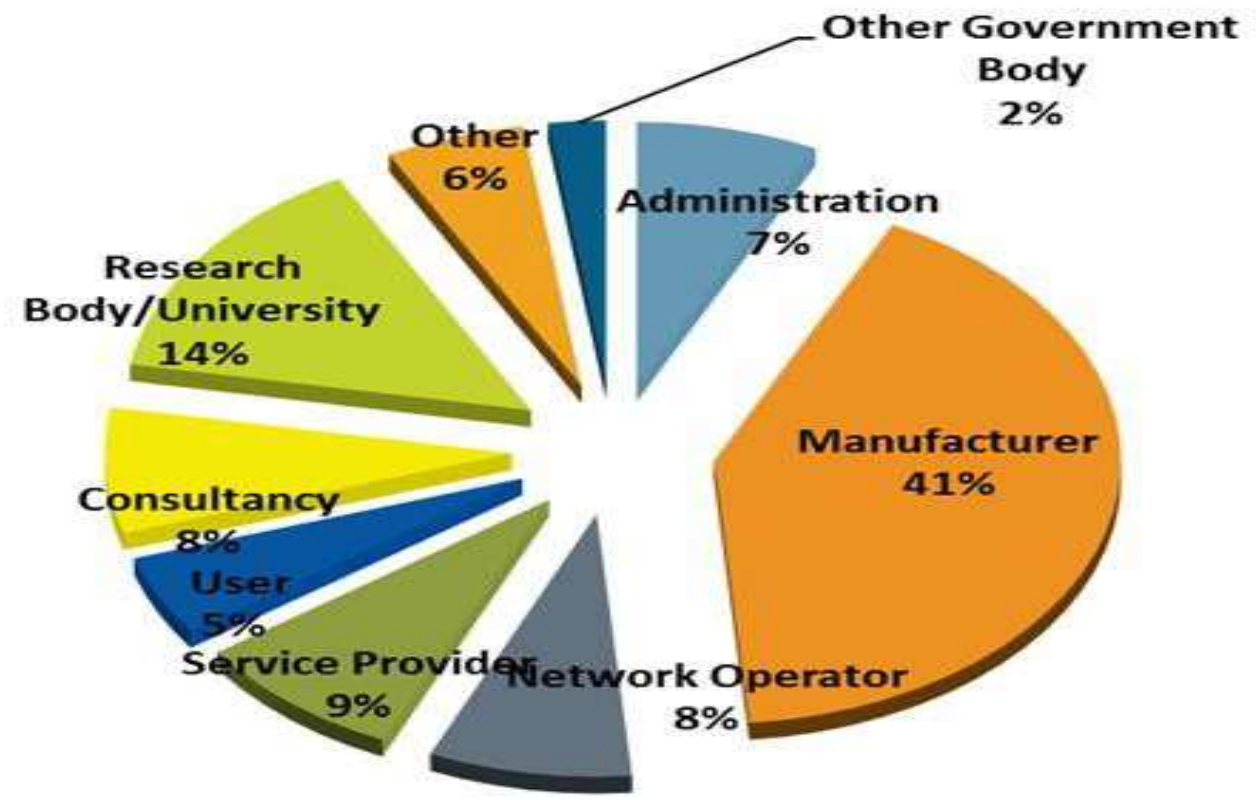Enabling Europe-India Cooperation on Standards

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A Global Standards Organization

