



Issue # 4 – November 2010

## IS NEWS

The Information Society Unit Newsletter

HIGHLIGHTS  
EVENTS  
PUBLICATIONS

### Editor's Note

Welcome to our autumn 2010 newsletter where we table synopses of some of our most recent work. This includes two techno-economic reports that are part of our cooperation with the European Commission Directorate General for Enterprise and Industry (Games Industry, Embedded Systems), a foresight study on the future of learning (in cooperation with the Directorate General responsible for Education and Culture), a report on the socio-economic impact of eID, and two articles on governance issues - one from the well disseminated CROSSROAD project where IPTS is a consortium partner, and a short report on the work we have been doing with EURO CITIES. We also announce the launch of our second study on integrated personal health systems and provide links to our recent publications and recent event reports.

A varied collection of topics that show glimpses of the diversity of our work. However, our main focus is clearly to provide support to the Digital Agenda for Europe and in particular get to grips with Digital Single Market issues. This is by no means a short-term project, and we will continue to gather and focus our resources and competences

on this core research work during the coming years.

I close by mentioning that next month we launch a major Eurobarometer survey in collaboration with the European Commission Directorate Generals for the Information Society and Justice to gather data via a comprehensive 27 Member State survey on Electronic Identity. By the time of our next newsletter, we should be able to explain the major findings of this survey.

Despite the shorter autumn days, Seville's climate is still very pleasant with daytime temperatures around 18C, so our workshop participants can still have lunch outside on the Institute patio. I look forward to seeing new faces visiting us and participating in our workshops, so please contact us if you want to get involved in our work.

David Broster  
Head of the Information Society Unit

European Commission - Joint Research Centre  
Institute for Prospective Technological Studies

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## BORN DIGITAL / GROWN DIGITAL: Assessing the Future Competitiveness of the EU Video Games Software Industry

The "[BORN DIGITAL / GROWN DIGITAL](#)" report reflects the findings of the study on the video games software industry, with a focus on two specific segments: online and mobile video games. This study analyses the video games software industry, its market potential, its value chain organisation and business models and its current line of evolution, so as to outline major emerging technologies and to investigate their disruptive potential. It also assesses the strengths and weaknesses of EU firms, in order to highlight drivers, opportunities and challenges for improving the future competitiveness of the EU video games software industry.

The video games software industry appears to be one of the most innovative labs for the coming Digital Economy and this aspect may be even more important than its size and its growth rate. It is developing and experimenting with new digital services (online, offline and mobile) that are reaching a growing share of the population. Born digital, this industry is using the many opportunities to offer user-friendly, intuitive services on a very large scale in order to grow. The potential audiences have grown, worldwide communities have been reached, and access platforms have been added (consoles, portals, mobile handsets, etc.). One might expect these quasi-experiments to offer essential core lessons to sectors such as eGovernment, eHealth, eCulture and eEducation, which up until now have struggled to meet their target audiences with well adapted offers of e-services.

### Where does Europe stand?

At the moment, European actors appear to be present at all stages of the games value chain but to different extents:

- While they are absent in the console hardware segment, they are challenging the incumbents in the mobile segment (for example, Nokia with the Symbian operating system environment).
- There are only a few European representatives among the major publishers - in particular, Ubisoft, one of the top world video games publishers.
- The European industry supplies a large share of the world's middleware needs. Middleware (games engines) is playing a central role in the new era of modularised engines. Middleware from

Unity3d (a Danish firm) is used by 10 to 20% of the top 100 games.

- Europe hosts a large population of developer studios, often the creators of major market successes. These highly creative small development studios can be found mainly in the UK, France, Germany, the Nordic countries and, to a lesser extent, Spain.

Europe is also the largest market for video games and may become even more important as the national markets are still unevenly developed, leaving room for more growth. In 2009, France, Germany, Italy, Spain and the UK accounted for nearly 30% of the global video games market. The EU market is likely to grow strongly over the next few years and will be increasingly focused on the online market as new broadband penetration stimulates growth and as more and more consoles offer online game play options. This growing role of the online segment will open up opportunities, especially for European stakeholders and SMEs.

### Disruptive technologies will emerge in the online and mobile games market.

Several trends are expected to affect the current and future dynamics of the video games software industry. For example, mobile games are challenging the monopolies of existing operating system owners and are offering a new distribution channel to developers. Moreover, online games (Massively Multiplayer Online Games - MMOGs - and also easier to play browser-based, single user online games) are offering users a new role, which could bypass the publishers and create different revenues streams. These emerging trends offer a key to



the interpretation of foreseeable changes in European video games software industry competitiveness. It is expected that the growth of the video games software market will be primarily driven by online and wireless game software, while revenues from hardware sales will proportionally decline, hence changing the rules of the game.

Observing these two emerging trends - online and mobile gaming - points to the expansion of the video games industry in terms of supply-side actors (with the entry of new players like portals of Internet Service Providers), demand (across various demographic variables: not anymore for young only neither a male only preserve), technologies (and their accompanying technological and non-technological challenges), and business models based on advertising, micro-transactions or selling virtual items.

### The video games industry can be seen as a laboratory of ideas and achievements within the broader realm of the emerging eServices domain.

For more information & the presentations of the Validation Workshop of 10 June 2010 see the [Games project webpage](#).

Contact: [Giuditta De Prato](#)

*"BORN DIGITAL / GROWN DIGITAL" is part of the [COMPLETE](#) (Competitiveness by Leveraging Emerging Technologies Economically) Project (2007-2010), which produced a series of reports analysing the prospects of success for European ICT industries in the face of technological and market innovations in the following emerging technologies:*

- ◆ Online and mobile video games software
- ◆ Web 2.0
- ◆ Displays (OLEDs and e-paper)
- ◆ RFID
- ◆ Robotics
- ◆ Embedded software in the automotive sector.

