MoU/MG Webinar: eAccessibility

ISO/TC 37 Language and terminology
considering
"communicative functioning constraints"

New technical frontiers for ICT & AT and applications

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MoU/MG Webinar "eAccessibility" 2019-10-21

Info*term*

International Organization for Standardization

Why ISO/TC 37?

Comprehensive Content Interoperability

→*incl.* **eAccessibility of content**

- **ISO 639 (series) Codes for the representation of languages**
- **ISO 21636 Identification & description of language varieties**
- **ISO 24620 (series) Controlled human communication (CHC)**

Human communication levels

> ➢ Explicit: through written / spoken language
> ➢ Less explicit: additional / supporting means of communication ➔ all senses and modalities
> ➢ Unconscious level

❖ Increasingly **ICT** are recognizing, processing, converting even **content** of unconscious level, making it explicit

❖ Especially important for the communication with and among persons with communication impairments

"Language": major element of H-H communication more and more supported (often replaced) by ICT, BUT…

Communication – language – content

- **Communication through "language" becomes more effective, if several senses are addressed and modalities used**
  → language is multimodal from the outset

- **communication needs to take place** (in a broad variety of modalities / formats and) **in many instances involving persons with "communicative functioning constraints"**

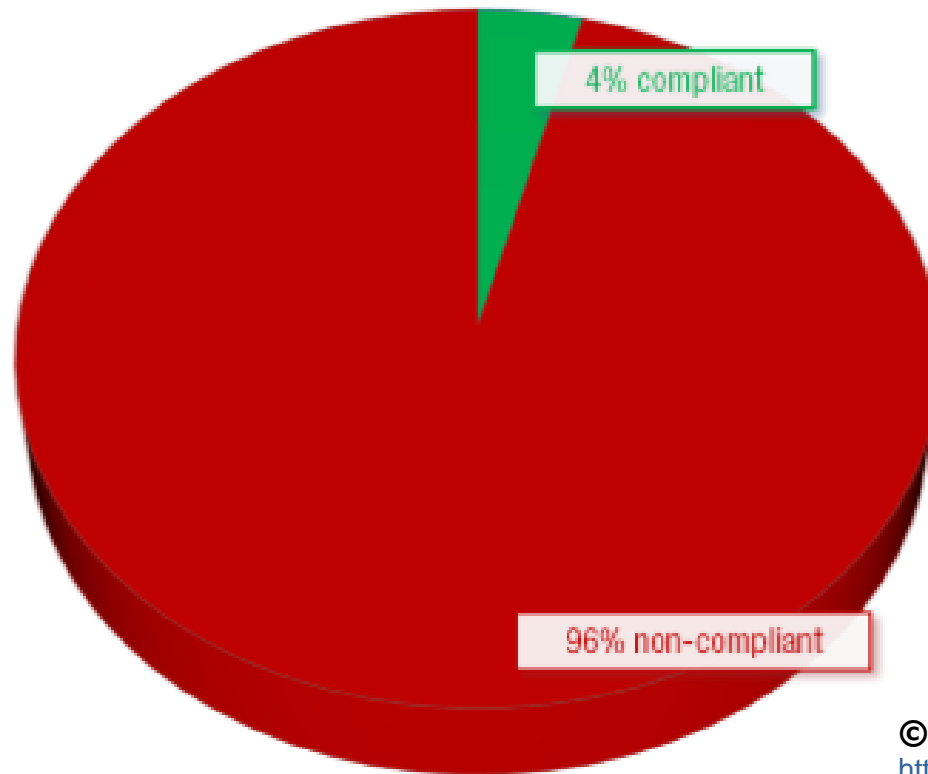- **"WHAT" is communicated?**
  = **"content" for ICT**

Standards concerning "content"

All across the eApplications: eBusiness, eHealth, … one finds:

