European ICT accessibility legislation

The European Accessibility Act

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Accessibility in the UN Convention on the Rights of Persons with Disabilities (UNCRPD)

➢ **Article 3** *Accessibility a* **general principle of the UN CRPD**

➢ **Article 9 Accessibility**
State parties to undertake appropriate measures **to ensure equal access** *for persons with disabilities to:*

- the physical environment

- transportation

- information and communications, including information and communications technologies and systems & internet

- other facilities and services open or provided to the public, both in urban and in rural areas

➢ **Article 21 Freedom of expression and opinion, and access to information**

…

(c) Urging private entities that provide services to the general public, including through the Internet, to provide information and services in accessible and usable formats for persons with disabilities;

….

Concepts – UNCRPD

Human Rights - >Non-discrimination ->

Equal access!!!!

=

Accessibility

(following design for all)

+

reasonable accommodation

(assistive technologies, personal assistance….)

What is Accessibility ?

Accessibility is considered as a wide concept that includes the prevention and elimination of obstacles that pose problems for persons with disabilities in using products, services and infrastructures.

Accessibility obligations - EU ICT related legislation

- Accessibility obligations to economic operators
  - **European Accessibility Act**
  - **European Electronic Communications Code**
  - **Audio Visual Media Services Directive**
- Accessibility obligations to public authorities
  - **Web Accessibility Directive**
- Accessibility obligations in Public Procurement
  - **Public Procurement Directives**
- Accessibility obligations when using EU Funds
  - **Structural Funds regulations**
  - **Trans-European Networks**
  - **Common Implementing Regulation External Action and contract procedures**

European Electronic Communications Code (EECC)

- **Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018**

- **Application as of 21 December 2020**

- **General aims of the EECC include ensuring the provision of good quality, affordable, publicly available services through effective competition and choice, and access by end-users with disabilities on an equal basis**

- **EECC sets universal service obligations**

What is covered in European Accessibility Act? Directive 2019/882

- Accessibility requirements for carefully selected products and services

- Same accessibility requirements to be used in other EU law (for example Public Procurement)

Services in the scope of the EAA

(a) electronic communications services with the exception of transmission services used for the provision of machine-to-machine services".

(b) services providing access to audiovisual media services;

(c) Certain elements of air, bus, rail and waterborne passenger transport services(websites, mobile device based services, electronic tickets and ticketing, transport service information(also real time), interactive self-service terminals...). For urban, suburban and regional transport services only interactive self-service terminals.

(d) consumer banking services;

(e) e-books and dedicated software

(f) e-commerce services;

Products in the scope of the EAA

(a) consumer general purpose computer hardware systems and operating systems for those hardware systems;

(b) Self Service terminals:
- **(ia) payment terminals;**
- **(iia) the following self-service terminals dedicated to the provision of services covered by this Directive;**
  - (iia-i) Automated Teller Machines;
  - (iia-ii) ticketing machines
  - (iia-iii) check-in machines
  - (iia-iv) interactive self-service terminals providing information, excluding machines installed as integrated parts of vehicles, aircrafts, ships or rolling stock;

"(c) consumer terminal equipment with interactive computing capability, used for electronic communication services;"

(d) consumer terminal equipment with interactive computing capability, used for accessing audio-visual media services;

(e) e-readers;

9

Other elements related to the scope

-Answering emergency communications to the single Europan Emergency number 112 by the most appropriate PSAP (art.4.8)

-Built environment (optional) - customer service centres of shops of electronic communications service providers,

-Public Procurement for Products and services in the EAA

- EU Acts containing accessibility obligations (presumption compliance)

Definitions

-*Using the definitions in the European Electronic Communications Code (EECC)*

-*(art. 2):*

- **Electronic communications services**
- **Total conversation**
- **Emergency communications, PSAPs, most appropriate PSAP**

EAA definitions (art. 3):

- **Real-time text (RTT)**
- **Assistive technology**

Key provisions for products and Services

- **Accessibility obligations** (Art 3)

- **Free movement of products** and **services** meeting the accessibility requirements

- Obligations for **economic operators**

- **CE** marking for products

- Terms and conditions for services

Standards and technical specification

-presumption of conformity

-mandates

-harmonized standards

-technical specifications (implementing acts)

-binding technical specifications (delegated acts)

-harmonized standards and technical specifications for other Union acts.

