ETSI EMTEL initiative

Requirements towards Standards

Workshop on Telecommunications for Disaster Relief

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Emergency Telecommunications

European Telecommunications Standards Institute

Not-for-profit organization
Created in 1988

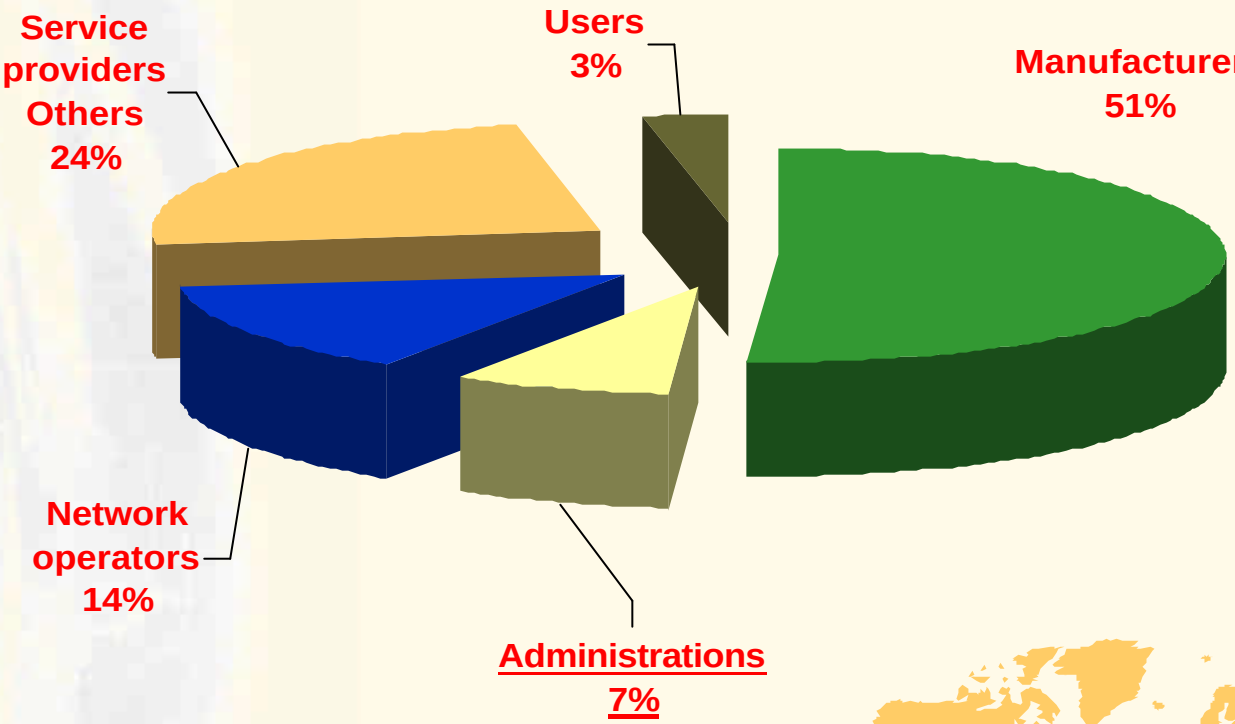
Standardization body

for
- telecommunications
- areas common to:
    - radio communications
    - IT and
    - broadcasting

Purpose

"… to produce … the technical standards and other deliverables ... required by its Members."

