



ICT work programme 2014-2015

ICT 22.a

Multimodal and natural computer interaction

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Rationale

- systems and devices are becoming more and more powerful
- the human-computer interface is lagging behind
- bottleneck for efficient and seamless use

Objective

- achieve transparency and invisibility of technology
- effortless, effective human-machine **dialogue**
- easy use of complex and powerful systems, easy **access to information**

Multidisciplinary research: communication technologies, language/speech processing, cognitive & behavioural analysis, creative industries...

Various uses: search, information retrieval, elderly, people with special needs, designers/artists...

Several **research and innovation (RIA) actions** (budget: 7,5 MEUR) on advanced human machine interaction

- **interactive, intuitive, multimodal** systems: natural ways of delivering answers to user queries
- **human-like social agents**: communicative, conversational, affective and social capabilities
- **autonomous**: able to learn and react proactively to new situations
- conversational/spoken interaction: able to cope with **spontaneous dialogue**, in **multiple languages**
- **knowledge-based** agents: able to find, retrieve, combine/integrate information from many sources
- multiple delivery platforms for developed technologies
- research based on and/or producing **freely available & reusable resources**



- Improve multilingual speech processing and bridge the gap between recognition and synthesis, exploiting metadata and other contextual data
- Increase the automatic inferences capacities on rich context thanks to improved language understanding, sensed environments/objects, use of social media and agent's experience

Thank you!