Accessibility related standardization work at EU level

Mandate 376: *Accessibility requirements for public procurement of products and services in the **ICT** domain*

Mandate 554: *Web accessibility Directive (WEB + Mobile Apps)*

(H) EN 301 549

Mandate 420: *Accessibility requirements for public procurement in the **Built Environment (***including **transport infrastructures)**

prEN 17210

Mandate 473 *to:*

- **include Accessibility following Design For All in relevant standardization activities**
- **Develop standards addressing accessibility following Design for all in the manufacturing and service delivery processes.**

EN 17161

Other Key elements

-Enforcement:

- **Self-declaration of conformity (lightest option)**
- **Checks:**
    - **-Market surveillance for products**
    - **-Authority responsible for compliance of services (check, safeguards)**
- **Possibility for consumer to take action before court**
    - **-public bodies or private associations with legitimate interest may engage before courts**
    - **-penalties effective, proportionate and dissuasive**
    - **-effective remedial actions**
    - **-not applicable to procurement procedures**

Annexes

Annex I – accessibility requirements for products, services, answering emergency communications to 112, other Union Acts , functional performance criteria. (7 sections)

Annex II – examples (4 sections)

Annex III – accessibility requirements for built environment

Annex IV – Conformity assessment of products

Annex V- Information on services meeting accessibility requirements

Annex VI – Assessment of disproportionate burden

Annex I further details

- ## Accessibility requirements:

  - Section I for all products: Information , User Interface and functionality design, sector specific

  - Section II for all products except SST

  - Section III for all services

  - Section IV for sector specific requirements

  - Section V for answering emergency communications to 112

  - Section VI for features, elements or functions of products and services for other Union acts

- ## Functional performance criteria:

  - Other functions of design and production of products or provision of services

  - Alternative to technical requirements – compliance with functional requirement

  - Result -> equivalent or increased accessibility

  - (vision, limited vision, perception of color, hearing, limited hearing, vocal capability, manipulation or strength, limited reach, seizures, limited cognition, privacy)

Annex I Section III - services

1. ensuring the accessibility of the products used in the provision of the service

2. providing information about the functioning of the service, and where products are used in the provision of the service, its link to these products as well as information about their accessibility characteristics and interoperability with assistive devices and facilities

3. making websites, including the related online applications, and mobile device-based services, including mobile applications, accessible in a consistent and adequate way by making them perceivable, operable, understandable and robust;

4. where available, support services (help desks, call centres, technical support, relay services and training services) providing information on the accessibility of the service and its compatibility with assistive technologies, in accessible modes of communication.

Annex I Section IV-
Additional Accessibility requirements

including functions, practices, policies and procedures and alterations in the operation of the service targeted to address the needs of persons with disabilities and ensuring interoperability with assistive technologies.

For electronic communications services, including emergency communications that is:

- • **providing real time text in addition to voice communication;**

- • **providing total conversation where video is provided in addition to voice communication;**

- • **ensuring that emergency communications using voice, text (including real time text) is synchronised and where video is provided is also synchronised as total conversation and is transmitted by the electronic communications service providers to the most appropriate PSAP.**

Annex I Section V – Specific accessibility requirements related to the answering of emergency communications to the single European emergency number '112' by the most appropriate PSAP

● In order to maximise their foreseeable use by persons with disabilities, the answering of emergency communications to the single European emergency number '112' by the most appropriate PSAP, shall be achieved by including functions, practices, policies and procedures and alterations targeted to address the needs of persons with disabilities.

● Emergency communications to the single European emergency number '112' shall be appropriately answered, in the manner best suited to the national organisation of emergency systems, by the most appropriate PSAP using the same communication means as received, namely by using synchronised voice and text (including real time text), or, where video is provided, voice, text (including real time text) and video synchronised as total conversation.

Timeline for implementation

- **Transposition period -> Three years after entry into force**

- **Enter into application -> Six years after entry into force (2025)**

- **Transition periods:**
  - **Provide services with products in use - 5 extra years**
  - **SST – end of economic life – max 20 years after use**
  - **Ongoing contract services contract maximun 5 extra years**

- **Answering emergency comunications to 112:**
  - **2 extra years (2027)**

- **Report -> 5 years**

Further information

European Disability Strategy 2010-2020: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0636:FIN:EN:PDF

European Accessibility Act Final text in OJ
http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=uriserv:OJ.L_.2019.151.01.0070.01.ENG

European Accessibility Act - European Commission Proposal
https://ec.europa.eu/social/main.jsp?catId=1202

EAA EUR-LEX texts
https://eur-lex.europa.eu/legal-content/EN/HIS/?uri=COM:2015:0615:FIN

Web Accessibility Directive
https://ec.europa.eu/digital-single-market/en/web-accessibility

Electronic Communication Code and Audiovisual Media Framework
https://ec.europa.eu/digital-single-market/en/right-environment-digital-networks-and-services

Public Procurement Directives
https://ec.europa.eu/growth/single-market/public-procurement/rules-implementation_en

EU Structural and investment Funds
https://ec.europa.eu/info/funding-tenders/funding-opportunities/funding-programmes/overview-funding-programmes/european-structural-and-investment-funds_en

WDTM: TELEHEALTH AND CONNECTIVITY

BEREC-OECD WEBINAR PART 2

June 30th 2020 – Online

AGENDA

- Introduction WDTM
- Technolgy enabled care
- Trends and innovation
- Issues
- Possible Solutions
- Call to Action

TONKO WEDDA

- Chairman of the board WDTM
- Passion for start-ups
- Healtcare entrepreneur

WDTM

- **Dutch industry body for Technology Enabled Care and Care innovation**
- **WDTM Quality Frameworks for:**
  - Social Care alarms (CENELEC TC431)
  - Access to care homes
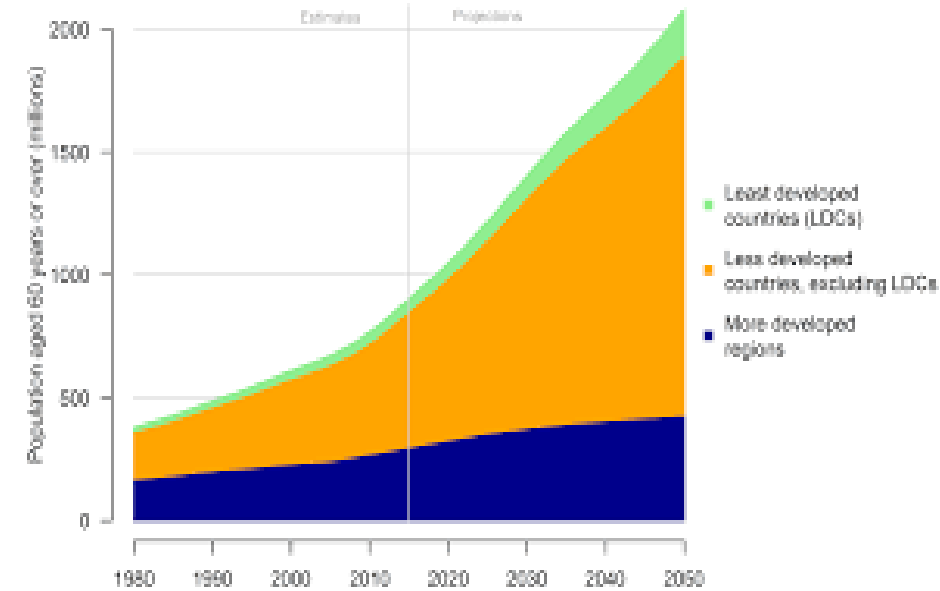 - Telemonitoring (in progress)

UK sister org

French sister org

TELEHEALTH AND TELEMONITORING

RELEVANT TRENDS

- Aging population
- Live longer at home independently
- Hospital@Home
- COVID19
- Resource issues

13 Ways to Use Technology to Live Independently at Home for Longer!

Learn How Technology Can Help You to Age at Home Longer, Safer and More Comfortably.