- Global footprint of standards implementation (incl. HENs)
- Global membership
- Operates in partnership with peers worldwide (US, India, China, Japan, Korea)
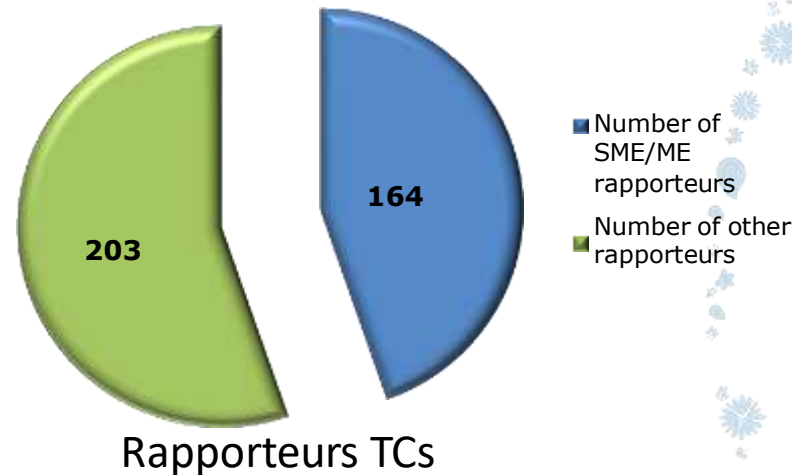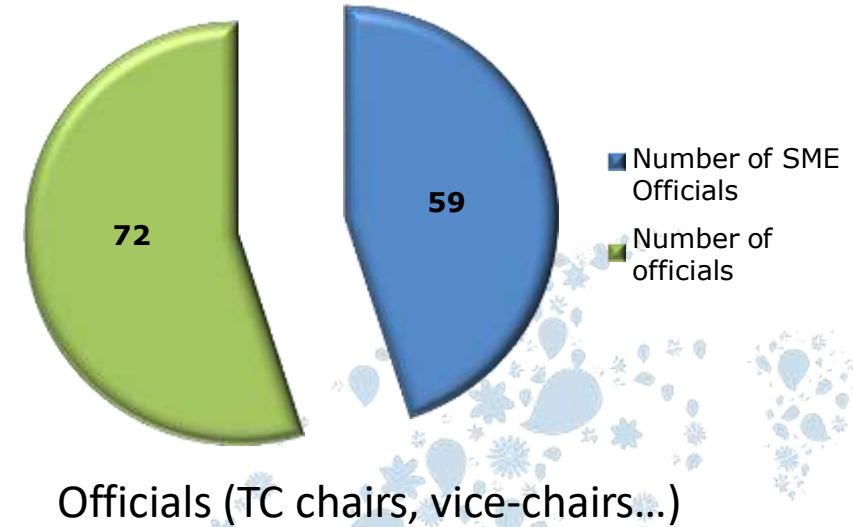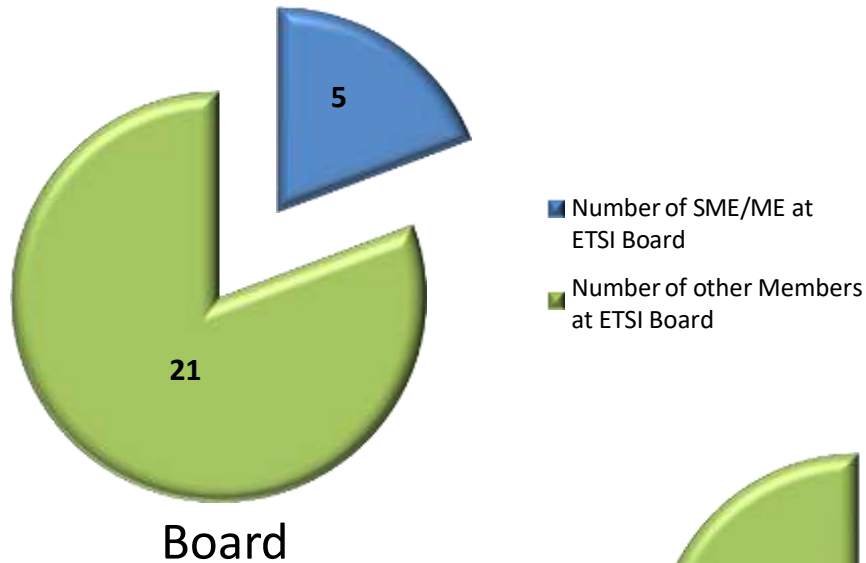
900+ Members from all over the world

Pie chart:
- Manufacturer 41%
- Research Body/University 14%
- Service Provider 9%
- Network Operator 8%
- Consultancy 8%
- Administration 7%
- Other 6%
- User 5%
- Other Government Body 2%

Not only for the big guys

Legend: SME · Public Research Body/University · Micro-Enterprise · Additional membership · Association · Not-for-profit user association

- SME: 129
- Public Research Body/University: 96
- Micro-Enterprise: 92
- Additional membership: 84
- Association: 27
- Not-for-profit user association: 25