768 members from 55 countries…



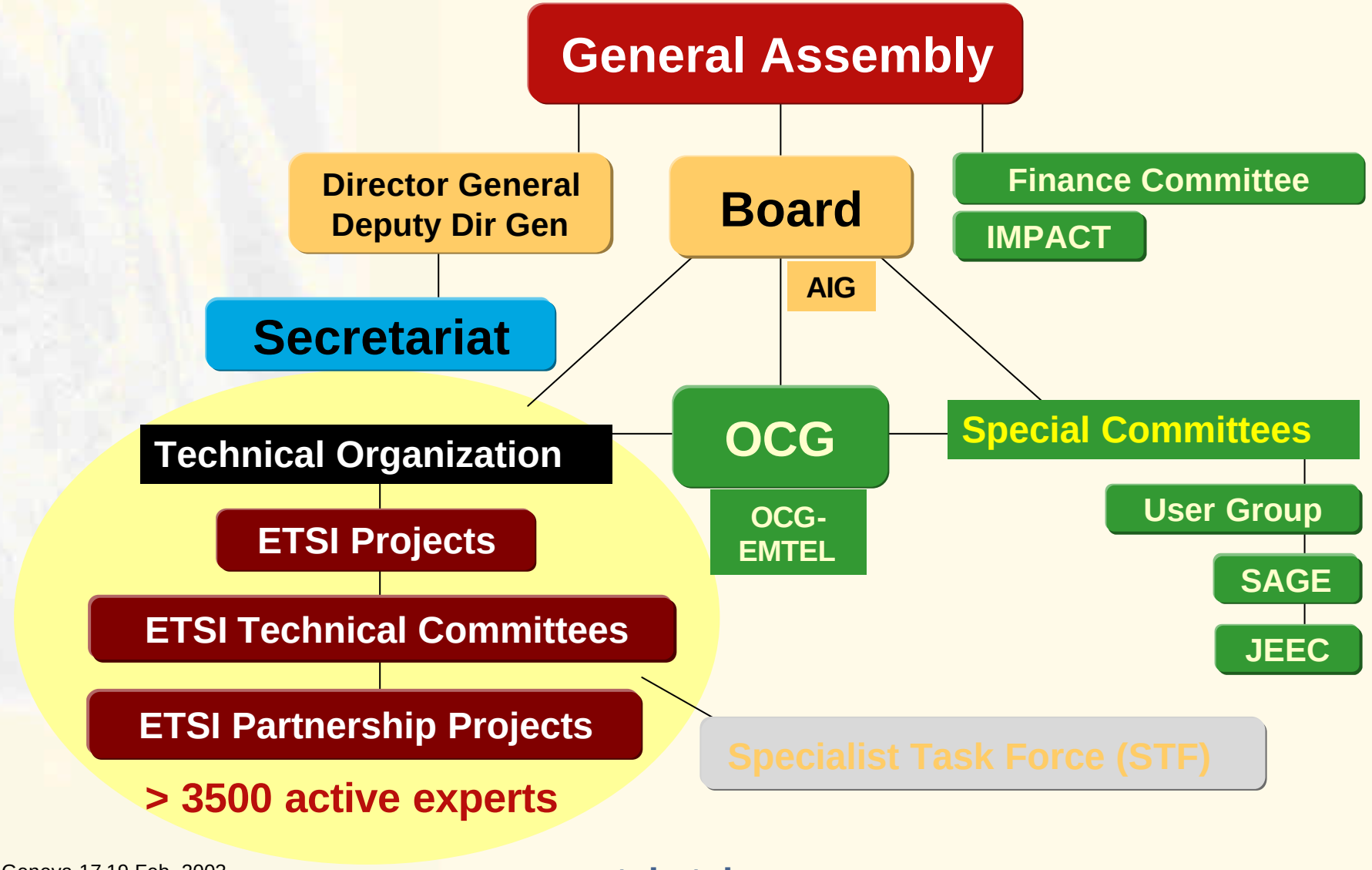
579 Full Members 35 countries

149 Associate Members 20 countries

40 Observers 18 countries

… on 5 continents

ETSI organization



http://portal.etsi.org

Communications services to assist public safety and disaster relief agencies in minimizing risk to human life and property

to cover the necessary general public information and communication needs

Contents

- **Public sector requirements**
- **Emergency management**
- **Standardization activities**
- **Implementation issues**
- **Scenarios for the future**

Conclusions

- **Different types of emergency need different solutions**
  - day-to-day emergencies
  - disasters
- **Two routes need to be explored**
  - use of existing services, functions, specs
  - define requirements for the future (e.g. Project MESA)
- **Not clear who sets requirements: not "market-driven"**
- **Fixed and mobile networks must co-operate**

ETSI EMTEL activity over the past years

- EMTEL Workshop (25-27 February 2002)
- Creation of EMTEL web site and e-mail discussion list
- TC SPAN workshop
- Creation of an SPAN EMTEL ad-hoc working group
- TC/EP review of all work items
- Project MESA meetings
- EP TETRA meetings
- ETSI Board creates ad hoc group OCG EMTEL for the horizontal coordination of emergency telecommunication activities: Requirements, coordination of work
- 2 OCG EMTEL meetings (Sept. 2002, Jan. 2003)