Healthcare of the Future: Digital Health: a Renewed Focus in Response to COVID-19 Pandemic
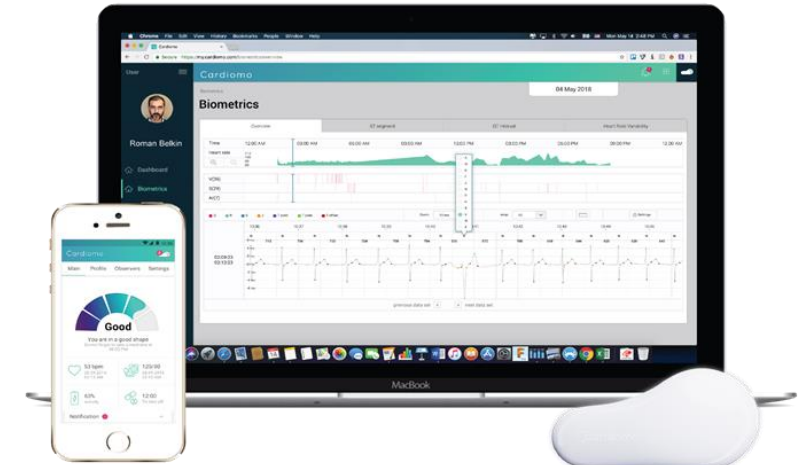
INNOVATION

karie
your personal health companion

Doctor Google

sensara
Smart Monitoring Solutions

Strados Labs

cardiomo

TECHNOLOGY

- Lots of consumer products/services used: no warranty at all
- Market of care alarming and telemonitoring: changing from a reactive towards a pro-active and predictive approach (data collected by sensors)
- Migration from analogue towards IP technology
- Mobile solutions to be used anywhere (SIM, IoT)
- Increasing number of (point) solutions to be used by elderly and caregivers (=> every solution: platform with an API and an extra app for mdi)

Connectivity

A CHAIN IS ONLY AS STRONG AS ....

Reliable connectivity: an increasing matter of life or death!!!

CONNECTIVITY RELATED ISSUES #1

- **Lack of Program Requirement for Reliability and Availability** of Connections (architectural network requirements when it comes to life or death?)
- **Outdated hardware:** majority of care alarming installed base is still analogue.
- As a result, less control over **innovation and operation** of products. Suppose one of the providers adjusts a transmission, then this can have consequences and ultimately even the alarm will not arrive.
- **Lack of communication** about **network outages and service windows/release notes**. There is no direct line between providers and involved stakeholders
- **Absence of escalation windows at providers in case of outages/failures** (lines owned by households)
- **Lack of testing options** for existing and new equipment (also in case of new releases)

CONNECTIVITY RELATED ISSUES #2

- **Providers** are aware of the situation but **deny their responsibility**. Should there be deaths first (where the link with the failure of the network can be demonstrated)?.

- **Few financial resources** available from industry

- Governance by government is lacking

SHORT TERM SOLUTIONS

- Government's taking responsibility to push towards IP/ mobile technology
- National plan on phasing out obsolete technology and introducing mobile / IP technology including incentive scheme to migrate installed base
- Independent institute responsible for escalations and testing (between providers and care industry)
- Providers: more transparency about the network and the critical and potential points of failure

LONG TERM SOLUTIONS

- Establish an international workgroup . **Role for BEREC??**

- Establish national workgroups

- Members of the workgroups: representatives from government, telecom authorities, telecom providers, healthcare providers and relevant industry bodies

- Objectives of work groups: define long term vision and plans to execute this vision

- Program Requirement for Reliability and Availability of Connections (architectural network requirements when it comes to life or death?)

- Value add of **EN50134.9** (based on Swedish **Social Care Alarm Internet Protocol** (SCA-IP)

CALL TO ACTION!!!

