



European research project JEDI : GOLD award ITEA 2012

During the annual co-summit organized by ITEA2 and ARTEMIS Joint Undertaking on embedded computing systems, the research project JEDI has received the gold award ITEA 2012. IVC team of the IRCCyN laboratory, member of the project consortium JEDI has contributed to this success by its expertise on the Quality of Experience of 3D TV.

'Sharing a vision for ICT innovation' is the theme of the fifth annual Co-summit. More than 650 participants from industry, academia, public authorities and the media have attended this key European event held on 30 and 31 October 2012 at the CNIT conference center in La Défense, Paris.

ITEA2, an EUREKA Cluster programme

ITEA 2 (Information Technology for European Advancement) stimulates and supports innovative and pre-competitive R&D projects that will contribute research excellence to Europe's competitive Software-Intensive Systems and Services (SiSS) sector. SiSS are a vital growth engine for Europe's economy and a key driver of innovation in Europe's most competitive industries – such as automotive, aerospace, communications, healthcare and consumer electronics. ITEA 2 and its predecessor ITEA have a proven track record with major achievements and results in these industries.

As a EUREKA Cluster programme, the approach is intergovernmental, bottom-up, market-oriented and industry-driven. ITEA 2 is open to partners from large industrial companies and SMEs, as well as research institutes and universities.

The current set of more than 150 projects (ITEA + ITEA 2), with more than 1000 partners from 30 countries, has established a solid basis for further development. Many of these projects have led to the creation of completely new products.

"Just Explore Dimensions", the JEDI project: Broadcasting 3D in Blu-Ray Quality over European Satellite

Among these projects, JEDI has been rewarded for its excellence. The main objective was to build a JEDI standard vision of the development, and evolution for the revolutionary 3D TV in the near and far future. To reach this objective, the project proposed: firstly to

explore the concepts of multiple views throughout the broadcast chain for the next generation of 3D TV, and secondly to establish a stereoscopic chain from end to end as a demonstrator and as a tool for assessing the acceptability to the user.

The results are as follow:

- First ever Satellite transmission of 3DTV in Full-HD resolution per view in excellent 3D quality all over Europe in DVB Phase II format, only 2 weeks after finalizing the standard
- Excellent quality 3D content captured by professional camera teams
- Realtime Contribution channel encoder and decoder to the studio
- Realtime Distribution channel encoder using Multiview Video Coding standard
- Set-Top Box reception and 3D displaying including Electronic Program Guide information

IVC Team, IRCCyN lab: Optimization of the Quality of Experience

The research group IRCCyN/IVC at the University of Nantes tackled challenges of end user's Quality of Experience from the camera capture to the display, and all along the transmission chain. New methodologies, such as the QoE Assessment in terms of Quality of Preference showing 2 video sequences in parallel on two separate Full-HD active glasses displays were developed and cross-validated in close collaboration with the Universidad Polytechnica Madrid. In Nantes and Madrid, more than 500 observers participated in subjective assessment tasks: Camera capturing, encoding parameters, transmission parameters, 3D overlay issues for subtitles and electronic program guide information, display issues.

The IRCCyN/IVC research resulted in:

- Development of the Quality of Preference assessment methodology for 3DTV
- Discomfort measurements including objective methods such as EMG and EOG signals
- Collecting and analysing individual observer psychophysical and psychovisual parameters such as acuity, vergence facility, accomodation response.
- Installation of a dual-use living lab and standardized viewing environment to support measurements in ITU conforming and at-home conditions
- 6 publications on high profile international journals and conferences

These results enabled the JEDI consortium to receive the reward "ITEA2 Gold award for the project finished in the last year."

More information available at: http://www.itea2.org/cosummit2012_achievementaward