

# PROJECT PRELIMINARY REPORT

## Preliminary Report on Dissemination

### Real 3D Deliverable 9.2

**Grant Agreement number: 216105**

**Project acronym: REAL 3D**

**Project title: Digital holography for 3D and 4D real-world objects' capture, processing, and display**

**Funding Scheme: Collaborative Project**

**Period covered: Year 1, from 1.2.2008 to 31.1.2009**

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<sup>1</sup> Usually the contact person of the coordinator as specified in Art. 8.1. of the grant agreement

<sup>2</sup> The home page of the website should contain the generic European flag and the FP7 logo which are available in electronic format at the Europa website (logo of the European flag: [http://europa.eu/abc/symbols/emblem/index\\_en.htm](http://europa.eu/abc/symbols/emblem/index_en.htm) ; logo of the 7th FP: [http://ec.europa.eu/research/fp7/index\\_en.cfm?pg=logos](http://ec.europa.eu/research/fp7/index_en.cfm?pg=logos)). The area of activity of the project should also be mentioned.

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# 1. Introduction (Public)

This preliminary report on dissemination is a preliminary version of, and follows the structure of, the Final Report on Use and Dissemination of Foreground due at the end of the project. It details the Real 3D activities from year 1 that are relevant to this Final Report. This report takes as its starting point the Grant Agreement Annex I section B 3.2 Plan for the use and dissemination of foreground.


## **5. Dissemination activities in M1-M12 – Section A (Public)**

This section describes the dissemination measures, including scientific publications relating to foreground. Its content will be made available in the public domain thus demonstrating the added-value and positive impact of the project on the European Community.

### ***Press releases and press conferences aimed at general public***

- Press conference and press release 29.1.2008, Ylivieska, Finland.
- Press release, printed by Pressemitteilung Uni Bremen Nr. 111, Informationsdienst Wissenschaft, Uni-Protokolle, Innovations-Report, premiumpresse
- NUIM Communications Office Press Release, 28/10/2008

- News section of INOA website (www.inoa.it) February 2008

***Presentations to the general public, business, politicians, and policy-makers***

- T. Naughton - Talk at Ylivieska Rotary-club 7.8.2008. Audience: Professionals from the town of Ylivieska Title: Digital holography and Real 3D project.
- T. Naughton - Talk at Kerttu Saalasti seminar 12.6.2008, Nivala, Finland. Audience: Companies, development organisations, politicians, academic, general public. Title of the talk: Real 3D –project and FP7-research in Oulu South
- T. Lehtimäki - Talk at Multipolispäivät –seminar 18.4.2008, Ylivieska, Finland. Audience: Finnish technology development organisations. Title of the talk: FP7 Project: Real 3D.

***Presentations to a general scientific audience (not including conference presentations listed in Template A below)***

- T. Naughton - Talk at University of Oulu at EU Mobility Info Day 24.4.2008 Oulu, Finland. Audience: Wide university attendance. Title of the talk: Experiences of Marie Curie and FP7-projects.
- D. Kelly - Talk, Trinity College, Dublin. "Introductory talk for an engineering(non-optic)/public audience on 3D TV technology" on 20.1.2009
- T. Naughton - Talk at kick-off meeting of European Commission DG INFSO 3D Media Cluster 16.4.2008, Vilamoura, Portugal. Title of the talk: Real 3D. Audience: 3D researchers and companies in Europe.
- T. Naughton - Presentation prepared for European Commission DG INFSO 3D Media Cluster meeting 15.10.2008, St. Malo, France. Presentation delivered by L. Onural. Title of the presentation: Real 3D. Audience: 3D researchers and companies in Europe.
- C. Depeursinge - Participation to the 60th anniversary of Holography organized by the SEM, Springfield Mass. (USA).
- D.P. Kelly – Participation at EC ICT Lyon 2008 (25th-26th January), Raised profile of Real3D at conference by distributing fliers and discussions.
- T. Naughton – National Biophotonics and Imaging Platform (NBIP) Graduate School lecture series "Introduction to Digital Holography" which also introduced the Real 3D project, Co. Clare, Ireland, 2.9.2008. Audience: bioimaging PhD students from seven countries.

***Laboratory visits from national dignitaries and politicians***

- 30.1.2008 laboratory visit by Rector of University of Lapland to Ylivieska, Finland.
- 29.1.2009 laboratory visit from Mayor of Oulu City, to Ylivieska, Finland.

***Articles published in the popular press***

- Interview with Pietro Ferraro appeared on newspaper "Il Mattino" reported on CNR website: (<http://www.stampa.cnr.it/RassegnaStampa/08-03/080304/hceit.tif>)
- Newspaper articles in Finnish press: Kalajokilaakso 30.1.2008 , Vieskalainen 31.1.2008, Pyhäjokiseutu 30.1.2008, Oulun Eteläisen alueportaali 28.1.2008, Kaleva High Tech Forum 29.1.2008, Digitoday 29.1.2008, ITViikko 29.1.2008
- Column in Oulu South newspaper 9.7.2008. Title: International research in Oulu South.
- Science Foundation Ireland Prestigious IEEE Award for SFI Researcher Publication Date: 3/11/2008, [http://www.sfi.ie/content/content.asp?section\\_id=753&language\\_id=1&publication\\_id=1789](http://www.sfi.ie/content/content.asp?section_id=753&language_id=1&publication_id=1789) (This news item was originally published in an IEEE official press release)

***Planned dissemination activities (publications, conferences, workshops, web, press releases, flyers, etc)***

- Invited Presentation to SPIE Three-Dimensional Imaging, Visualization, and Display VII, Florida, April 2009, "Processing of optically captured digital holograms for three-dimensional display", Author: T. Naughton et al.
- Contributed presentation to SPIE Three-Dimensional Imaging, Visualization, and Display VII, Florida, April 2009, "Human visual perception of digital holograms on autostereoscopic displays" Authors: T. Lehtimäki et al.
- Compression of digital holographic sequences using MPEG-4/H.264, E. Darakis and T.J. Naughton, SPIE Europe Optics and Optoelectronics, Praha, 2009
- Thomas Kreis, "Solution to keyhole problem," submitted to Fringe'09, Germany
- Isabelle Bergoënd, Tristan Colomb, Nicolas Pavillon, Yves Emery and Christian Depeursinge, "Extended depth-of-field and 3D information extraction in digital holographic microscopy", Abstract submitted to "Digital holography and three-dimensional imaging", Vancouver, Canada.
- Isabelle Bergoënd, Tristan Colomb, Nicolas Pavillon, Yves Emery and Christian Depeursinge, "Depth-of-field extension and 3D reconstruction in digital holographic microscopy", Abstract submitted to SPIE Optical Metrology, Munich, Germany.
- Christian Depeursinge, Isabelle Bergoënd, Nicolas Pavillon, Jonas Kühn, Tristan Colomb, Etienne Cuhe, Yves Emery, "Measuring Shape and Surfaces down to the Nanometer and Nanosecond scales by Digital Holographic Microscopy", abstract submitted to Fringe'09, Germany.
- Journal Paper under review Journal of Optical Engineering: Title: "Numerical multiplexing and de-multiplexing of digital holographic information for remote reconstruction in amplitude and phase" Authors: D. P. Kelly et. al.
- "Speed up of Fresnel transforms for Digital holography using pre-computed chirp and GPU processing" Authors: Nitesh Pandey et. al. Submitted to Digital Holography 2009
- Conference Paper under review Title: "Quantization noise: An additional constraint for the extended sampling theorem." Authors: Damien P. Kelly et. al. submitted to Digital Holography 2009
- Conference paper in preparation, abstract submitted "Flexible Algorithms for Digital Fourier Holography" Authors: D. P. Kelly et. al. to Fringe'09, 14 - 16 September 2009, Stuttgart, Germany
- Abstract submitted for SPIE Optics and Optoelectronics Congress, SPIE Prague 2009. Title: "Rainbow digital holography: modelling and experiment," authors: Grzegorz Finke, Malgorzata Kujawinska.
- Abstract submitted for Fringe'09, 6th International Workshop on Advanced Optical Metrology. "Digital phase shifting holography and holographic interferometry: the error analysis" authors: M. Kujawinska, A. Michalkiewicz, N. Kumar. 14 - 16 September 2009, Stuttgart, Germany
- Abstract submitted to OSA Conference of "Digital Holography and Three-Dimensional Imaging (DH)". Title: "Real-time multiple SLM color holographic display using multiple GPU acceleration", authors: Fahri Yaras, Hoonjong Kang, Levent Onural
- Abstract submitted to OSA Conference of "Digital Holography and Three-Dimensional Imaging (DH)". Title: "Real-time Fringe Pattern Generation with High Quality". Authors: Hoonjong Kang, Fahri Yaras, Levent Onural, Hiroshi Yoshikawa.
- Paper submitted to OSA Conference of "Digital Holography and Three-Dimensional Imaging (DH)". Title: "Extended depth-of-field and 3D information extraction in digital holographic microscopy". Authors: Isabelle Bergoënd, Tristan Colomb, Nicolas Pavillon, Yves Emery and Christian Depeursinge.
- Abstract submitted to Optical Metrology SPIE Europe in Conference EOM01. Title: Several micron range measurements with sub-nanometric resolution by the use of dual-wavelength

digital holography and vertical scanning. Authors: Tristan Colomb, Jonas Kühn, Christian Depeursinge and Yves Emery  
- "Stereo vision based approach for extracting features from digital holograms". Authors: Tomi Pitkäaho and Thomas Naughton. FRINGE'09 International Workshop on Advanced Optical Metrology, Nürtingen, Germany.

In addition, a list of all scientific (peer reviewed) publications relating to the foreground of the project is provided in the table below. As specified in the FP7 Final Report Template, the list starts with the most important publications.