



SLOVENSKI STANDARD
SIST ES 204 009 V1.1.1:2025

01-november-2025

Človeški dejavniki (HF) - Zahteve za interoperabilne storitve celovitega pogovora

Human Factors (HF) - Requirements for interoperable total conversation services

Ta slovenski standard je istoveten z: ETSI ES 204 009 V1.1.1 (2025-08)

ICS:

33.040.01

Telekomunikacijski sistemi
na splošno

Telecommunication systems
in general

SIST ES 204 009 V1.1.1:2025

en

ETSI ES 204 009 V1.1.1 (2025-08)



**Human Factors (HF);
Requirements for interoperable total conversation services**

(<https://standards.iteh.ai>)

Document Preview

[SIST ES 204 009 V1.1.1:2025](https://standards.iteh.ai/catalog/standards/sist/4b7edde4-30f3-44ac-89fa-8627d8136a5c/sist-es-204-009-v1-1-1-2025)

<https://standards.iteh.ai/catalog/standards/sist/4b7edde4-30f3-44ac-89fa-8627d8136a5c/sist-es-204-009-v1-1-1-2025>

Reference

DES/HF-00301559

Keywords

accessibility, HF, ICT, procurement, relay, service,
total conversation**ETSI**650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871**Important notice**The present document can be downloaded from the
[ETSI Search & Browse Standards](#) application.

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format on [ETSI deliver](#) repository.

Users should be aware that the present document may be revised or have its status changed, this information is available in the [Milestones listing](#).

If you find errors in the present document, please send your comments to the relevant service listed under [Committee Support Staff](#).

If you find a security vulnerability in the present document, please report it through our [Coordinated Vulnerability Disclosure \(CVD\)](#) program.

Notice of disclaimer & limitation of liability

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

No representation or warranty is made that this deliverable is technically accurate or sufficient or conforms to any law and/or governmental rule and/or regulation and further, no representation or warranty is made of merchantability or fitness for any particular purpose or against infringement of intellectual property rights.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2025.
All rights reserved.

Contents

Intellectual Property Rights	7
Foreword.....	7
Modal verbs terminology	7
1 Scope	8
2 References	8
2.1 Normative references	8
2.2 Informative references	9
3 Definition of terms, symbols and abbreviations.....	13
3.1 Terms	13
3.2 Symbols	13
3.3 Abbreviations.....	14
4 Total conversation service: General characteristics and usage scenarios.....	14
4.1 General functionality of total conversation services	14
4.1.1 Type of service.....	14
4.1.2 Provided media.....	15
4.1.2.1 General about provided media.....	15
4.1.2.2 Real-time text	15
4.1.2.3 Video	15
4.1.2.4 Voice	15
4.1.2.5 Other components in the session	15
4.2 Usage scenarios: Typical communication situations	16
4.2.1 Communication with any other users.....	16
4.2.1.1 General	16
4.2.1.2 Multimodal communication	16
4.2.1.3 Multiparty communication	16
4.2.1.4 Communication across different services	17
4.2.2 Communication supported by relay services and transcription functions	17
4.2.3 Using total conversation for emergency communication	17
4.2.4 Usage with assistive technologies	18
4.2.4.1 General on assistive technologies	18
4.2.4.2 Accessibility of alerts in communication initialization	18
4.2.4.3 Accessibility of voice communication by assistive technologies	18
4.2.4.4 Accessibility of real-time text communication by assistive technologies	19
5 Requirements for total conversation service provision	19
5.1 General.....	19
5.2 Performance requirements on media	20
5.2.1 Real-time text	20
5.2.1.1 End-to-end delay and smoothness of presentation.....	20
5.2.1.2 Reliability	20
5.2.1.3 Character representation and editing	20
5.2.1.4 Other performance related aspects of RTT	21
5.2.2 Video.....	21
5.2.2.1 End-to-end delay of video	21
5.2.2.2 Smoothness of motion reproduction.....	21
5.2.2.3 Spatial resolution and sharpness	21
5.2.2.4 Evaluation of video quality.....	21
5.2.3 Voice	21
5.2.3.1 End to end delay for voice communication	21
5.2.3.2 Frequency range of voice communication.....	22
5.2.4 Synchronization of multiple communication media.....	22
5.2.4.1 General	22
5.2.4.2 Voice and video synchronization.....	22
5.2.4.3 Subtitling synchronization	22
5.2.5 Multiparty considerations.....	23