*COMPLETE is co-financed by JRC-IPTS and the European Commission Directorate-General for Enterprise and Industry.*

## IPTS researchers share their findings at various networking sessions at "ICT 2010 - Digitally driven"



The "[ICT 2010 - Digitally driven](#)" event organised by the European Commission and hosted by the Belgian Presidency of the European Union in Brussels, between 27-29 September 2010, gathered more than 5,000 European researchers, business people, investors, and high-level policy makers. Europe's largest forum for ICT research and innovation featured a number of interesting plenary speeches and animated panel discussions, as well as more than 100 networking sessions and an exhibition area displaying more than 200 ICT-related projects.

The IS Unit of IPTS has organised and/or actively participated in a number of networking sessions on different topics it is currently working on:

### 1) Research Roadmap on ICT for Governance and Policy Modelling

At this networking session, the [CROSSROAD](#) Consortium, in which IPTS is a key partner, unveiled the first draft of a new Research Roadmap for Governance and Policy Modelling, with a view to collecting feedback and reaching community consensus on the future research priorities in the interdisciplinary fields of participation, governance and policy modelling. Participants agreed on four key research challenges that are further detailed in the article on [CROSSROAD](#) on page 6-7.



Dimitris Askounis,  
CROSSROAD Project Coordinator

Contact: [Gianluca Misuraca](#)

### 2) Game development and innovation in Europe

This session, organised by the European Games Developer Federation (EGDF), discussed the innovative power of the video game development industry, and examined in particular the potential of mobile and online games. Among the main points debated were the transformations in the value chain brought about by disruption in the technologies and how the game industry responds to these changes. The feedback effects of these changes on business models and on the role of actors in the value chain were also discussed. Finally, the session concluded by assessing the position and the opportunities for the EU industry in this dynamic environment. Addressing the last point, IPTS presented the report "[BORN DIGITAL / GROWN DIGITAL: Assessing the Future Competitiveness of the EU Video Games Software Industry](#)" (see article on p. 2).

Contact: [Giuditta De Prato](#)

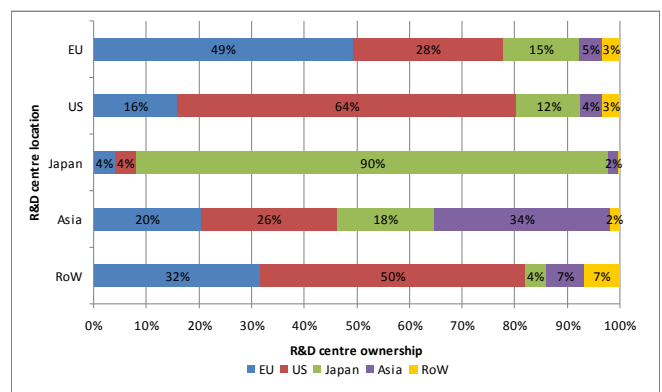


Giuditta De Prato presenting the "BORN DIGITAL / GROWN DIGITAL" Report at ICT2010

### 3) ICT R&D opportunities with Japan and Korea

This networking session, organised by the international cooperation support action project EURASIAPAC (funded by FP7 ICT) discussed cooperation opportunities with Japanese and Korean organisations. Community feedback on specific cooperation priorities and necessary framework conditions to facilitate international cooperation on ICT research were discussed. In its presentation on "ICT R&D internationalisation patterns", IPTS highlighted the fact that in comparison to the EU and the US, Japan seems to be "relatively closed". Asian and Japanese firms have the least and US and EU firms the most internationalized R&D site infrastructure: 90% of ICT R&D sites located in Japan belong to Japanese companies, whereas this proportion amounts to 64% in the US and 49% in the EU. Hence, there is room and potential for enhancing the mutual collaboration between Europe and Asia (in general) and Japan (in particular).

Contact: [Daniel Nepelski](#)



Distribution of ICT R&D centres by location and ownership (2008/09) in %

### 4) Modelling the Digital Economy?

IPTS, with the support of international academia and global organisations, has taken up the challenge to establish a conceptual and methodological framework which will ultimately allow the modelling of the digital economy, since a better understanding of the economic impact of ICT usage on growth, productivity performance and competitiveness is needed. Although the digital economy is high on the political agenda of all advanced economies, its definition, understanding and measurement are still under development. The research team's initial findings were debated at this session in order to prioritise any research questions arising, and information was shared with other researchers who are trying to assess the economic impact of ICT in our societies.

Contact: [Geomina Turlea](#) & [Wojtek Szewczyk](#)

Several JRC-IPTS reports were distributed to participants at ICT2010. These represent a good overview of various activities of the IS Unit over the past 2 years and are also published on the [publications page of the IS Unit website](#).

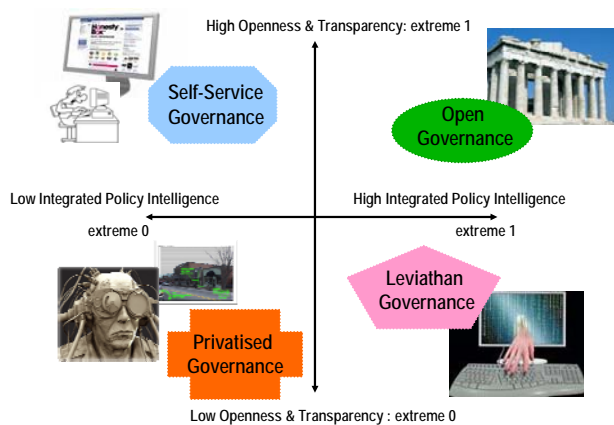
## CROSSROAD: Envisioning Digital Europe 2030: A Research Roadmap on ICT for Governance and Policy Modelling

The Information Society Unit of IPTS is a key partner of the [CROSSROAD Project](#), a European Commission FP7 Support Action that aims to identify the key research challenges in the field of ICT for Governance and Policy Modelling and ultimately outline a concrete, participative roadmap for future research, fully embraced by the research and practice communities.

