FUTURE INTERNET ASSEMBLY

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Session Title: Capitalizing on Sound for a smarter Future Internet

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Purpose & Audience

The purpose of this session was to present the huge potential of using sounds for a broad range of Future Internet applications. The session was targeting Researchers and developers from industry and academics engaged in research on energy efficiency, buildings, environment, mobility smart cities programmes and projects as well as Innovation leaders and entrepreneurs interested to know more about the developments of sounds, acoustic sensors and related projects and participate to the discussion on the potential innovation and business opportunities ahead.

Key message(s):

- Using Sounds as a lot of potential of applications and innovations in a broad range of different areas such as for energy saving, environment, traffic monitoring, security, etc.
- Research in sound processing is advanced and already delivering exploitable results and solutions which can be integrated into various environments
- Research results in sound processing is lacking of support funds and entrepreneurs, which can exploit such results even if business potential looks positive.

Summary

Sounds represent important pollution, which need to be monitored, controlled and even regulated (e.g. EU Noise Directive). However Sounds are everywhere and can represent if combined with existing advanced research important source of innovation to deliver applications and services in building, at home, in smart cities and in addressing a broad range of future internet societal challenges in energy efficiency, mobility, health, environment. FIRE experiments in the EAR-IT project are already demonstrating such capabilities also in combining the strength of IoT networks with Acoustic sensing.
We underestimate the potential of innovation that we can have in using sounds and where EU has a lot of advanced research which can be used.

After introduction of the status of sounds processing research and its broad range of applications, several presentations gave clear examples of different uses in smart cities, Ambient Assistant Living, Traffic Monitoring, Security, Health areas. There was also discussion on the difficulty to exploit research results due to lack of awareness and innovation support (e.g. acoustic vandalism detection, simple solution developed to reduce the cost in the city of cleaning tags in graffiti acoustic detection) .

Finally a demonstration of combined use of acoustic research with other Future Internet areas – in this case Internet of Things- was presented in the case of traffic monitoring and security in the city of Santander. This demonstrated that it would worth to work further on combination of acoustic and usual future Internet research topics in particular as addressing societal challenges such as in Health, Transport, Energy and Environment.

Recommendations

While research in sounds processing is progressing and should be further encouraged, it would worth to increase awareness of huge potential of such innovative approaches to be integrated into Future Internet researches as addressing a broad range of Future Internet Societal Challenges.
EU is constantly looking for research results that can create business values and many exploitable results in sounds processing did not get enough support likely due to lack of awareness. It would worth to increase awareness in research exploitation in this area.