



## European Coordinated Research on Long-term Challenges in ICST

### CALL 2012 Topics

The CHIST-ERA ERA-Net is looking for highly innovative and multidisciplinary projects in ICST, new ideas and original solutions, involving interdisciplinary skills in order to strengthen broader communities in the merging of their understanding and their questioning.

*In the Call 2012 (autumn), two new and hot topics are addressed*

#### Intelligent User Interfaces

*Innovative human-machine interfaces embedding advanced processing of information about users and their environment in order to provide new interaction functionalities.*



#### Keywords:

- Smart, adaptive, human-centered interfaces
- Sensor-based interfaces
- Tangible user interfaces
- Multimodal interfaces, pen-based, spoken and natural language interfaces
- Affective and social interfaces
- User modeling, learning from the users
- Conversational interfaces, dialogue error recovery
- Empirical studies and evaluation of intelligent user interfaces



#### Examples:

- Non-intrusive brain sensors for playing games
- Non-intrusive body sensors for health monitoring
- Recognition of handwritten text and shapes on large surfaces
- Emotion and body language recognition for empathic robot companions
- Video scene analysis for context-aware robotic assistants
- Gesture recognition and eye tracking for pointing
- Tangible tabletop devices for modeling and creativity tasks
- Spoken dialogue for system control and knowledge elicitation
- Combinations of the above



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## User-driven, Context- and Content-aware, Communication Networks

*Innovative concepts, architectures and algorithms to improve the quality of service and the quality of experience to globally connected users equipped with multi-sensor smart devices such that the communication network will adapt to the content being communicated and context it is communicated within.*



### Keywords:

- User-driven network self-configuration and control
- Context-aware networks
- Content-aware networks
- In-network content adaptation
- Content-centric transmission/routing/networking
- Adaptive content replication, migration and distribution
- Privacy/security in networks



### Example:

- People in a crowd take pictures of the same scene and want to send them to their friends, some of whom are nearby. Smart devices might make use of any suitable combination of content- and context-aware device to device communication, cooperative communication, joint source and channel coding or network coding to satisfy their communication requirements

## CHIST-ERA Conference 2012

Edinburgh (United Kingdom), 5-6 July 2012

The following topics keywords and examples are given as illustration only. The *CHIST-ERA Conference 2012* in Edinburgh (UK), July 5-6, brings together scientists and CHIST-ERA's representatives in order to identify and formulate promising scientific and technological challenges at the frontier of research with a view to refine the scientific content of the Call. The expected audience is a balanced combination of scientists from academia and industry and CHIST-ERA research funding organisations.

**You are kindly invited to participate in the definition of the scientific content of the Call.**

**Further information and registration on [www.chist-era.eu](http://www.chist-era.eu)!**

In addition to high-level keynote talks by international specialists the attendees are encouraged to participate in the definition of the call's text, as far as is possible, with a short talk (10' + 5' discussion) or a poster presentation (A0, in portrait format).

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### Call Information

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