Governments, providers and healthcare (industry): **start talking and working together and establish workgroups to:**

- Consider connectivity as strategic building block for e-health strategy
- Support smooth migrations from analogue to IP
- Find solutions to safe lives on the short term!
- Develop a strategic vision for mid and long term
- Define connectivity architectures that fit with the emergency level of the related solutions

THANKS FOR YOUR ATTENTION

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Improving the Quality and Efficiency of Video Relay Services

Debra Patkin, Attorney Advisor
Michael Scott, Attorney Advisor
Disability Rights Office
Consumer and Governmental Affairs Bureau
Federal Communications Commission

U.S. Telecommunications Policy: People with Disabilities

- "Universal service" obligation
- Societal benefits of access
- Importance: telephone, Internet
- Market forces
- Result of innovation and access (beyond disability community)

Telecommunications Relay Service (TRS)

- Purpose
  - To make telephone services accessible for people with disabilities to ensure productivity, independence, and privacy.

- How does TRS work?
  - Communications Assistants facilitate telephone calls between a person who is deaf, hard of hearing, deafblind, or has a speech disability and a person without such a disability. TRS calls can be initiated by either party.

- FCC Directive
  - Ensure the availability of TRS to the extent possible and in the most efficient manner, to people with disabilities.

Video Relay Service (VRS)

- How VRS works
  - Video Equipment
  - Each VRS user has a local ten-digit number, which is associated with a default provider.
    - TRS User Registration Database
    - VRS users can choose any VRS provider when making a VRS call
    - Can make point-to-point calls
    - Location information and correct routing for emergency calls
- Benefits of VRS
- Providers
  - Private entities apply for certification to receive compensation from TRS Fund
  - Currently, 4 providers are certified or conditionally certified

VRS and Functional Equivalence

- Americans with Disabilities Act Mandate
- 24/7 service
- No limits on length or number of calls
- Emergency services to 911
  - Registered location and dispatchable location
  - Prioritize 911 calls
  - Re-establish disconnected calls
- Confidentiality
  - No record keeping
- Speed of answer
  - Within 120 seconds for 80 percent of calls

VRS and Functional Equivalence

- Qualified and trained Communications Assistants
  - Transparent conduits, no censoring or monitoring
  - Be able to interpret effectively, accurately, and impartially, both receptively and expressively, using any necessary specialized vocabulary
  - Best efforts to accommodate VRS user's requested gender
  - Stay with the call for minimum of 10 minutes
- Allow cross-relay calls (between different types of relay services)
- Interoperability
- Fraud and Abuse Prevention
- Answering machine message retrieval

QoS and Promoting Competition

- FCC rules promote competition in order to ensure quality of service
- Examples include:
  - Tiered rates
  - Even if VRS number is associated with a default provider, VRS user still can choose any VRS provider to make VRS calls
  - VRS user may change default provider at any time and keep the same number
  - VRS users are allowed to have more than one VRS number, and have different default VRS providers for each number
  - Prohibition on incentives to use services or make longer calls
  - Interoperability

Notice of Inquiry on Service Performance Goals and Quality Metrics

- Performance Goals
    - Functional equivalency
    - TRS provided in the most efficient manner
    - Current and future technology
    - Questions included on the use of mainstream and off-the-shelf technologies that do not rely on VRS

Notice of Inquiry on Service Performance Goals and Quality Metrics

- Measuring Functional Equivalence
  - Quality and accuracy of interpretation
  - Technical voice and video quality
  - Interoperability
  - Percentage and frequency of dropped or disconnected calls
  - Service outages
- Next Steps
  - Consider issuing a Notice of Proposed Rulemaking to propose specific regulations for public comment

Disability Advisory Committee

- DAC's Recommendations on VRS Quality of Service
  - Recommendation to the Commission Regarding VRS Speed of Answer
  - Recommendation on 911 Training for VRS CAs
  - Recommendation on Video to Text
  - Recommendation on TRS at Emergency Shelters
  - Recommendations on RTT Integration with Point-to-Point Videophone Calls and VRS calls

FCC and Stakeholder Engagement

- Public Comment on FCC proceedings
- Disability Advisory Committee
- Chairman's Awards for Advancement in Accessibility
- Accessibility Clearinghouse
- AccessInfo Listserv
- Roundtables and Forums
- Social Media
- ASL Consumer Line Services
- Consumer and Small Businesses Guides

Resources

- Subscribe to AccessInfo@fcc.gov.
- Visit FCC Disability Rights Office webpage: www.fcc.gov/accessibility.
- Contact FCC DRO at:

  DRO@fcc.gov (e-mail)

  844-432-2275 (videophone)

  202-418-2517 (voice)
- Debra Patkin – Debra.Patkin@fcc.gov
- Michael Scott – Michael.Scott@fcc.gov

Complementing QoS with QoE

Key challenge to go from QoS to develop a standard/recommendation on QoE for online collaboration

Quality of Service (QoS) vs Quality of Experience (QoE)

QoS concerns the network and terminal equipment up to the user interface.
QoE is how the user perceives the service.

Definition of Quality of Service: totality of characteristics of a telecommunications service that bear on its ability to satisfy stated and implied needs of the user of the service *(ITU-T Rec. E.800)*

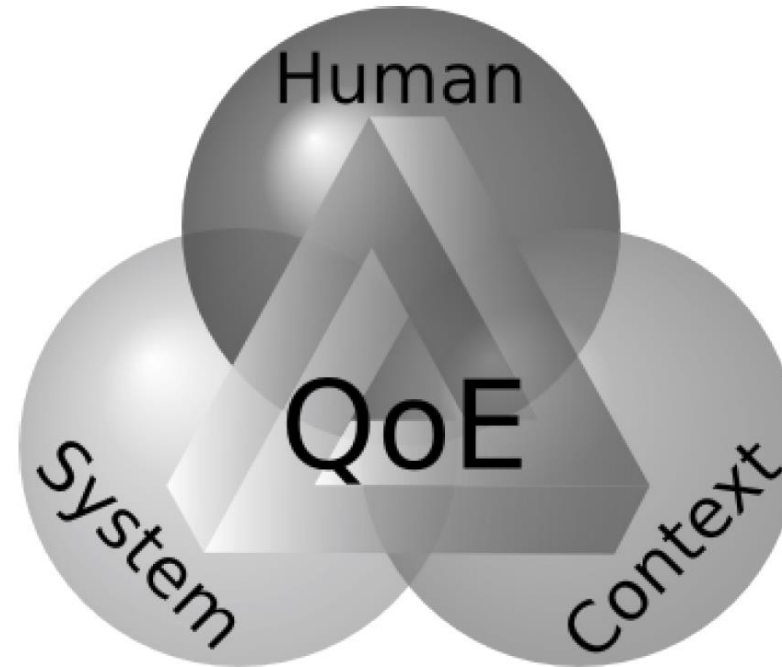QoE "is the degree of delight or annoyance of the user of an application or service".
(ITU-T Rec. P.10/G.100 and http://www.qualinet.eu/images/stories/QoE_whitepaper_v1.2.pdf*)*

The goal is to adapt the QoS parameters according to the preference of the users for the application used.

Quality of Experience – influence factors

- **Human** Influence Factors
- **System** Influence Factors
- **Context** Influence Factors

Reiter, U., K. Brunnström, K. De Moor, L. Mohamed-Chaker, M. Pereira, A. Pinheiro, J. You, and A. Zgank, Factors Influencing Quality of Experience, in Quality of Experience: Advanced Concepts, Applications and Methods, L. Data and A. Raake, Editors. 2014, Springer. p. 45-60.

ITU-T Study Group 12

— Lead study group on quality of service (QoS) and quality of experience (QoE),

— Study Group 12 experts contributed to the **Quality of Service Regulation Manual** published by ITU-D in 2017.

— Question 10 "Conferencing and telemeeting assessment"

— Develops QoE evaluation methods for services that are conversational and interactive

Increased focus on remote meetings

— COVID-19 has highlighted the fundamental importance of ICTs to economies and societies

— Significant rise in remote meetings and tools for online collaboration

— According to the recent Ericsson Consumer Lab report 6 in 10 working people believe working remotely will be the new normal

— Digital meetings instead of travels helps achieve the Sustainable Development Goal on Climate Action

— What can we learn from the use of telemeetings during the Corona crisis ?

Telemeeting assessment (ITU-T Rec. P.1300 series)

ITU-T recommendation P.1301 "Subjective quality evaluation of audio and audiovisual multiparty telemeetings"

There are standardized subjective test methods for several components in a telemeeting, such as:

— Speech and audio quality (codec, bandwidth, bitrate, background noise)
— Video quality (codec, screens size, resolution, frame rate, transmission impairments)
— Synchronization between audio and video

but their relative impact on the overall subjective quality of a telemeeting needs to be evaluated.

Quality assessment methods

— Subjective tests
   — Needed to understand the QoE
   — Expensive and time consuming
   — Usually conducted in controlled laboratory environments, may not be representative of real usage
   — Crowdsourcing
   — Physical measures

— Objective quality models are developed to predict QoE based on objective QoS parameters
   — Needs to be verified using subjective test data

Measure effectiveness (ITU-T Rec. P.1312)

— Measurement of communication effectiveness of multiparty telemeetings by comparing amount of correct information exchanged over the system

— Results from evaluating wideband spatial, wideband mono and narrowband mono systems is shown in the Fig. below. Participants joined from individual booths using stereo headsets
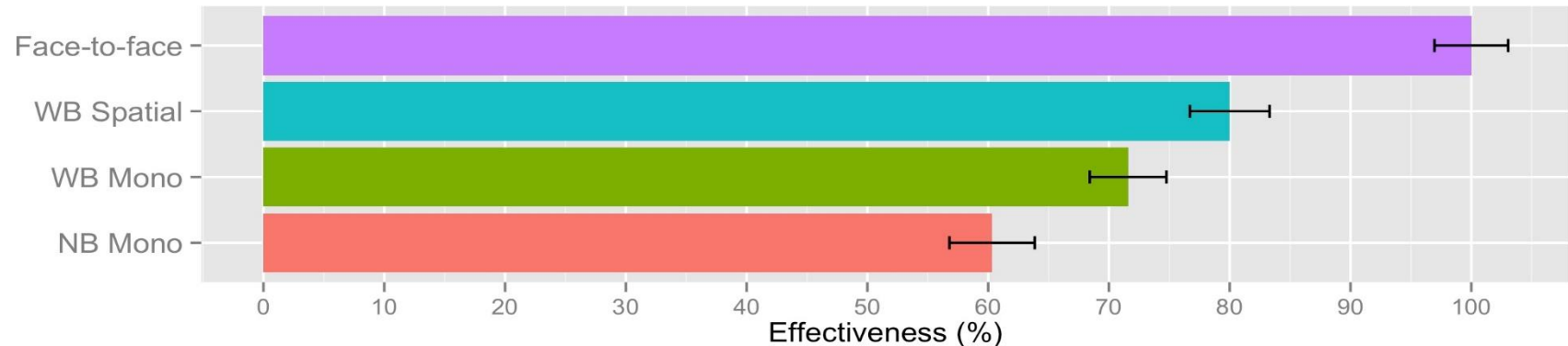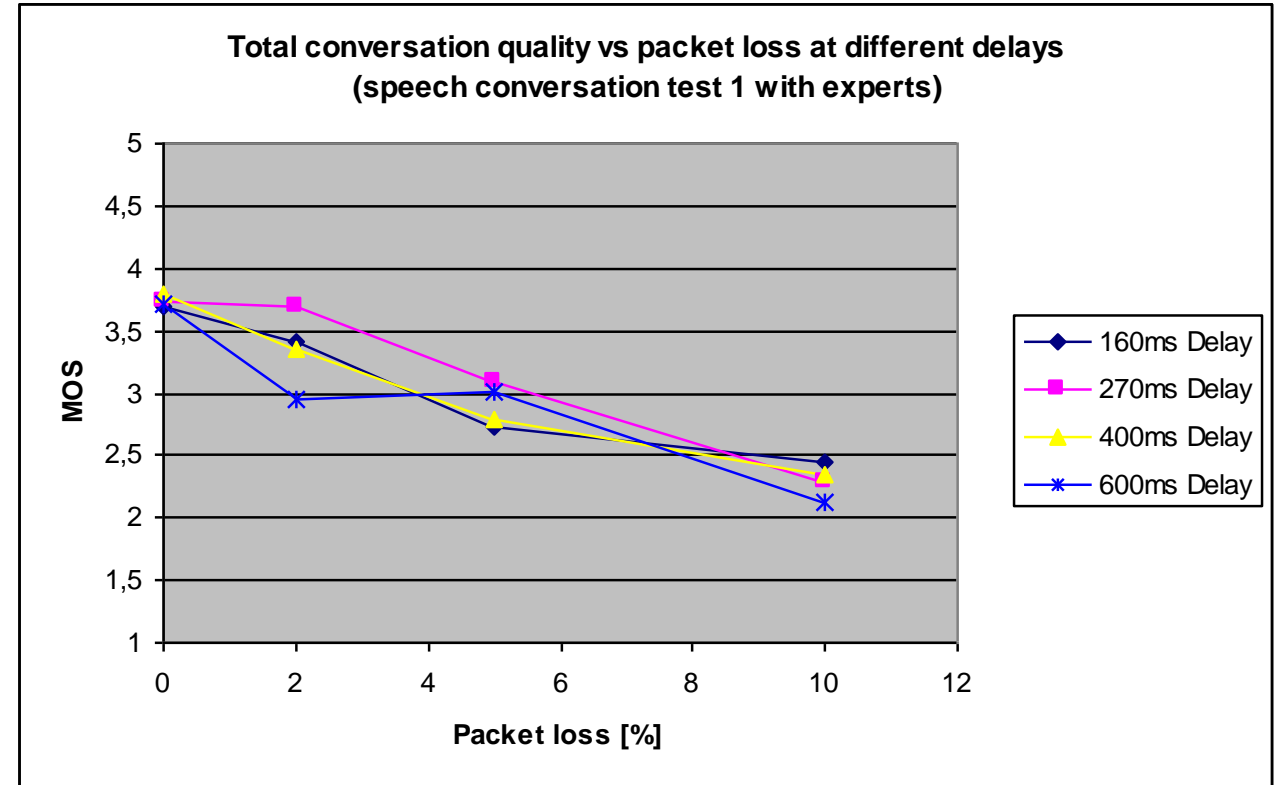
Effects of delay (ITU-T Rec. P.1305)

Effects of delay might not show in subjective test results, but can affects how the conversation partner is perceived

— Important to use a suitable test task
— Conversational analysis can be used to measure amount of double talk

Total conversation quality vs packet loss at different delays (speech conversation test 1 with experts)

Berndtsson, G., Folkesson, M., and Kulyk, V. "Subjective quality assessment of video conferences and telemeetings", Packet video workshop 2012, München

Immersive collaborations

What can telemeetings in virtual reality (VR), augmented reality (AR), or mixed reality (MR) add to QoE?

What use cases will be possible with 5G and what QoS will be required from the networks?

The Ericsson Hologram Calling demo showed at MWC 2019 was used to understand benefits with hologram technology in distance calls.
Main value was increase of presence and ability to freely move around holograms.

New applications require new assessment methods

Draft ITU-T SG12/Q10 recommendation "QoE Assessment of eXtended Reality (XR) Meetings"
— Meetings taking place in a virtual location, with augmented elements for collaboration, and mixtures of real and virtual participants.

Draft recommendation "Taxonomy of telemeeting systems from a QoE/QoS perspective"
— Characterizing all types of telemeetings including XR meetings.
— Varying situations; multiparty, different equipments, different types of meetings with different purposes, family meetings, business, conference, learning, remote assistance

Links

— ITU-T SG12/Q10 "Conferencing and telemeeting assessment"
— https://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/q10.aspx

— The new Global Network Resiliency Platform (#REG4COVID) is a place where regulators, policy makers and other interested stakeholders can **share** information https://reg4covid.itu.int/

— Ericsson Consumer lab report: https://www.ericsson.com/en/reports-and-papers/consumerlab/reports/keeping-consumers-connected-during-the-covid-19-crisis