5.2.5.1	Video	23
5.2.5.2	Voice	23
5.2.5.3	Real-time text	23
5.3	Service provisioning	24
5.3.1	System architecture (informative)	24
5.3.1.1	Functional elements	24
5.3.1.2	Typical communication actions	25
5.3.1.2.1	Communication between user equipment within a service	25
5.3.1.2.2	Communication between user equipment of different services	25
5.3.1.2.3	Communication between user equipment of different technologies	25
5.3.1.2.4	Addressing	26
5.3.1.2.5	Communication with relay service support	26
5.3.1.2.6	Aspects of total conversation user equipment important for emergency communications	26
5.3.2	Subscription of user equipment for use in a service	27
5.4	Communication protocols	27
5.4.1	General (informative)	27
5.4.2	IMS MTSI	27
5.4.3	IMS MTSI based on WebRTC and IMS data channel	28
5.4.4	SIP as used in VoIP	28
5.4.5	WebRTC	29
5.5	User equipment requirements	29
5.5.1	General requirements	29
5.5.2	Compatibility of user equipment with assistive technologies	30
5.5.2.1	General	30
5.5.2.2	Accessibility services	30
5.5.2.3	Local connection interfaces	30
5.5.2.4	Hearing aid compatibility	30
5.5.3	User equipment requirements for provision of video	31
5.5.3.1	General	31
5.5.3.2	Typical user equipment types	32
5.5.3.2.1	General on equipment types	32
5.5.3.2.2	Smartphone	32
5.5.3.2.3	Tablet	32
5.5.3.2.4	Laptop computer	32
5.5.3.2.5	Large video conference system	33
5.5.4	User equipment requirements for provision of voice	33
5.5.5	User equipment requirements for provision of real-time text	34
6	Functional requirements for total conversation clients	34
6.1	General	34
6.2	Total conversation user profile	34
6.2.1	General	34
6.2.2	User identifier	34
6.2.3	User identification information	35
6.2.4	User preferred communication modality	35
6.2.4.1	General	35
6.2.4.2	User default modality of communication	35
6.2.4.3	User language preferences	35
6.2.4.4	Relay services needed for given communication modality	35
6.2.4.5	Preferred communication modalities for specific contacts	36
6.3	User control over the communication session initialization	36
6.3.1	Negotiating communication media to be used	36
6.3.2	Identity of the communication participants	36
6.4	Conversation facilitation	36
6.4.1	General	36
6.4.2	Flexible choice and adjustment of media of communication	36
6.4.3	Assisting services for communication between users of incompatible communication modalities	37
6.4.3.1	General (informative)	37
6.4.3.2	Relay services	37
6.4.3.3	Translating services	37
6.4.4	Facilitation of individual contributions in multiparty communication	37
6.5	User interface considerations	38

6.5.1	General	38
6.5.2	Presentation of contributions in total conversation communication	38
6.5.2.1	Active participant visibility and indication	38
6.5.2.2	Visibility of assisting service participant	38
6.5.2.3	Presentation of real-time text	38
6.5.2.4	Visibility of captions or subtitles	39
6.5.3	Provision of automated modality conversions	39
7	Security and privacy of total conversation service	39
7.1	General	39
7.2	Security requirements	40
7.2.1	General	40
7.2.2	Confidentiality	40
7.2.2.1	General	40
7.2.2.2	Data encryption	40
7.2.2.3	Authentication	40
7.2.2.3.1	General	40
7.2.2.3.2	Authentication during emergency communication	41
7.2.2.4	Confidentiality of assisted communication	41
7.2.3	Integrity	42
7.2.4	Availability	42
7.2.5	Standards to achieve security in total conversation	43
7.3	Privacy requirements	43
7.3.1	Protection of sensitive personal data shared automatically	43
7.3.1.1	General	43
7.3.1.2	Storage of data	43
7.3.1.3	Exchange of data	43
7.3.1.4	Deletion of data	44
7.3.2	Privacy of user communication	44
7.3.2.1	General	44
7.3.2.2	Privacy requirements for visual output	44
7.3.2.3	Privacy requirements for visual input	44
7.3.2.4	Privacy requirements for audio output	45
7.3.2.5	Privacy requirements for audio input	45
7.3.2.6	Privacy requirements for recorded communications	45
7.3.2.7	Privacy requirements for assisted communication	45
8	Maintenance and Support	46
8.1	General	46
8.2	Regular update	46
8.3	Integrated Diagnostic tools	46
8.4	Support	46
8.4.1	General	46
8.4.2	Helplines	46
8.4.3	Service documentation	47

Annex A (informative): Background study on the use of total conversation48

A.1	Introduction	48
A.2	Use of total conversation	48
A.2.1	Introduction	48
A.2.2	Use of total conversation for interpersonal communication	48
A.2.3	Use of total conversation together with relay services	50
A.2.4	Use of total conversation in emergency communication	51
A.2.5	Use of total conversation for video conferencing	52
A.2.5.1	General	52
A.2.5.2	Real-time text in voice dominated conferences	52
A.2.5.3	Sign language interpreting in voice dominated conferences	52
A.2.5.4	Accessibility needs in video conferencing	53
A.2.6	Summary	53
A.3	Current use of total conversation in Europe and North America	53
A.3.1	Introduction	53