ETSI general EMTEL activities up to 2003

- **OCG-EMTEL** – Co-ordination of TB activities, requirements
- **TC SPAN** – International emergency preference scheme and multimedia emergency services; draft TS for Emergency Location Protocols
- **3GPP** - Priority services and Location Services for GSM and W-CDMA systems
- **TIPHON** - Emergency telecommunications services in IP based networks
- **TETRA** - Mobile narrowband and wideband communications for public safety applications
- **Project MESA** - Mobile broadband communications for public safety applications

OCG EMTEL Terms of Reference (1)

- to coordinate the setting of emergency telecommunication requirements and undertake measures to efficiently continue and stimulate further co-coordinated work
- to identify relevant work outside ETSI, inform and stimulate appropriate activity in ETSI
- to provide mechanisms for the effective liaison between ETSI technical bodies and with external organizations
- to co-ordinate ETSI representation in external bodies
- to assist the Technical Organization in the development of a consistent set of deliverables

OCG EMTEL Terms of Reference (2)

The group shall concentrate on definition of requirements for:

- **Communication of citizens with authorities / organizations in case of distress (emergency call handling)**
- **Communication between authorities / organizations during emergencies**
- **Communication from authorities / organizations to the citizens during emergencies**

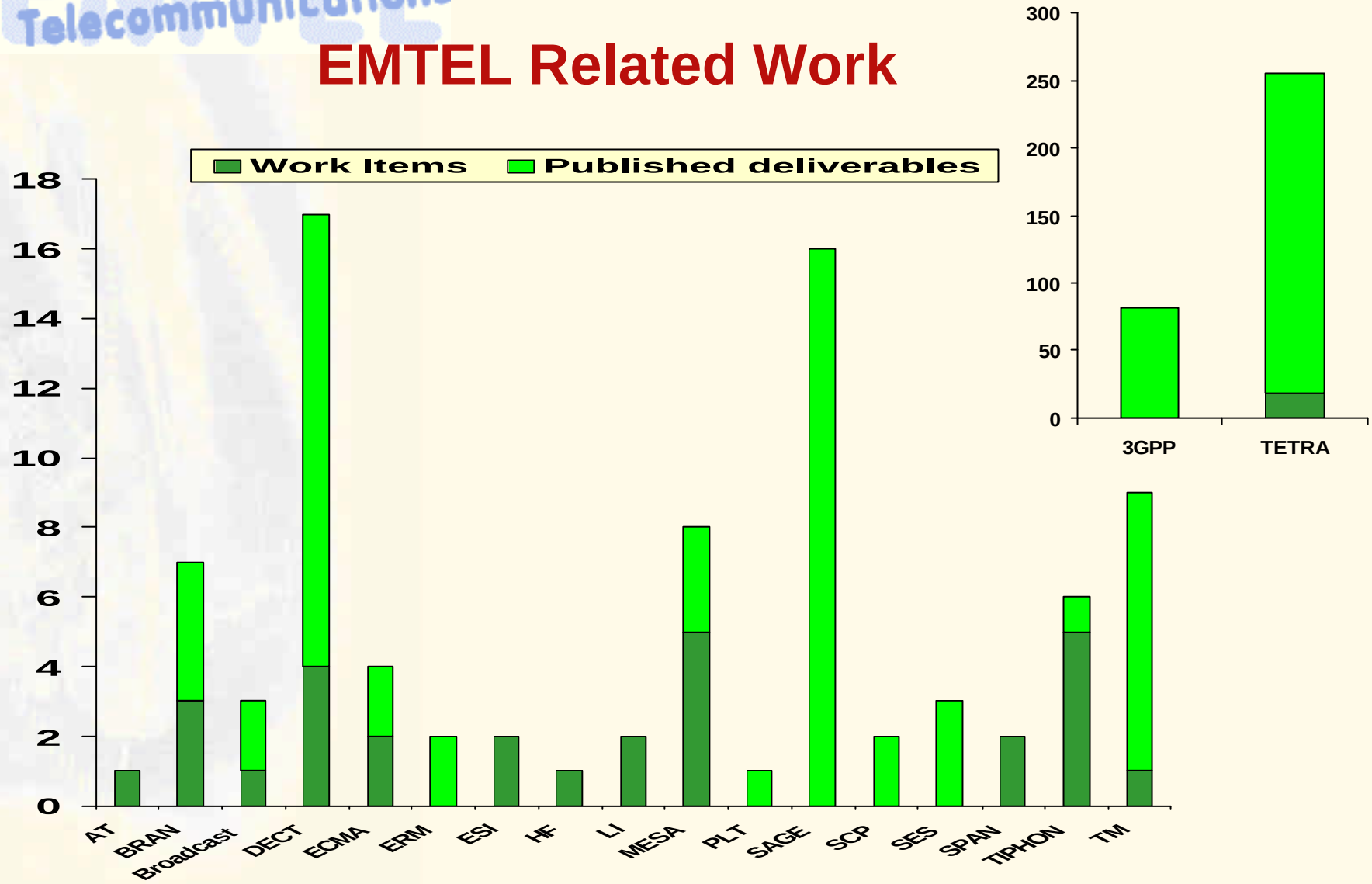
Future Activities

- Coordination (OCG EMTEL)
- Specifications and protocols for emergency call handling in public networks
- Enhancement of Location Services within fixed network and GSM/W-CDMA Specifications
- Specification for priority access
- Specification of the PSAP interface
- Study to be performed on request of the European Commission
- Standardization actions resulting from STF recommendations
- Work on TETRA Wideband Solutions
- Integration of applications
- Home networks

STF - Specialist Task Forces

- Preliminary analysis of EMTEL and Local Emergency Service requirements for IP networks and Next Generation Networks
- Architectural Model and Concepts of EP TIPHON for critical Emergency Telecommunications Services providing Multimedia Communications and to ensure Interoperability in evolving network environments
- Next Generation Networks at home

EMTEL Related Work



http://portal.etsi.org/ocgemtel/status.asp

Location Enhanced Emergency Services
E 112

Legal powers of the Community

(General: Art. 211 of the Treaty on the European Union)

Provision of caller location information

(Universal service directive, Art 27)

Public telephone network operators must make location information available for Emergency Authorities to the extent technically feasible for **all 112 calls**.

Override of privacy

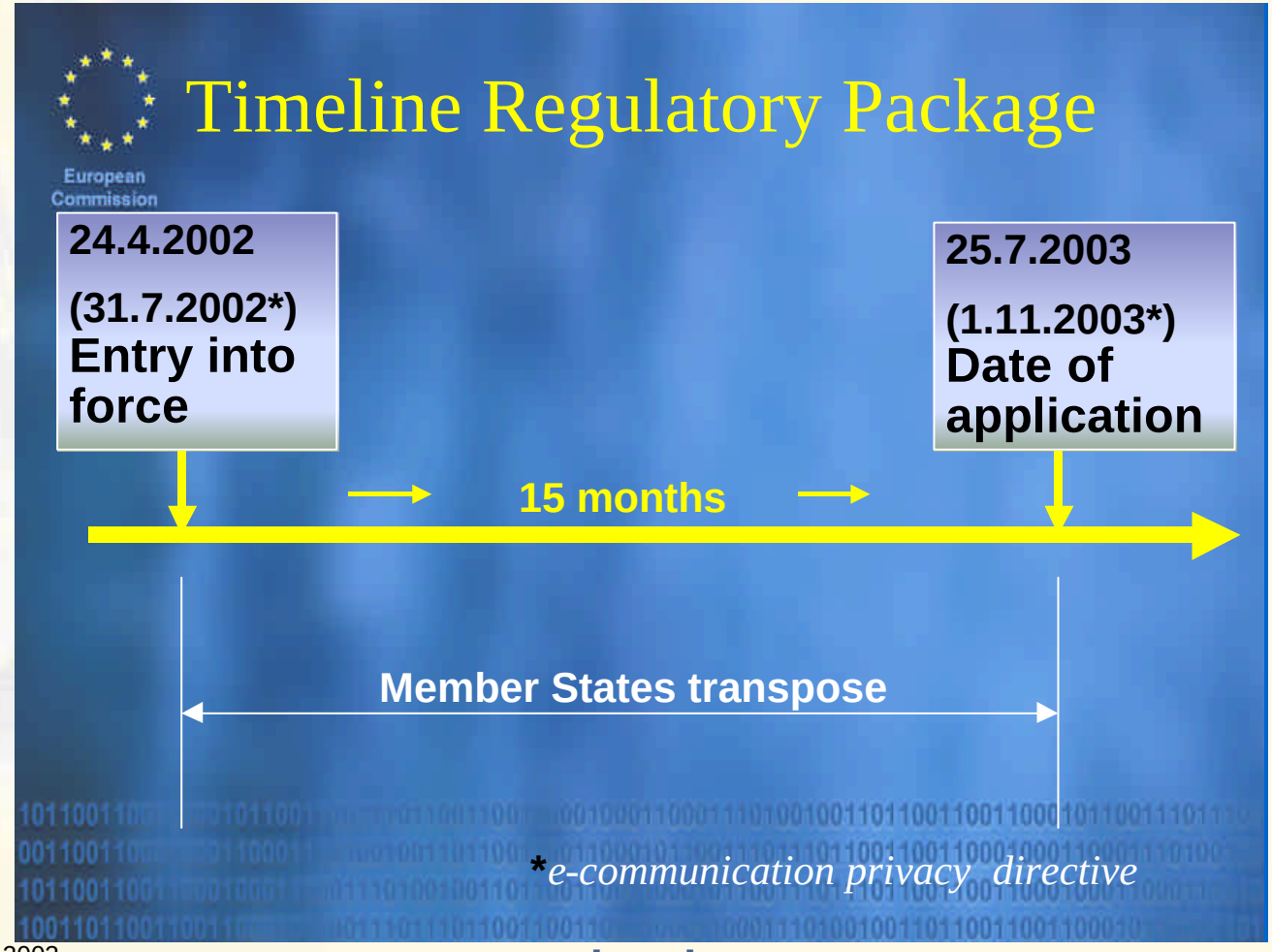
(e-communication privacy directive, Art's 9/10)

If a user inhibits the processing of his location data, it is possible to override it on a per-call basis for emergency calls.

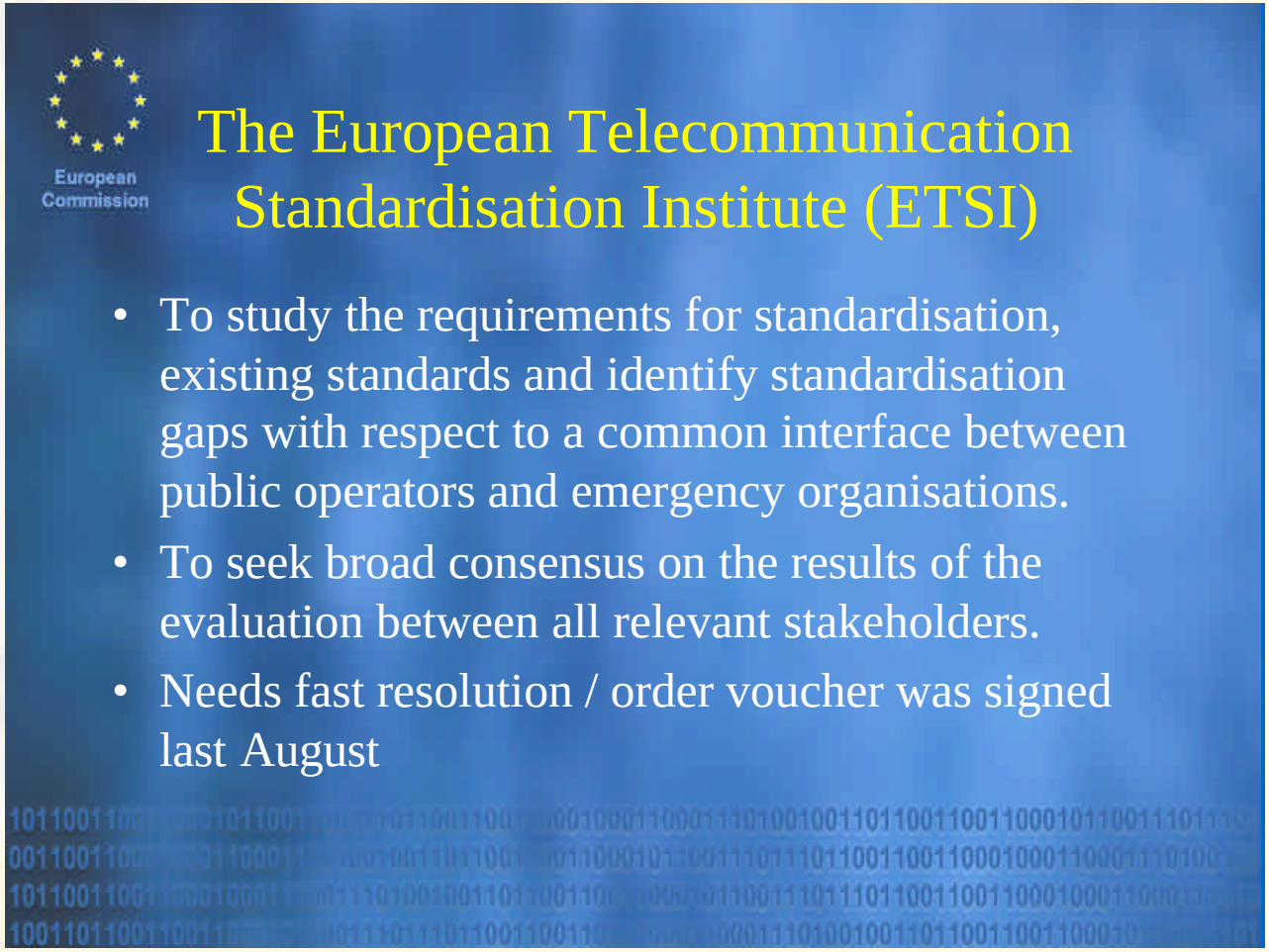
Location Enhanced Emergency Services
E 112

