

Dear colleagues,

A Newsletter Registration tool is now available to both e-Photon/ONE partners and external parties. Please forward the link <http://www.e-photon-one.org/> to any colleagues you think may be interested and ask them to enter their email at the appropriate field. Also any e-Photon/ONE partner can update info on the website by using the content management tool!

In this and any Newsletter you can find the latest info, deadlines and announcements - just in case you haven't checked the website <http://www.e-photon-one.org/>
Hope you enjoy the June issue - the editorial team

Photonic Articles

WP03/VD3 - Technologies and Trends in Home Networks

By Dipl.-Ing. Klaus Hagedorn

Home communication technology and networking will undoubtedly become a fast growing market segment. This is the background and the present situation: There is a broad variety of different services and physical infrastructures for home networks - there are coaxial cables for CATV and twisted copper pair cables for voice and data, and wireless LAN as well as power line communications can be found. The introduction of new services, however, is hindered by the limited bandwidths of these networks and the difficulty in upgrading these technologies. What has to be done to meet these requirements of the market?

As a consequence of the above situation, e-Photon/ONE has established a working group WP03 as a virtual department VD3 being responsible for and addressing the integration and promotion of research related to this market segment on a European scale. The work package WP03-virtual department VD3 is devoted to "Home networks and other short-reach networks". From a systematic point of view this work package addresses networks from distances of up to several 100 meters and down to the range of meters and sometimes even less. On one hand, existing home networks are predominantly based upon metallic wires and supported by radio links. Photonic in-house solutions on the other hand, using glass or plastic optical fibres (POF) or even free space optics (FSO, optical wireless techniques), are not generally utilized.

As a consequence, WP03 has to observe the different technologies suitable for in-house networks where most probably the future system techniques and network architectures will be in the direction of hybrid solutions.

Moreover, WP03 has to take into account the access network. This is because home networks will finally have to be connected to the residential gateway and the first mile network. Here again wireless techniques may play a significant role, but only the FTTH technique will be able to deliver highest bandwidth and broadband services to the customer. In the area of short-reach networks, two different techniques are of increasing interest for home networks: Bluetooth and ultra-wideband (UWB) techniques. On the other hand, photonic short-reach networks are also well-known today, for example, from the automotive area or in the field of automation. The technologies already being developed in these fields will undoubtedly have an additional and major influence on future in-house system techniques because low-cost and reliable components (see for example the POF technology) have been on the market for several years now. As a consequence, WP03 has to keep an eye on these technologies.

It is obvious that the implementation of low cost optical fibre infrastructure into in-house networks could provide a distinct and interesting solution of all the related problems. Two aspects, however, are of utmost importance for a future deployment of this technology: Firstly, low cost devices, components and technologies have to be developed and fabricated and, secondly, the interfacing of in-house networks to various access networks has to be flexible in order to provide services not being tied to certain and given infrastructure.

e-Photon/ONE Website Content Management Tool- for NoE partners only

In the context of WP14, this tool has been created so that the website area can be used as an info exchange platform. Greg Dimitriades can help you with any enquiries, so before attempting to use it ask for all the relevant info: gdimitc@essex.ac.uk.

➤ Deliverables and Reports

First Periodic (Annual) Report (WP6)

The first periodic report of e-Photon/ONE was delivered to the Commission. The submitted documents are available to e-Photon/ONE partners in the intranet of the website www.e-photon-one.org, in section "WP6" -> "First periodic (annual) report"

D4.3: VD4 Technical Report (VD4)

D4.3 is now ready. Please contact Mads L. Nielsen: mln@com.dtu.dk for any info.

➤ e-Photon/ONE News

Collaborating Institutions (CI) approved

The last JPAC teleconference proposed to the SC to approve the following list of CI:

- Intel Cambridge, UK
- Athens Information and Technology, Greece
- Multitel, Mons, Belgium
- Beijing University of Posts & Telegraphs, China
- Fujitsu Labs Europe, UK
- Campinas State University, Brazil

Regarding Polytechnic University of Cartagena, Spain, University of Vigo, Spain, Telecommunications Technological Center of Catalonia, Spain and Poznan University of Technology, Poland, the JPAC decided that more input should be requested.

The SC unanimously approved the list of Collaborating Institutions proposed by the JPAC and all e-Photon/ONE partners accepted their involvement by not expressing their veto. CI will participate in the e-Photon/ONE activities according to the terms defined in the CI Agreement and according to the proposed plan of activities. In no case the CI will be funded for their participation in e-Photon/ONE.

Call for papers: 1st European Symposium on: "Simulation Tools for Research and Education in Optical Networks: STREON 2005"

This symposium is organized by the ENST Bretagne. Registration is free to e-Photon/ONE partners. Submission deadline is July the 8th. For more info contact Michel Gadonna: michel.gadonna@enst-bretagne.fr

➤ e-Photon/ONE Events

27th -28th June 2005, Brussels- Belgium Workshop on Key Issues and Grand Challenges in Optical Networking

The Workshop is co-organized by e-Photon/ONE NSF and COST291. For the agenda check: www.e-photon.org.

30th August- 1st September 2005, Cesenatico and 2nd September 2005, Pisa - Italy 2nd Summer School e-Photon/ONE: "Optical switching technologies"

Paper submission deadline is extended for the 27th of June. For more info <http://e1.unibo.it/summerschool>

3rd-7th July 2005, Barcelona- Spain 7th International Conference on Transparent Optical Networks - ICTON 2005

ICTON is sponsored by e-Photon/ONE. Click here for the final program: <http://www.itl.waw.pl/icton/program.pdf>

➤ e-Photon/ONE @ ECOC

e-Photon/ONE organizes the EC ECOC booth

The booth is available for all partners to promote NoE activities. For more info contact Tanya Politi: tpoliti@telecom.ntua.gr

25 September 2005, 13:00 - 18:00, ECOC2005 Workshop: 'Mitigating Linear and Non-Linear Optical Transmission Impairments by Electronic Means'

VD5 (Transmission Techniques for Broadband Networks) has been assigned by the ECOC 2005 Technical Program Committee a Sunday afternoon slot the day prior to the regular beginning of the conference, to organize and run a workshop. The abstract can be downloaded from: <http://conferences.iee.org/ecoc05/Milesframe.htm> Invited speakers are currently being selected. A finalized list of speakers will be available by July 1st on the ECOC 2005 official website.

Group of the month: Universitat Politècnica de Catalunya (<http://www.ccaba.upc.es>)

The involvement of UPC in e-Photon/ONE will be carried out by the Advanced Broadband Communications Center (CCABA <http://www.ccaba.upc.es>), which integrates researchers from different departments of UPC with interests in complementary communications research areas. In particular, two research groups will participate to e-Photon/ONE, namely the Optical Communications group and the Integrated Broadband Communications group. Putting them together, the main strengths of these groups are in the area of FTTH networks, advanced modulations formats, coherent systems, PMD control, IP/WDM and IP/GMPLS protocols for the optical control plane, management, modelling, performance evaluation and traffic engineering in optical networks, QoS provisioning in optical packet-switched networks. At large optical laboratory equipped with test, measurement and transmission devices for IP/GMPLS/WDM, and a broadband networking laboratory are also available. UPC was involved in international projects ACTS-MEPHISTO, ACTS-MOON, SONATA, IST-DAVID, IST-LION, and national projects APROP and CARISMA.