



**Emergency Communications (EMTEL);
Requirements for communications from
authorities/organizations to individuals,
groups or the general public during emergencies**

PREVIEW
iTech (mailto:info@iteh.ai)
Full standard available at: <https://standards.iteh.ai/catalog/standards/sist/493b0eb5-3639-437b-a12a-e7f62165-2216/etsi-ts-102-182-v1.5.1-2020-07>

Reference

RTS/EMTEL-00047

Keywords

administration, emergency

ETSI

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Foreword

This Technical Specification (TS) has been produced by ETSI Special Committee Emergency Communications (EMTEL).

The present document is the third of a set of deliverables covering the communication needs of individuals and authorities in emergency situations, as identified below:

- ETSI TR 102 180 [i.3]: "Emergency Communications (EMTEL); Basis of requirements for communication of individuals with authorities/organizations in case of distress (Emergency call handling)";
- ETSI TS 102 181 [i.12]: "Emergency Communications (EMTEL); Requirements for communication between authorities/organizations during emergencies";
- **ETSI TS 102 182: "Emergency Communications (EMTEL); Requirements for communications from authorities/organizations to individuals, groups or the general public during emergencies"**;
- ETSI TR 102 410 [i.1]: "Emergency Communications (EMTEL); Basis of requirements for communications between individuals and between individuals and authorities whilst emergencies are in progress".

Modal verbs terminology

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Introduction

Recent world events have created a heightened social focus on public protection and general public safety. Actions such as the Universal Service Directive requiring the European emergency call number (112) to be enhanced with the provision of caller location and the Seveso II Directive aimed at the prevention of major accidents involving dangerous substances highlight this focus. Special consideration may have to be given to the elderly, the disabled and the young people. An annotated bibliography of documents dealing with human factors can be found in ETSI SR 001 996 [i.4].

The provision of effective communication is one of the most important duties of a public authority towards its citizens. An important component required to meet this duty is the ability for Authorities to communicate with citizens during times of emergency. Authorities and emergency response teams need to warn and inform the public in times of crisis and therefore is required to have effective, high quality communication methods and systems to meet this need.

The responsibility for emergency response or disaster-related communications is addressed differently from country to country. In most cases, the parties responsible for warning and informing the public follow the country's administrative structures with coordinators at both the local and national levels, as well as across multiple disciplines and departments.

The present document catalogues the requirements on warning and informing the public as seen by the Emergency Services Community and looks at the technologies and methods available to do this, and also addresses IoT devices that act upon receiving a (specific) warning message.

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1 Scope

The present document gives an overview of the requirements for communication from authorities/organizations to citizens in all types of emergencies. It collects operational and organizational requirements as a basis for a common notification service, including targeting of the area to be notified. Although many of the requirements relate to national public policies and regulation, there are a number of service and technical aspects which are better dealt with on the European level to ensure harmonized access and services over Europe and service effectiveness through increased user awareness by using standardized solutions.

The present document also collects already established requirements for notification and gives guidance on how to find the standardization work published or ongoing. The document identifies the areas needing particular attention from the experts and refers to identified documents in preparation in SDOs.

The present document is a collection of technical requirements and recommendations.

The present document is applicable to ETSI technical bodies for defining of services and specifying technical solutions.

It is clear that the present document will not present a solution for every scenario.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference/>.

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- | | |
|------|---|
| [1] | Void. |
| [2] | Void. |
| [3] | Void. |
| [4] | Void. |
| [5] | Void. |
| [6] | Void. |
| [7] | Void. |
| [8] | Void. |
| [9] | Void. |
| [10] | Void. |
| [11] | Void. |
| [12] | Recommendation ITU-T X.1303bis: "Common alerting protocol (CAP 1.2)". |
| [13] | Void. |

- [14] ETSI TS 103 645: "CYBER; Cyber Security for Consumer Internet of Things: Baseline Requirements".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI TR 102 410: "Emergency Communications (EMTEL); Basis of requirements for communications between individuals and between individuals and authorities whilst emergencies are in progress".
- [i.2] Void.
- [i.3] ETSI TR 102 180: "Emergency Communications (EMTEL); Basis of requirements for communication of individuals with authorities/organizations in case of distress (emergency call handling)".
- [i.4] ETSI SR 001 996: "Human Factors (HF); An annotated bibliography of documents dealing with Human Factors and disability".
- [i.5] Cheshire Fire and Rescue Service: "In case of Emergency".
- [i.6] Cheshire Fire and Rescue Service: "Media Plan for Major Incidents".
- [i.7] ETSI TR 103 582: "EMTEL; Study of use cases and communications involving IoT devices in provision of emergency situations".
- [i.8] Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code; published in the Official Journal L321.
- [i.9] ETSI EN 300 401: "Radio Broadcasting Systems; Digital Audio Broadcasting (DAB) to mobile, portable and fixed receivers".
- [i.10] ETSI EN 300 468: "Digital Video Broadcasting (DVB); Specification for Service Information (SI) in DVB systems".
- [i.11] UK Civil Contingency Act 2004, chapter 36.
- NOTE: Available at <http://www.legislation.gov.uk/ukpga/2004/36/contents>.
- [i.12] ETSI TS 102 181: "Emergency Communications (EMTEL); Requirements for communication between authorities/organizations during emergencies".
- [i.13] Recommendation ITU-T E.106: "International Emergency Preference Scheme (IEPS) for disaster relief operations".
- [i.14] Recommendation ITU-T E.105: "International telephone service".
- [i.15] World Telecommunication Development Conference 1994 (WTDC-94): "Resolution No.7, Disaster Communications".
- NOTE: Available at https://www.itu.int/en/ITU-D/Documents/WTDC_1994_FINAL_REPORT.PDF.
- [i.16] ETSI TS 123 246: "Universal Mobile Telecommunications System (UMTS); LTE; Multimedia Broadcast/Multicast Service (MBMS); Architecture and functional description (3GPP TS 23.246)".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI TR 102 180 [i.3], ETSI TR 103 582 [i.7] and the following apply:

citizen: any individual (resident, visitor, passer-by), present in the vicinity of an emergency situation (from the first notice till the complete clearance) and subject to be affected by it, but who has no identified role in the actions of rescue and of restoration of normal conditions

NOTE: Depending on his situation, the citizen can send alerts or provide information to the emergency services, but in many cases is either passive or a potential victim.

common emergency communication and information system: system to enable communication and sharing information between the monitoring and information centre and the designated contact points

emergency notification systems: general category for any systems used to notify persons of an emergency

Emergency Telecommunication Service (ETS): service capability that exhibits the following characteristics:

- 1) ETS is a national implementation utilizing the features facilities and applications available in existing national public networks and service offerings. As such it could be said to resemble a supplementary service since it can only exist if there is an underlying telecommunications service.
- 2) As a national capability, ETS is specifically designed to serve the telecommunications needs of nationally authorized users. This might include issues such as priority access to telecommunications in a secure mode operation.
- 3) Nationally authorized ETS users may be given access to TDR facilities for disasters occurring in other countries or indeed within the national environment. The development of this and other aspects are a national matter.

emergency telephone notification systems: specific category for a system that uses the telephone, in conjunction with other elements, including computer hardware and software to notify persons of an emergency

NOTE: It may include changeable message signs, sirens, telephone and other media.

originating network: access network from which the emergency call was originated

telecommunications for disaster relief: provision of telecommunications with and within the region affected by the disaster, including international communications to and from the disaster area and local communications at the disaster area

NOTE: Where feasible TDR would be provided by the use of existing public telecommunications services and facilities. This might include for example invoking the preference scheme described in Recommendation ITU-T E.106 [i.13] for the International Telephone Service E.105 [i.14].

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AM	Amplitude Modulation
CAP	Common Alerting Protocol
CB	Cell Broadcast
CBS	Cell Broadcast Service
CD	Compact Disc

COMAH	Control Of Major Accident Hazards
DAB®	Digital Audio Broadcasting
ECC	Emergency Control Centre
ENS	Emergency Notification System
ETAS	Emergency Telephone Alert System
ETS	Emergency Telecommunication Service
EU	European Union
FM	Frequency Modulation
GIS	Geographic Information System
HTML	Hyper-Text Markup Language
IMS	IP Multimedia Subsystem
IoT	Internet of Things
IVR	Interactive Voice Response
LW/MW	Long Wave/Medium Wave
MBMS	Multimedia Broadcast Multicast Service
MMI	Man-Machine Interface
MMS	Multimedia Messaging Service
NGO	Non-Governmental Organization
OMA	Open Mobile Alliance
PC	Personal Computer
PSAP	Public Safety Answering Point
PSTN	Public Switched Telephone Network
PWS	Public Warning System
QoS	Quality of Service
RAN	Radio Access Network
RCS	Rich Communication Services
RDS	Radio Data System for VHF/FM broadcasting
RF	Radio Frequency
SDO	Standards Development Organization
SMS	Short Message Service
TDR	Telecommunications for Disaster Relief
TV	TeleVision
UMTS	Universal Mobile Telecommunication System
VBI	Voice Break-In
VHF/FM	Very High Frequency/Frequency Modulation
VMS	Variable Message Sign

4 Nature of communications from authorities to citizens

In the basic and routine case of an emergency situation the number of affected individuals is limited; the victims, endangered persons, the person reporting the emergency, the operator at the ECC/PSAP and the personnel deployed to the incident. The fact that the Emergency Authority reaches the victims and provides assistance is the expression of the relationship between the authority and the citizen.

There are several situations where this simple model does not apply; in general they correspond to mass phenomena (earthquakes, tsunamis, terrorist attacks, etc.) forecasted or not, to the combination of several risks (a fire of toxic products, a snow storm at peak traffic hours) or the evolution of an apparently limited incident (the rescued person is recognized as a bearer of a contagious disease).

It may also be necessary to mobilise private organizations, charities and NGOs to participate in the rescue actions. These services and organizations may be required on a priority basis at the incident location.