- To achieve an efficient and reliable caller location system for emergency services (E112), within the shortest time possible and without over-regulation and/or over-standardization
- To set a framework for implementing legal and administrative measures at national level
- To structure ongoing cooperation between telecommunication operators and emergency authorities at the national and European level
- To achieve harmonization of implementation to drive down cost and speed up the implementation, including the elaboration of common standards

Location Enhanced Emergency Services
E 112



Location Enhanced Emergency Services
E 112



Location Services

- TS 22.071 (3GPP): Location Services (LCS); Service description
- TS 102 164 (SPAN): Emergency Location Protocols
- Enabling technology within the network, consisting of standardized service capabilities to enable the provision of location based applications, including enhanced support for emergency calls

- Will be implemented in phases commensurate with the capabilities of the technologies

Priority Service Activities

- **Feasibility Study**
  - Allocated to SA WG 1
  - Technical Report 22.950 approved
  - Identify high-level requirements of Priority Service
  - Determine existing relevant 3GPP specifications that support Priority Service requirements
  - Perform a gap analysis to determine the extent existing 3GPP specifications can meet these Priority Service requirements
  - Change Requests to 3GPP specifications will now be implemented

Priority Service – high level requirements

- Priority Call Origination
- Priority Call Termination
- Priority Progression
- Priority Queuing
- Priority Level & PIN
- Invocation on Demand
- Applicable to Voice & Data
- Authorized by Subscription
- Authorized by PIN
- Priority Service Feature Code
- Priority Service Supported during Intersystem Roaming
- Priority Service Supported during Intersystem Handover
- Priority Service Call Detail Record

Priority Service (SPAN)

- Enhancement of ISUP protocol to support priority call setup for Emergency Relief Services (ITU-based)
- Definition of functional architecture and requirements for supporting Emergency Services and Priority User Services

- Transatlantic Partnership
- Mobile Broadband for Emergency and Safety Applications
  - over service and national boundaries
- Medical services – telemedicine – law enforcement – fire-fighting – emergency operations
- Focus first on users' future needs
  - early input from APCO and ETSI

More at www.projectmesa.org

TETRA – TErrestrial Trunked RAdio – Release 2

- Increase in data throughput (up to 10 times)
- Codecs for enhanced voice quality

- Air Interface enhancements
  - spectrum efficiency
  - network capacity
  - system performance
  - size if terminals and battery life

- Interworking with GSM, GPRS, UMTS/3G
- Evolution of SIM towards the USIM

Transposition of Requirements into Standards

Considerable input into OCG-EMTEL meetings #1 and #2:

- First drafts on general requirements for emergency call handling (E 112)
- Draft requirements for authority-authority communication
- Studies on authorities-citizens communication
- Requirements on vehicle-PSAP communication, draft protocol
- Requirements for applications, e.g. Telemedicine

Information received so far has to be processed and transposed into standards

EMTEL Related Work

Visit: www.emtel.etsi.org

You will find

- General Information on EMTEL
- Minutes of the meetings
- All presentations and documents
- EMTEL status report
- Access to the e-mail discussion group

Welcome to work with
ETSI on
Emergency Telecommunications
www.emtel.etsi.org