Throughout 2010, the CROSSROAD Consortium, composed of the National Technical University of Athens (Greece), Tech4i2 (UK), EPMA (Czech Republic), University Koblenz-Landau (Germany) and IPTS, oriented its activities towards building the community in this emerging domain and shaping the agenda for future research.

In order to do so, during the first phase of the project (January - April 2010) an **Analysis of the State of the Art** of research and practice in the domain of ICT for Governance and Policy Modelling was conducted. Visionary scenarios were also designed on how governance and policy modelling could develop by 2030. IPTS led the preparation of these visionary scenarios, which were then presented to the first CROSSROAD Workshop at IPTS in Seville on 29-30 April 2010.

During the [CROSSROAD Seville Workshop](#) more than 40 experts from all over the world convened to discuss and validate the results of the Analysis of the State of the Art and the Visionary Scenario Design.



*Visionary Scenarios*

Following the Workshop, during the second phase of the project (May - December 2010) a **Gap Analysis** to identify key research challenges was conducted. Additionally, consultations engaging experts from academia, practitioners and policy makers and the wider public were organised both online and offline, in order to draft, validate select and prioritize the **Grand Challenges for Research in the area of ICT for Governance and Policy Modelling**. These challenges were identified by the CROSSROAD community as arising in the following areas:



*Participants at the Seville Workshop, 29-30 April 2010*

- ◆ **Model-based collaborative governance** to overcome the current fragmented and micro-level approach to policy modelling in which existing econometric models are unable to account for human behaviour and unexpected events;
- ◆ **Data-powered collective intelligence** and action to identify tools that allow for progressive forms of citizen involvement that deal with information overload and engage all pro-active as well as more passive citizens in policy making;
- ◆ **Government service utility** to reflect the future of digital public services that will be co-generated through the participation of administrations, enterprises and citizens, co-delivered, tailor-made and citizen-centric;
- ◆ **Scientific base of ICT-enabled governance** to lay the theoretical foundations of the domain, study the relations with neighbouring domains and achieve scientific rigor and further evolution using future ICT capabilities.

In addition to the work conducted by the core partners of CROSSROAD, and enriched by the contribution and peer review activity of the **Expert Scientific Committee** composed of 20 outstanding experts drawn from several research and practice community, some high level events were organized in order to further validate the results of the project and enlarge the community of stakeholders.

These included the [Samos Summit 2010 on ICT for governance and policy modelling](#) (Samos, Greece, 5-8 July 2010), the [Lausanne Workshop](#) which addressed the academic community more specifically, and was held alongside the eGov2010 Conference (Lausanne, Switzerland, 30 August 2010) and a specific [Networking Session on Research Roadmap on ICT for Governance and Policy Modelling](#) during the ICT2010 Event in Brussels (27 September 2010).

All events proved to be very successful, and each was attended by more than 100 participants. High levels of interaction generated quality discussions, which were followed up in online consultations. Policy makers, industry representatives and research actors from different communities reviewed and validated the draft research roadmap proposed, further contributing to its development.

As a crucial enabler for networking and community building, CROSSROAD is helping to orient the future research directions in the emerging domain of ICT for Governance and Policy Modelling, in strict cooperation with the responsible officers in Unit H2 of the

Information Society and Media Directorate-General of the European Commission. It also engages with other FP7-funded projects in this domain, promoting and disseminating the results at European and International levels.

As one of the various dissemination and awareness-raising activities of the project, IPTS organised a **Special Session on Future Research on ICT for governance and policy modelling in Europe during the 4<sup>th</sup> International Conference on Theory and Practice of Electronic Governance (ICEGOV2010)** that took place in Beijing, China on 25-28 October 2010. The conference attracted about 500 participants from all over the world and



Gianluca Misuraca at ICEGOV 2010 in Beijing

generated valuable insights on possible cooperation between the EU research community and international actors in this area.

Contact: [Gianluca Misuraca](mailto:Gianluca.Misuraca@ec.europa.eu)

Stay tuned and follow us on: [www.crossroad-eu.net](http://www.crossroad-eu.net) & [IPTS CROSSROAD webpage](http://www.ipts.eu/crossroad)



CROSSROAD-EU



#xroad@crossroad-eu



### 15-16 December 2010: ['Lift Off Towards Open Government' Conference](#)

The 'Lift Off Towards Open Government' Conference, organised by the Belgian Presidency of the Council of the European Union, will take place in Ghent and Brussels on 15-16 December 2010. At this Conference, which aims to demonstrate the achievement of past European eGovernment efforts, and the impact of this for citizens and industry, David Broster, Head of the Information Society Unit at IPTS, will take on the role of rapporteur of the event.

## 60% of cities consider new ICT-enabled governance models are emerging in Europe

As part of the Exploratory research on emerging ICT-enabled governance models in European Cities (EXPGOV) that IPTS is conducting in collaboration with [EUROCITIES](#), a mapping survey on what policy areas are most impacted by ICTs, revealed that majority of cities surveyed consider that ICTs are changing governance processes and policy making mechanisms.

Further to the validation of the results of the survey and the conceptual and methodological framework of measurement of ICT-enabled governance developed by IPTS during the [Summer Event of the EUROCITIES' Knowledge Society Forum](#) that took place in Linköping, Sweden (9-11 June 2010), the cities of Barcelona, Berlin, Manchester and Tallinn were selected for in-depth case study analysis.

Preliminary results of the case study analysis and further discussion on the

conceptualization of the measurement framework for ICT-enabled governance were then presented to the [Autumn Event of the EUROCITIES' Knowledge Society Forum](#) in Birmingham, UK (19-20 October 2010). At this event, IPTS organized and chaired a session on SMART Governance which formed part of the Digital Birmingham Forum on 'Advancing Smarter Growth in Smarter Cities'.

In addition to this, as part of the dissemination and networking activities of the project, EXPGOV was presented to the Annual Workshop of [NET-EUCEN](#) - the Network of European Stakeholders for Enhancing User Centricity in e-Governance, a Thematic Network funded by the EU CIP ICT-PSP, that took place in Brussels on 30 September 2010. This presentation aimed to enlarge the constituency and validation community of EXPGOV and to share knowledge and best practices in e-Governance.

Furthermore, IPTS also presented the preliminary results of the EXPGOV Project during a Discussion Panel on Smart Cities that took place on 28 October at the 4<sup>th</sup> International Conference on Theory and Practice of Electronic Governance ([ICEGOV 2010](#)).

Once the case studies have been completed and the final report on the research drafted, the main findings of the project will be presented and discussed with researchers, practitioners and policy makers at an Experts' Workshop organized by IPTS in Brussels on 31 January 2011, alongside the Annual Meeting 2011 of the Knowledge Society Forum of EUROCITIES (Brussels, 1 February 2011).

More info on the [EXPGOV Project website](#).

Contact: [Gianluca Misuraca](mailto:Gianluca.Misuraca@ec.europa.eu)

The IPTS study on *Embedded Systems production and diffusion* is searching for a way forward in understanding and measuring the economic role of embedded Information and Communication Technologies (ICT).

As an estimated 99% of microprocessors are used for purposes other than the production of general purpose computers, the motivation for this study is straightforward. Policy-makers, industry representatives and the research community are all fully aware that ignoring the economic impact of embedded ICT is increasingly misleading when evaluating and explaining technology-driven growth and its distribution patterns. Yet, an adequate theoretical and statistical apparatus has not been put in place to tackle this issue. The abundant literature under the heading of 'the economics of embedded ICT' offers only scattered and partial images, without no, or very few, common denominators and little agreed understanding.

For several decades, the concept of *Embedded Systems* was the archetypal image of pervasive ICT, a computer-controlled system with a microprocessor at its core, programmed to perform one or a few tasks. This contrasts with general purpose computer systems like PCs which have general purpose hardware platforms

and externally loaded software. However, technological convergence is now blurring the line between embedded computing and general purpose computing. Secondly, the shift from hardware dependency to software dependency means that powerful, often networked, multi-core microprocessors can accommodate a variety of reprogrammable tasks performed by volatile hardware-software architectures, virtually impossible to capture by current statistical measurement.

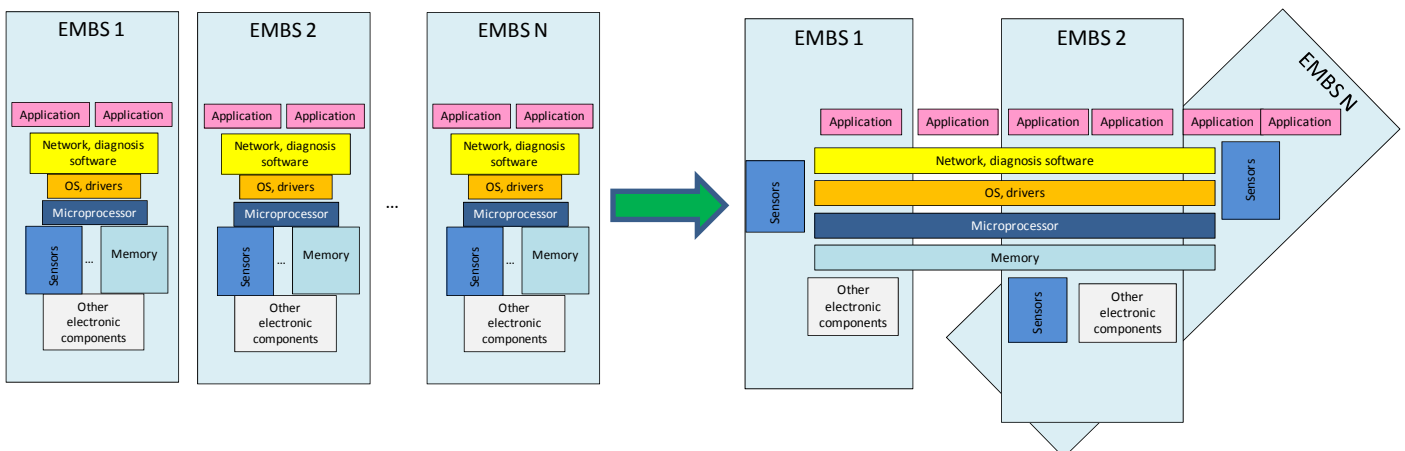
In this study, we support a more holistic approach to the production and diffusion of ICT, using technological, economic and statistical arguments, and develop the embryo of a methodology that will ultimately take into account the overall use and impact of ICT in the productive process.

Microprocessors remain central to our approach, as they are the backbone of ICT. Software and services contribute at various nodes of the value chain to building up ICT-based functionalities. The systemic behaviour of the tandem hardware-software is implied rather than imposed by a definition. In line with the observed technological trends, this approach does not distinguish between embedded ICT and general-purpose computing.

Our proposed economic representation of the technical understanding of embedded ICT searches to identify, for each of the final products, the consumption of ICT (hardware, software or services) along the value chains in order to estimate the contribution of ICT to the final output. The framework used for this representation is the neoclassical production function; at each stage of the value chain, the prices of inputs are the marginal productivity of the factors within the respective production functions. The result of these calculations will identify the contribution of ICT to the final output as the sum of the shares of ICT-based factors' services (intermediate consumption, capital and labour) along the value chain.

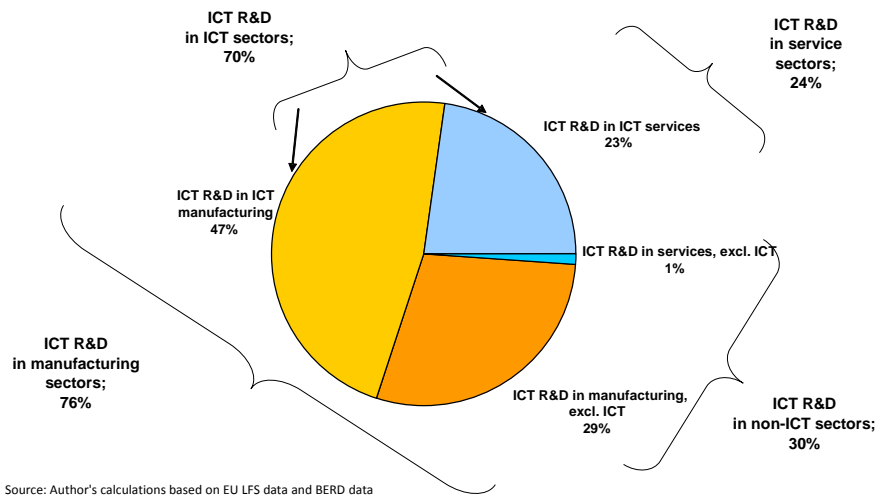
The first application of this methodology on German data reveals some interesting preliminary conclusions:

- ⇒ The diffusion of ICT in other products and services is a trend clearly confirmed by the data – in this phase of technological development, the main driver for ICT diffusion is the demand from producers of final goods and services. Our sectoral studies reveal that Government policies are powerful instruments for stimulating this demand.



*From high hardware dependency architecture to high software dependency architecture in the development of Embedded Systems*

ICT R&D by major sectors of activity, Germany, 2005



⇒ In Germany, service sectors are the most intensive users of ICT, but their demand is not the main driver for core technology development. However, innovations in the service sectors call for R&D in manufacturing sectors, and this link should not be disregarded when policy instruments supporting ICT R&D are put in place.

⇒ ICT skills are spread across the economy and produce as much as a quarter of GDP and R&D expenditures. The importance of ICT skills for EU competitiveness in general and for EU R&D targets is acknowledged and discussed in many analyses and policy documents. Our research, with the limitations arising from the use of labour data only, shows that almost a third of ICT R&D is performed outside the ICT sector, almost entirely in the other manufacturing sectors.

However, the proposed method does not solve the complicated issue of aggregation when discussing the relationship between ICT R&D and total factor productivity. Both common sense and the evidence seem to support the assumption that ICT R&D helps to maximise companies' profits in imperfect markets and has an impact on total factor productivity at aggregate level. As an extreme example, we cite the recent related research at IPTS which describes in detail the market for

semiconductor fabless design – a market that trades almost exclusively in advanced applied ICT research (see Toumi (2009) "[The Future of Semiconductor](#)").

It is now generally accepted that information is a production factor. However, the ways in which ICT has an impact and how this should be measured are still far from settled in the literature.

The existing literature, including specific IPTS studies (see mainly the [automotive project webpage](#)) gives supporting evidence to the view that the elasticity of profits to ICT R&D is subject, ultimately, to the pricing of information. Specific components of price determination like the distribution

of innovation rents among the customers and suppliers or the valuation of customised software seem to play a key role in profit maximisation along the value chain of ICT using industries. We therefore identify the sub-issue of *determinants of profit margins for embedded ICT* as the second main avenue for theoretical research emerging from this study. IPTS plans to dedicate an important part of the ongoing project on Modelling the Digital Economy (for more details see the [specific project webpage](#)) to estimating the sectoral elasticity of total factor productivity to ICT R&D and integrating it into a macromodel.

Contact: [Geomina Turlea](#)

## IPTS launches second study on Integrated Personal Health Systems (SIMPHS 2)



The SIMPHS 2 study was launched on 8 October 2010. SIMPHS 2 investigates the use of Personal Health Systems (PHS), starting with the Remote Patient Monitoring and Treatment (RMT) segment for chronic disease management. Expected results aim to support policy making by providing evidence on the current development and use of RMT from the perspective of the demand side (policy makers, hospitals, health care professionals and end-users), identifying drivers and barriers to its large-scale take up in Europe on three fronts: diffusion of innovation, governance and health impact assessment. Thus, impact on quality of life and treatment costs will be at the core of the study. In addition, it will look at current reimbursement systems for RMT and the coordination between health and social care services for the use of these applications. Preliminary results are expected in May 2011.

More information on previous IPTS research on PHS from the perspective of the supply side is available on the [Economic Aspects of eHealth section of the IS Unit website](#).

Contact: [Ioannis Maghiros](#)

## The Future of Learning: A Foresight Study on New Ways to Learn New Skills for Future Jobs

To identify future changes and challenges to learning and training and to direct policy action accordingly, the European Commission's Directorate General for Education and Culture and JRC-IPTS are currently conducting a foresight study on "[New Ways to Learn New Skills for Future Jobs](#)". In the course of this study, a series of four online consultations, each involving between 90 and 150 experts, were conducted, which indicate that both formal education and training and professional development strategies will change significantly over the course of the next 10 to 20 years.

While the existing, physical and formal structures of formal education and training are expected to remain intact, schools and universities will adopt substantially different pedagogical strategies. Personalised learning strategies will benefit all learners alike and will contribute to preventing early school leaving. Teachers will become mentors and guides, while learning processes become self-regulated, personalised and collaborative. Schools will embrace the multicultural classroom and implement effective mechanisms to integrate migrant children. Technology will support personalised learning processes and facilitate addressing special needs.

As concerns employment and professional development, experts believe that the current gap between formally acquired skills and competences and labour market needs will not disappear, on the contrary, it will widen. Moreover, it will be common for

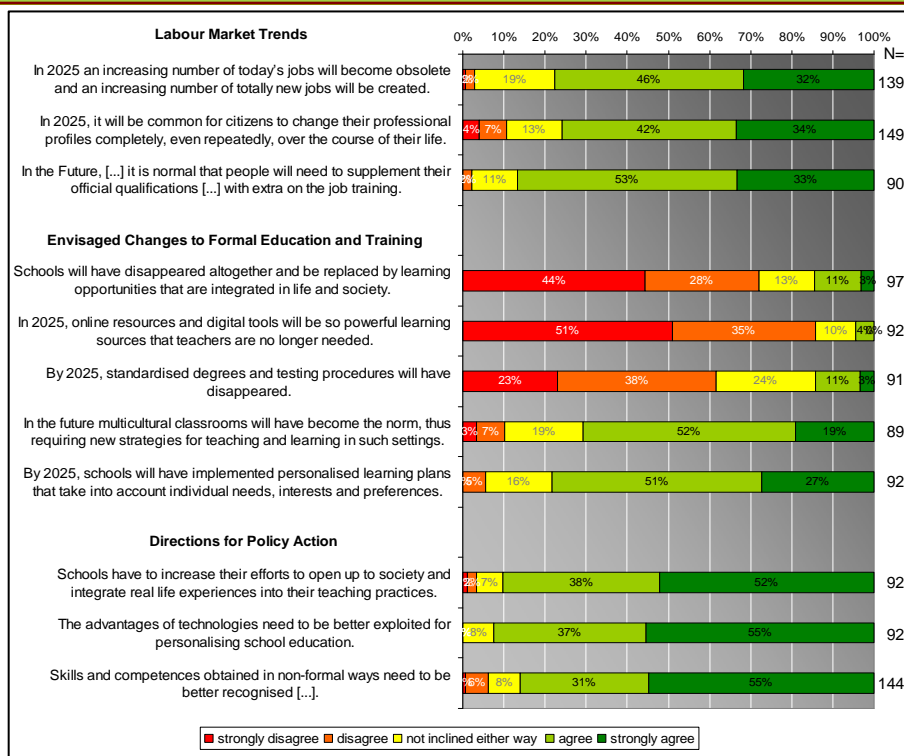


Figure 1: Overview of the findings of the online stakeholder consultations (90-144 responses)

all citizens – whether they are at the beginning or the end of their careers, whether they are highly qualified or only possess basic skills – to continuously update their skills and to actively and flexibly develop their professional profiles over the course of their lifetimes. In reaction to increased labour market dynamics, there will be a variety of opportunities for re-skilling and changing professional profiles. While attaining formal qualifications will remain key for

grasping new employment opportunities, informally acquired skills will be better recognised and mechanisms will be put in place that will allow people to obtain formal recognition for informally acquired competences.

More on the [Future of Learning website](#) & the [IPTs related project webpage](#).

Contact: [Christine Redecker](#)

## eID SEA: Assessment of the social and economic impacts of selected eID services in Europe

By 2020, we envisage that some 450 million EU citizens will be regular users of electronic identities (eID's), in a world of extremely fast connections, pervasive connectivity, ambient intelligence and electronically enhanced social networking. Secure online identity management and reliable authentication will be the foundations of a networked economy of the future, creating large potential for high quality, efficient services, both public and private. A plethora of eID-based services has already emerged in recent years, with more and more continuing to emerge, driving these developments. In this context, it is crucial to better understand the social and economic impacts that the use of electronic identities has on society.

To address these questions, the IS Unit of IPTS is launching for, and in collaboration with, the Information Society and Media Directorate-General (DG INFSO) of the European Commission (Unit H2) a project called eID Socio-Economic Assessment (eID SEA). The objective of the project is to

provide an in-depth analysis of the socio-economic impacts of selected eID services across Member States. Its main focus will be on interoperable, cross-border services, encompassing a range of functionalities and use cases, thereby providing a representative sample of eID services as they are used in Europe today. The results of the study will be composed of three elements: 1) the identification of the economic, social and environment impacts, 2) a qualitative assessment of the more significant impacts, and 3) an in-depth qualitative and quantitative analysis of the most significant impacts. A summary of positive and negative impacts will be presented, particularly regarding effects on social inclusion, competition, the single market, consumers and households, under-served areas, technological neutrality, costs and financial/regulatory burden. The results will be used to support policy formulation in the relevant policy areas as defined by DG INFSO H2.

Contact: [Anssi Hoikkanen](#)



## ICT Industry Analysis

- ◆ Is Europe in the driver's seat? The Competitiveness of the European Automotive Embedded Systems Industry (2010). E. Juliussen, R. Robinson. Editors: M. Bogdanowicz, G. Turlea. JRC61541
- ◆ A Helping Hand for Europe: The Competitive Outlook for the EU Robotics Industry (2010). S. Forge, C. Blackman. Editors: M. Bogdanowicz, P. Desruelle. JRC61539
- ◆ "From the "broadband ditch" to the release of the 2010 US national broadband plan. A short history of the broadband penetration debate in the US" (2010). J.-P. Simon. In "Communications & Strategies" November 2010. Editors: K. Ducatel, M. Lebourges.
- ◆ ICT and Regional Economic Dynamics: A Literature Review (2010). C. Karlsson, G. Maier, M. Tripl, I. Siedschlag, R. Owen, G. Murphy. Editors: A. de Pannizza, M. Bogdanowicz. JRC59920
- ◆ RFID: Prospects for Europe: Item-level Tagging and Public Transportation (2010). A. de Panizza, S. Lindmark, P. Rotter. JRC58486

## Learning & Skills

- ◆ Creativity in Schools: A Survey of Teachers in Europe (2010). R. Cachia, A. Ferrari. JRC59232
- ◆ Expert Perspectives on Creativity and Innovation in European Schools (2010). Dr S. Banaji, Dr S. Cranmer, Dr C. Perrotta. Editors: A. Ferrari, R. Cachia, Y. Punie. JRC Technical Note - JRC59833
- ◆ Mapping Major Changes to Education and Training in 2025 (2010). S. Stoyanov, B. Hoogveld, P. Kirschner. Editors: C. Redecker, Y. Punie. JRC59079
- ◆ Pedagogical Innovation in New Learning Communities: An In-depth Study of Twelve Online Learning Communities (2010). S. Aceto, C. Dondi, P. Marzotto; Editors: K. Ala-Mutka, A. Ferrari. JRC59474
- ◆ Status and Developments of eLearning in the EU10 Member States: the cases of Estonia, Hungary and Slovenia (2010). K. Ala-Mutka, P. Gaspar, G. Kismihok, M. Suurna, V. Vehovar. EUROPEAN JOURNAL OF EDUCATION 45 (3); p. 494-513.
- ◆ The Future of Learning: New Ways to Learn New Skills for Future Jobs - Results from an online expert consultation (2010). C. Redecker, M. Leis, M. Leendertse, G. Gijssbers, Y. Punie, P. Kirschner, S. Stoyanov, B. Hoogveld. JRC60869

## Inclusion & Cultural Diversity

- ◆ The Potential of ICT in Supporting Domiciliary Care in Spain (2010). C. Redecker, J. Reig, T. Carrión, S. Martinez, M. Armayones, D. McCarthy, M. Fernandez. JRC61083
- ◆ The Potential of ICT in supporting Immigrant Care Workers in Domiciliary Care in Italy (2010). P. Boccagni, S. Pasquinelli. Editor: S. Kluzer. JRC59427
- ◆ ICT for Learning the Host Country's Language by Adult Immigrants in the EU – Workshop Conclusions (2010). S. Kluzer, A. Ferrari, C. Centeno. JRC57387
- ◆ Long-term Care Challenges in an Ageing Society: The Role of ICT and Migrants (2010). S. Kluzer, C. Redecker, C. Centeno. JRC58533
- ◆ Using Information and Communication Technologies to Promote Education and Employment Opportunities for Immigrants and Ethnic Minorities (2010). C. Redecker, A. Haché, C. Centeno. JRC57947
- ◆ ICT and Youth at Risk: How ICT-driven initiatives can contribute to their socio-economic inclusion and how to measure it (2010). A. Haché, J. Cullen. JRC58427

## Digital Living & Identity

- ◆ The State of the Electronic Identity Market: technologies, stakeholders infrastructure, services and policies (2010). T. Stevens, J. Elliott, A. Hoikkanen, W. Lusoli & I. Maghiros. JRC60959.
- ◆ Economic Trends in Enterprise Search Solutions (2010). P.-J. Benghozi, C. Chamaret. Editor: R. Compañó. JRC57470
- ◆ Engaging with the public? Assessing the online presence and communication practices of the Nanotechnology Industry (2010). R. Ackland, R.K. Gibson, W. Lusoli & S. Ward. Social Science Computer Review, 28(4), 443-465
- ◆ From security versus privacy to identity: an emerging concept for policy design? (2010). W. Lusoli, & R. Compañó. Info, 12(2), 80-94.
- ◆ The Policy Maker's Anguish: Regulating Personal Data Behaviour Between Paradoxes and Dilemmas (2010). R. Compañó, W. Lusoli. In: Moore, Pym, Ioannidis, editors. Economics of Information Security and Privacy. New York (USA): SPRINGER SCIENCE+BUSINESS MEDIA, INC.; p. 169-185.

## eGovernance

- ◆ Envisioning Digital Europe 2030: Scenario design on ICT for governance and Policy Modelling (2010). G. Misuraca, D. Broster, C. Centeno. In Proceedings of the 4th International Conference on Theory and Practice of Electronic Governance (ICEGOV2010), Beijing, China, 25-28 October 2010 - ACM International Conference Proceedings Series, ACM Press (pp. 347-356).
- ◆ Assessing emerging ICT-enabled governance models in European cities: results from a mapping survey (2010). G. Misuraca, E. Ferro, B. Caroleo. In proceedings of the eGOV2010 Conference, Lausanne, 29 August – 3 September 2010, IFIP, Springer Publisher, LNCS 6228 (pp. 168-179).

- ⇒ **3-5 November: Sustainable Ageing: ICT for the care of the elderly (Granada, Spain)**  
The main objective of this conference was bringing together researchers, authorities, business and civil society organizations to define strategies and priorities within the framework of sustainable aging and ICT to elderly care. The conference examined the problems that prevent the introduction of services and ICT systems, and prospects for sustainable development. IPTS gave a presentation on "The potential of ICT for supporting caregivers of elderly people", which is based on the findings of an exploratory study into the use of ICT by caregivers involved in Long-term Care in four European countries (UK, DE, ES, IT). The results of this study series can be accessed on the [thematic eInclusion webpage](#). More information also on the [conference website](#). Contact: [Christine.Redecker@ec.europa.eu](mailto:Christine.Redecker@ec.europa.eu)
- ⇒ **27-29 October: eChallenges 2010 (Warsaw, Poland)**  
The [eChallenges Conference](#) gathered delegates from commercial, government and research organisations to share success stories and lessons learnt from applied Information and Communications Technology (ICT) related research at European level (FP6 & FP7) as well as Regional, National and Commercial initiatives. The goal of e-2010 was to stimulate rapid take-up of Research and Technology Development results by industry and help open up the European Research Area to the rest of the world. IPTS participated in the opening plenary with a presentation on "Challenges & Choices in a Digital Society". Contact: [David.Broster@ec.europa.eu](mailto:David.Broster@ec.europa.eu)
- ⇒ **13-14 October: Telecentre-Europe Summit 2010 (Budapest, Hungary)**  
The annual summit of Telecentre-Europe, a network of national telecentre networks which major mission is to fight digital divide and ensure everyone is digitally included, was attended by around 100 members from Europe and Worldwide, policy makers, industry and the third sector. IPTS provided presentations on the research results on the role of ICT for skilling and employability of groups at risk of exclusion (youth, migrants and women carers), on the research results of the Key Competences for All (KC4all) Project that aims at building an Employability Toolkit to develop key basic competences for employability by excluded groups, and on the need for collecting evidence so as to measure impact of the actions of Telecentres across Europe and a possible way forward. Contact: [Gabriel.Rissola@ec.europa.eu](mailto:Gabriel.Rissola@ec.europa.eu)
- ⇒ **12 October: ePractice workshop on Digital Competences of Intermediaries (Brussels, Belgium)**  
This workshop, jointly organised by the European Commission, DG INFSO, Unit H3 ICT for Inclusion and IPTS, aimed to identify good practices and success criteria regarding ICT-enabled initiatives for developing Digital Competences for intermediaries and social actors to both support them on their job on providing assistance of groups at risk of exclusion and on fostering their social inclusion and economic participation. IPTS made a presentation setting the scene on digital competence, digital divides and the role of ICT for inclusion, both target groups at risk of exclusion and intermediaries, to later moderate the debates to identify possible policy options for the future. Contact: [Gabriel.Rissola@ec.europa.eu](mailto:Gabriel.Rissola@ec.europa.eu)
- ⇒ **1 October: Conference on Self-regulated Learning in Technology Enhanced Learning Environments: Challenges and Promises (Barcelona, Spain)**  
The conference, organised by TACONET and supported by The [STELLAR Network of Excellence](#) constituted a platform to present and exchange research findings and ideas on Self-regulated Learning in Technology Enhanced Learning Environments. IPTS gave a presentation on the "Results from expert consultations on the future of learning". More information on the [Conference website](#). Contact: [Yves.Punie@ec.europa.eu](mailto:Yves.Punie@ec.europa.eu)
- ⇒ **29 September - 1 October: EC-TEL 2010 Conference (Barcelona, Spain)**  
The "Fifth European Conference on Technology Enhanced Learning - Sustaining TEL: From Innovation to Learning and Practice" explored how the synergy of multiple disciplines, ranging from Computer Science, Education, Psychology, Cognitive Science, and Social Science, can provide new, more effective and more especially more sustainable, technology-enhanced learning solutions to learning problems. IPTS presented results of the Learning 2.0 study. More information on [EC-TEL 2010 Conference website](#). Contact: [Christine.Redecker@ec.europa.eu](mailto:Christine.Redecker@ec.europa.eu)
- ⇒ **29-30 September: Expert Workshop: The macro-economic modelling of the Digital Economy (Brussels, Belgium)**  
The Workshop gathered experts in the economics of ICT and modelling who addressed topics germane to the Digital Agenda such as: ICT as enabling technology, ICT impact on productivity, ICT infrastructure, network effects, technology adoption, and economics of embedded ICT. The participants from various research institutions working on capturing the diverse features of the Digital Economy helped refining IPTS vision and pointed to various new methods and approaches relevant for the purpose of the entire research line. A particular attention was paid to the modelling of the ICT R&D, as central factor boosting the productivity. More information on the [Modelling the Digital Economy webpage](#). Contact: [Geomina.Turlea@ec.europa.eu](mailto:Geomina.Turlea@ec.europa.eu) & [Wojciech.Szewczyk@ec.europa.eu](mailto:Wojciech.Szewczyk@ec.europa.eu)

- ⇒ **22-23 June: Technical Seminar on ICT in Social Security (Beirut, Lebanon)**  
The [Technical Seminar on ICTs in Social Security](#), organized by the International Social Security Association (ISSA), dealt with the strategic role of ICT in enhancing the effectiveness of service delivery, addressing matters related to citizen services and focused on innovative approaches to improve customer interaction. During the session on "New approaches for citizen interaction and services: Enhancing the effectiveness of service delivery" IPTS addressed a keynote speech on "Exploring implications of Social Computing on public governance". Contact: [Gianluca.Misuraca@ec.europa.eu](mailto:Gianluca.Misuraca@ec.europa.eu)
- ