



## Technology Forum 2014

27 Ιουνίου 2014

ΕΚΕΤΑ, Θεσσαλονίκη

### Έντυπο περίληψης

Εταιρία/Φορέας: Πανεπιστήμιο Μακεδονίας, Τμήμα Εφαρμοσμένης Πληροφορικής
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Τίτλος παρουσίασης: Experiments on International Connections for Haptic Transmission [E-ICONS HAPTIC MISSION]
Keywords: Haptic data, Transmission, Experiments, International Connections, TEIN3 (Pan-Asian), Science Information Network (SINET, Japan), GRNET (Greece), and GEANT (EU), Haptic Internet.

Περίληψη Τεχνολογίας (περίπου 150 λέξεις):

As the Internet spreads, new web applications come to light. One promising sector that is still in its infancy is Tele-Haptics. Tele-Haptics are applications and teleoperations that exchange haptic data through the Internet. The transmission of Haptic data has some unique characteristics that distinguish it from other transmitting media such as video and audio. Since Haptics refer to a human sense, it is quite difficult to infer the requirements for transmitting Haptic data.

In our **previous work** [<http://www.mobility2net.eu/>] Experiment on International Connection between JAPAN-KOREA-EU (GREECE) for Haptic media communications, carried out an experiment on international connection between Japan, Korea and Greece for work in which a user lifts and moves a virtual object in a 3-D virtual space. We investigated the influences of network latency and packet loss on the efficiency of the work. This work was supported by the Telecommunications Advancement Foundation, Japan. All these attempts had as a transmission protocols the UDP protocol. It is a very quick best effort protocol with some drawbacks as it is unreliable, with no congestion control and without packet ordering.

New technologies such as HTML5, cloud, IPv6 will be investigated and will be implemented to this project. The worldwide experiments that are going to be undertaken in this project are innovative. New algorithms and protocols for encoding, transmission, decoding and reproduction of Haptic information on multi-domain networks will be investigated.

The E-ICONS HAPTIC MISSION influences many areas of European lives. Sectors such as tele-education, tele-surgery, tele-robotics. Future Media Internet and Virtual Networked Games are having the major impact. Moreover it affects the standardization of the future Haptic Internet and gives EU a possibility to influence its direction.

**\*DANTE** (<http://www.dante.net/Pages/default.aspx>) - Delivery of Advanced Network Technology to Europe – **LETTER OF SUPPORT (2014)** to Experiments on International Connections for Haptic Transmission (E- ICONS HAPTIC MISSION) for ICT- FIRE. (<http://users.uom.gr/~kpsannis/>),

<b>Σε ποιον/ποιους από τους ακόλουθους κλάδους της οικονομίας μπορεί να εφαρμοστεί η προτεινόμενη τεχνολογία ;</b>	<b>Σημειώστε με Χ</b>
Δημιουργική βιομηχανία	
Ενέργεια	
Μεταφορές & Logistics	
Νέα Υλικά	
Περιβάλλον & Βιώσιμη Ανάπτυξη	
Πρωτογενής παραγωγή, Τρόφιμα, Αγροβιοτεχνολογία	
Τουρισμός, Πολιτισμός	
Τεχνολογίες Πληροφορικής & Επικοινωνιών	<b>Χ</b>
Άλλος (αναφέρατε)	
<b>Σε ποια από τις ακόλουθες ευρύτερες τεχνολογίες (που αντιστοιχούν στον ευρωπαϊκό πρόγραμμα για την έρευνα «Ορίζοντας 2020») εντάσσεται η προτεινόμενη τεχνολογία;</b>	<b>Σημειώστε με Χ</b>
Content technologies and information management (Big Data and Open Data technologies, Machine translation, Tools for creative content, media and knowledge industries, Multimodal and Natural Computer Interaction)	<b>Χ</b>
Future Internet (Future networks [Smart Networks and novel Internet Architecture, Smart optical and wireless network technologies], Advanced network and service infrastructure focusing on 5G, Cloud computing, Innovative tools and methods for software development, Experimental platforms, Collective Awareness platforms, Web Entrepreneurship (WE))	<b>Χ</b>
ICT Cross-cutting activities (Internet of things, Digital SSH, Cybersecurity, International Collaboration, Horizontal Support to Innovation)	<b>Χ</b>
Robotics and smart spaces (Roadmap-based research in robotics)	
Factories of the Future (Process optimization of manufacturing assets, ICT-enabled modelling, simulation, analytics and forecasting technologies, Innovation for Manufacturing SMEs)	
Smart, green and integrated transport (Mobile Services for Intelligent Transport Systems, ICT for smart logistics, Digital infrastructures for transport and mobility)	
Health, demographic change & wellbeing (ICT solutions for older people with cognitive impairments, robotics in support of active and independent living, ICT solutions for integrated care, Digital representation of health data, adoption of a clinical and reference information model for eHealth, Semantic interoperability of electronic prescriptions, ePrescriptions)	
Secure, clean and efficient energy (Energy efficient building via interoperability of ICT tools, Smart Electricity Grids, Smart cities and communities)	
Secure societies (Access Control, Secure Information Sharing, Trust eServices, ICT in Critical Infrastructure Protection)	
Inclusive, innovative and reflective societies (Preservation of digital art, ecosystem of digital cultural assets, ICT tools and services for learning and teaching, Digital Social Platforms, emerging ICT technologies in the public sector, eParticipation in open government, M-Government)	
e-Infrastructures (Data-centric science and engineering, Computational infrastructure, GÉANT)	
Components & Systems (Cyber-Physical Systems (CPS), Smart Miniaturized Electronic Systems)	
Advanced Computing (Customised and low-power computing)	

**Ημερομηνία λήξης για την υποβολή περιλήψεων είναι: 28 Απριλίου 2014.**

**Παρακαλούμε να αποσταλεί η περίληψη στο e-mail: [sepve@sepve.org.gr](mailto:sepve@sepve.org.gr)**

**Υπό την αιγίδα  
της Γενικής Γραμματείας Έρευνας και Τεχνολογίας**

