

ETSI TR 103 166 V1.1.1 (2011-09)



**Satellite Earth Stations and Systems (SES);
Satellite Emergency Communications (SatEC);
Emergency Communication Cell over Satellite (ECCS)**

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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Satellite Earth Stations and Systems (SES).

The present document is intended to be used as a report on the current status quo.

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1 Scope

The present document is intended to outline the concept of Emergency Communication Cells over Satellite (ECCS). An ECCS is understood as a temporary emergency communication cell supporting terrestrial wireless and wired standard(s) (e.g. based on IEEE 802.11 [i.4], VHF/UHF, IEEE 802.16 [i.5], GSM, or TETRA), which are linked/backhauled to a permanent infrastructure by means of bi-directional satellite links. The present document covers the involved roles for operating an ECCS and describes ECCS architectures based on existing products and introduces the challenges for providing interoperable services. An annex with existing ECCS solutions concludes the present document.

2 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 reference document (including any amendments) applies.

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2.1 Normative references

The following referenced documents are necessary for the application of the present document.

Not applicable.

2.2 Informative references

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] Report ITU-R Recommendation M.2033: "Radiocommunication objectives and requirements for public protection and disaster relief".
- [i.2] ETSI TS 102 181: "Emergency Communications (EMTEL); Requirements for communication between authorities/organizations during emergencies".
- [i.3] ETSI TR 102 641: "Satellite Earth Stations and Systems (SES); Overview of present satellite emergency communications resources".
- [i.4] IEEE 802.11: "IEEE Standard for Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks-Specific requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications".
- [i.5] IEEE 802.16: "IEEE Standard for Local and metropolitan area networks - Part 16: Air Interface for Broadband Wireless Access Systems".

3 Abbreviations

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

AAA	Authentication, Authorization and Accounting
ATA Spec 300	Air Transport Association

NOTE: See <https://publications.airlines.org/CommerceProductDetail.aspx?Product=68>.

BGAN	Broadband Global Area Network
BSC	Base Station Controller
BSS	Base Station Subsystem
BTS	Base Transceiver Station
CNES	Centre National d'Etudes Spatiales
DECT	Digital Enhanced Cordless Telecommunications
DNS	Domain Name System
DVB-RCS	Digital Video Broadcasting Return Satellite Channel
ECCS	Emergency Communication Cell over Satellite
EMTEL	Emergency Telecommunications
ETSI	European Telecommunications Standards Institute
GEO	Geostationary Earth Orbit
GIS	Geo Information Service
GSM	Global System for Mobile Communications
HLR	Home Location Register
HPA	High Power Amplifier
IP	Internet Protocol
ISI	Inter-System Interface
ITU-R	International Telecommunication Union Radiocommunication Sector
LAN	Local Area Network
LBS	Location Based Service
LSC	Local Switching Centre
MNO	Mobile Network Operator
MSC	Main Switching Centre
MTA	Multi-national Telecom Adapter
NAT	Network Address Translation
NGO	Non-Governmental Organization
PABX	Private Automatic Branch Exchange
PEA	Pan-European Satellite Telecom Adaptor
PEP	Performance Enhancing Proxy
PKC	(please remove the bullet point with this acronym)
PLMN	Public Land Mobile Network
PMR	Professional (or Private) Mobile Radio
PPDR	Public Protection and Disaster Relief
PSTN	Public Switched Telephone Network
QoS	Quality of Service
SatEC	Satellite Emergency Communications
SCPC	Single Channel Per Carrier
SES	Satellite Earth Stations and Systems
SIM	Subscriber Identity Module
SMS	Short Message Service
SwMI	Switching and Management Infrastructure
TCP	Transmission Control Protocol
TETRA	Terrestrial Trunked Radio
UHF	Ultra High Frequency
UMTS	Universal Mobile Telecommunications System
VHF	Very High Frequency
VLR	Visitor Location Register
VoIP	Voice over IP
VPN	Virtual Private Network
VSAT	Very Small Aperture Terminal