- **Unstructured content**
  →syntactically structured → standards

- **Structured content**
  →semantically structured → standards

- **New aspect: assistive technologies (AT)** → standards

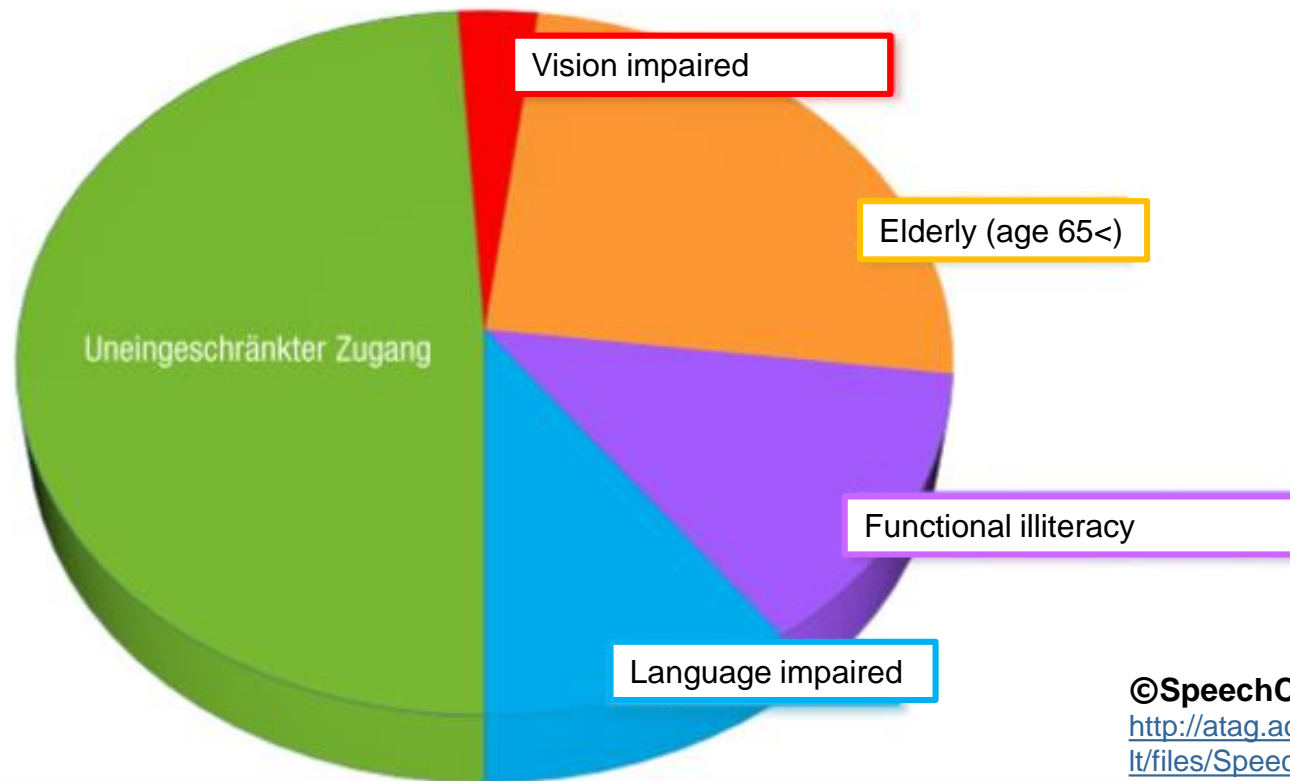- **BUT** – inspite of all standards, …

All information accessible today?

4% compliant

96% non-compliant

©SpeechCode at ATAG 2018
http://atag.accessiblemedia.at/sites/defau
lt/files/SpeechCode_ATAG_d_2018.pdf

International
Organization for
Standardization

eAccessible content

Only 50% of EU citizens has unimpeded access to written/printed information!

Vision impaired

Elderly (age 65<)

Uneingeschränkter Zugang

Functional illiteracy

Language impaired

©SpeechCode at ATAG 2018
http://atag.accessiblemedia.at/sites/defau
lt/files/SpeechCode_ATAG_d_2018.pdf

What a communicatively strongly impaired person understands in written/spoken comm'n?

Human communication

- ❖ Occur at different levels
  - ➢ Explicit, through language
  - ➢ Less explicit: non-verbal communication / paralinguistic features
  - ➢ Unconscious level
- ❖ Increasingly, communication content is recognized, processed (transformed) and made explicit by computers

"Language" – major element of H-H communication more and more supported (often replaced) by ICT
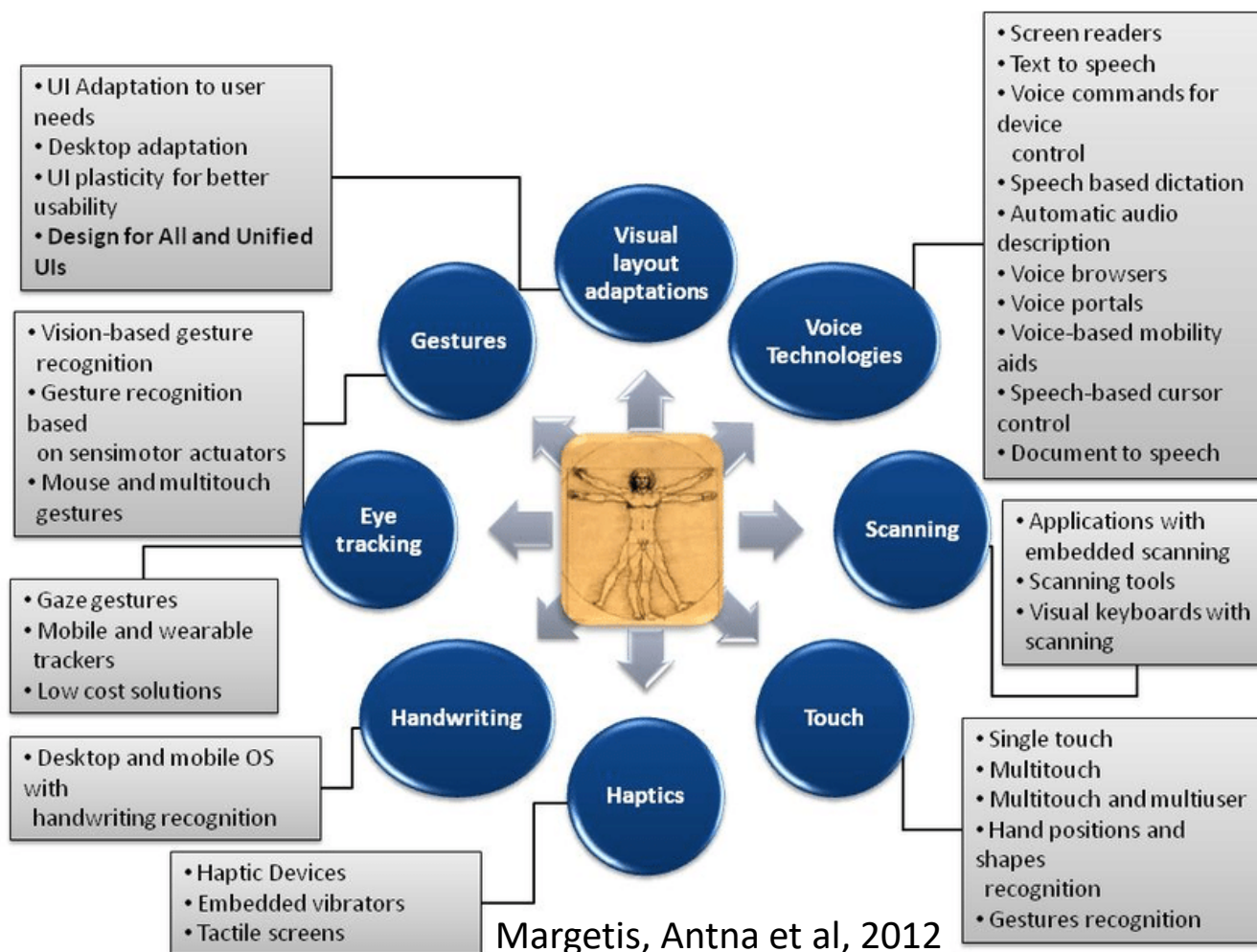
Assistive technologies (AT)

- Due to AT, people with disabilities have an opportunity of a more positive and easygoing lifestyle, with an increase in "social participation", "security and control", and a greater chance to "reduce institutional costs without significantly increasing household expenses"
  + job opportunities
  (depending on type and severeness of disability)

- AT not only geared to enable or facilitate mobility, but in many / most applications it requires communication ➜**eAccessibility standards**

Assistive technology categories

Margetis, Antna et al, 2012

https://www.researchgate.net/figure/Assistive-technology-categories_fig3_288274418

Communication in the eApplications

Although M-M communication is increasing,

→ *Somewhere real humans are involved as:*

> ➢ **system designers and programmers**
>
> ➢ **technical system / software documention experts**
>
> ➢ **system operators / administrators, …**
>
> ➢ **people working in administration**
>
> ➢ **professionals dealing with technical development**
>
> ➢ **end users of eBanking…**
>
> ➢ **anybody somehow impacted by systems / software**

➜ Anywhere persons with communicative functioning constraints can be involved

Interoperability & personalisation

AT add a higher dimension to user interfaces wrt

- **Compatibility → interoperability →**

   → interoperability+

- **Usability → DfA (design for all) →**

   → personalization+

- **AT and eAccessibility: → need for standards**

BUT … there are barriers to accessing standards related to AT and engaging in standardization activities

Significance to eBusiness

➔ **"Recommendation 2016 concerning standards on eAccessibility and eInclusion"**
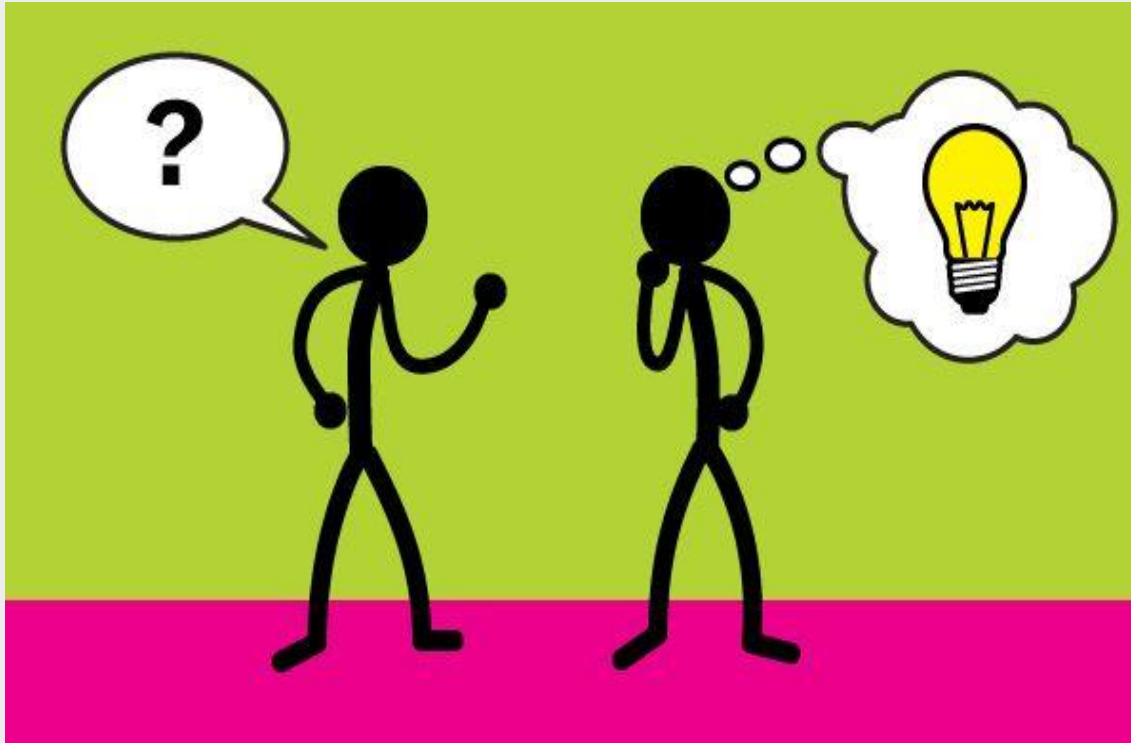https://aaate.net/recommendation-2016-concerning-standards-on-eaccessibility-and-einclusion/

➔ **communication needs to take place** (in a broad variety of modalities / formats and) **in many instances involves persons with communicative functioning constraints**

➔ **Improving interoperability and personalization all across the ICT** ➔ ICT business opportunities

ISO/TC 37

Language and terminology

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