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

The Influence of SMEs/MEs

Board
- Number of SME/ME at ETSI Board: 5
- Number of other Members at ETSI Board: 21

Rapporteurs TCs
- Number of SME/ME rapporteurs: 164
- Number of other rapporteurs: 203

Officials (TC chairs, vice-chairs…)
- Number of SME Officials: 59
- Number of officials: 72

The factory

Committees, Projects & other groups

Access, Terminals, Transmission and Multiplexing (ATTM)	Broadband Radio Access Networks (BRAN)	EBU/CENELEC/ETSI on Broadcasting (BROADCAST)
Integrated broadband CABLE telecommunication networks (CABLE)	Cyber Security (CYBER)	Digital Enhanced Cordless Telecommunications (DECT)
Environmental Engineering (EE)	eHEALTH (eHEALTH)	Emergency Communications (EMTEL)
EMC and Radio Spectrum Matters (ERM)	Electronic Signatures and Infrastructures (ESI)	Human Factors (HF)
Core Network and Interoperability Testing (INT)	Intelligent Transport Systems (ITS)	Lawful Interception (LI)
Mobile Standards Group (MSG)	Methods for Testing & Specification (MTS)	Network Technologies (NTECH)
Reconfigurable Radio Systems (RRS)	Railway telecommunications (RT)	Safety (SAFETY)
Smart Card Platform (SCP)	Satellite Earth Stations & Systems (SES)	Smart Body Area Network (SmartBAN)
Smart M2M (SmartM2M)	Speech and multimedia Transmission Quality (STQ)	TETRA and Critical Communications Evolution (TCCE)
User Group (USER)		

ETSI Partnership Projects

Third Generation Partnership Project (3GPP)

oneM2M (oneM2M)

A GLOBAL INITIATIVE

Industry Specification Groups

Augmented Reality Framework (ARF)	european Common information sharing environment service and Data Model (CDM)	cross-cutting Context Information Management (CIM)
Europe for Privacy-Preserving Pandemic Protection (E4P)	Experiential Networked Intelligence (ENI)	Encrypted Traffic Inspection (ETI)
5th Generation Fixed Network (F5G)	IPv6 integration (IP6)	Multi-access Edge Computing (MEC)
millimetre Wave Transmission (mWT)	Network Functions Virtualisation (NFV)	Non-IP Networking (NIN)
Operational energy Efficiency for Users (OEU)	Permissioned Distributed Ledger (PDL)	Quantum Key Distribution (QKD)
Securing Artificial Intelligence (SAI)	Zero touch network and Service Management (ZSM)	

Open Source Group

OpenSource MANO (OSM)

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.
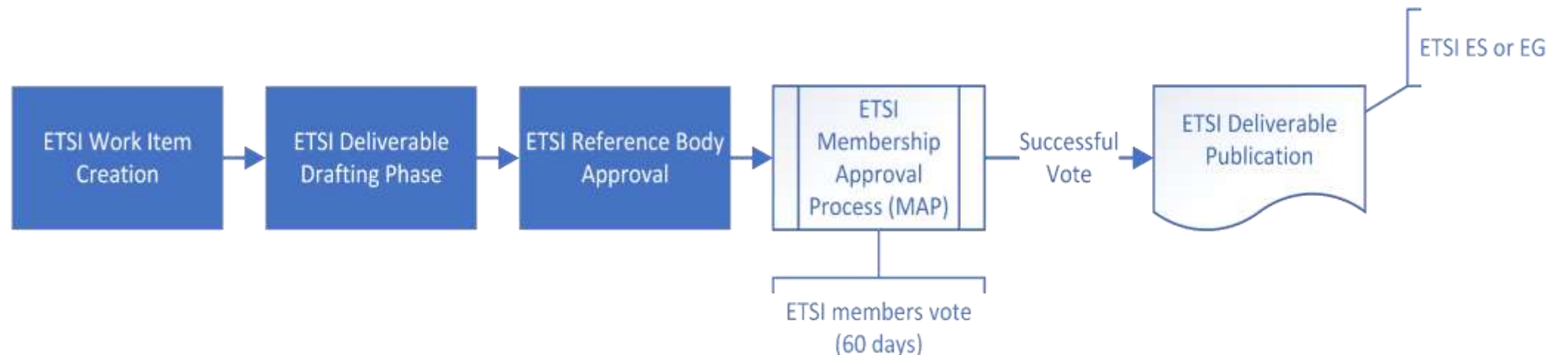
ETSI Standards approval Process

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 Work Item          ETSI Deliverable        ETSI Reference Body      ETSI Deliverable
Creation        →       Drafting Phase      →   Approval            →    Publication
```

ETSI SR, GS, GR, TS or TR

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

```
ETSI Work Item     ETSI Deliverable     ETSI Reference Body     ETSI              Successful     ETSI Deliverable
Creation       →   Drafting Phase   →   Approval            →   Membership    →   Vote       →   Publication
                                                                Approval
                                                                Process (MAP)
```

ETSI ES or EG

ETSI members vote
(60 days)

ETSI Standards approval Process

- **European Standards (EN)**
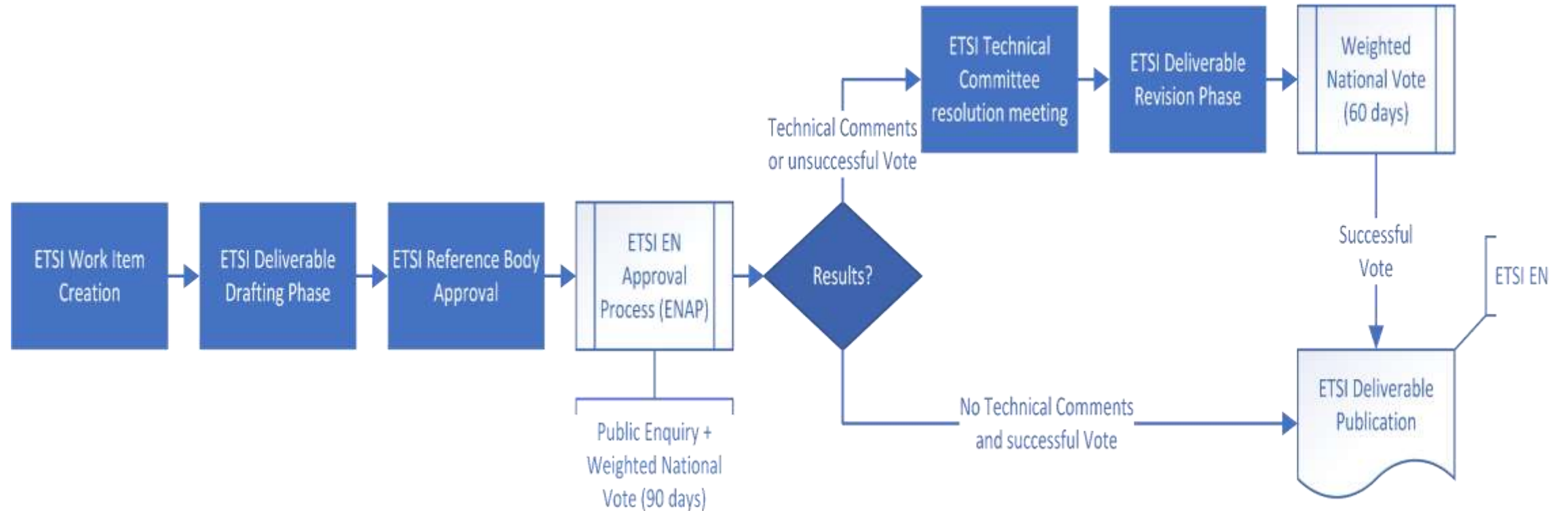
Votes are successful if at least **71%** of the weighted votes cast are in favour of the draft.

Benefits of Standards

- We use standards every day, in all aspects of our daily lives – in communications, media, healthcare, food, transport, construction, furniture, energy……..

- Standards provide:
  - **Safety and reliability**– raising user confidence, increasing sales and the take-up of new technologies
  - **Support of government policies and legislation**– Standards are frequently referenced by regulators and legislators for protecting user and business interests, and to support government policies, for example the European Union's policy for a Single Market
  - **Interoperability**– the ability of devices working together
  - **Business benefits** to:
    - Open **market access**
    - Provide **economies of scale**
    - Encourage **innovation**
    - Increase **awareness** of technical developments and initiatives
  - **Consumer choice** - standards provide the **foundation for new features** and options, contributing to the enhancement of our daily lives. Mass production based on standards provides a greater variety of accessible products to consumers.

Benefits of Standards

- A good example of the power of standardization is the **GSM™** mobile communication technology and its successors (**3G, 4G, 5G**...), truly global phenomena, in which ETSI has and is still playing a leading role.

- ETSI can boast many other similar success stories including, for example, **Smart Cards**, **DECT™**, **TETRA**, **Short Range Radio**, **medical implants**, **electronic signatures**....

- In a world without standards:
  - products might not work as expected or be of inferior quality
  - products might be incompatible with other equipment or may not even connect with them
  - non-standardized products may be dangerous
  - customers would be restricted to one manufacturer or supplier
  - manufacturers would be obliged to invent their own individual solutions with limited opportunity to compete with others

Emerging Technologies

List of Emerging Technologies standardized by ETSI or touched by our standardization:

- Internet of Things (IoT)
- Consumer IoT security
- 5G
- Permissioned Distributed Ledgers (PDL)
- Securing Artificial Intelligence (SAI)
- Experiential Networked Intelligence (ENI)
- Mobile Communications
- Multi-access Edge Computing (MEC)
- Smart Body Area Networks
- Smart appliances
- Smart cities
- Smart Grids
- Smart Metering
- eHEALTH
- Human Factors (HF) and accessibility
- 3GPP Telecom Management

- Augmented Reality
- automotive Intelligent Transport Systems (ITS)
- Digital Signature
- Broadband Satellite Multimedia
- Broadband Cable Access
- Broadband Wireless Access
- Certification Authorities and other Trust Service Providers
- Cybersecurity
- Zero touch network & Service Management (ZSM)
- Broadcast
- Digital Enhanced Cordless Telecommunications (DECT)
- Energy efficiency (EE)
- Environmental Aspects

Complete list can be access here

https://www.etsi.org/technologies

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.

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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
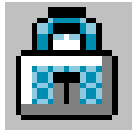   - you can then create your own workspace

- 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**

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ETSI Applications - Work programme
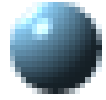
- **ETSI Work Programme**
- ❑ **Query the ETSI Work Programme**
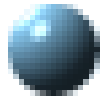
- **Standstill Consultation**
- ❑ **Check Standstill status**
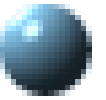
- **Publications Download**
- ❑ **Catalogue search & download**

ETSI Applications - Work programme
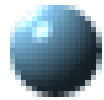
- **Transposition & Withdrawal**

  - Find the national equivalent of EN…

- **E-Approval**

  - National Votes, Public Enquiries, etc
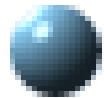 - Vote on ETSI Standards & ETSI Guides

- **Decision Support**

  - TB voting application

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ETSI Applications – Contacts & meetings
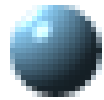
- ❑ **ETSI Membership Information**
- ❑ **Contact Information**
- ❑ **Calendar of Meetings**

- ❑ **Meeting Management**

- ❑ **ETSI Full Members, Associate Members, Observers & Counsellors**
- ❑ **View and modify personal and company details**
- ❑ **Search**
- ❑ **Register**
- ❑ **View participants**
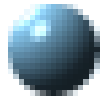- ❑ **Reserve document number**
- ❑ **View room allocation**
- ❑ **(TB Officials) Create & modify meetings, request rooms**

ETSI Applications – Contacts & meetings
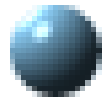
❑ **TB Membership/ exploder lists**

❑ **Subscribe and unsubscribe to one or more exploder lists**
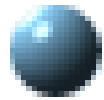
❑ **3GPP meeting registration**

❑ **On-line registration for 3GPP meetings**
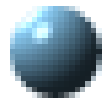
ETSI Applications - Miscellaneous

- **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/

Dinesh Chand Sharma

(Seconded European Standardization Expert in India)

Director – Standardization & Public Policy

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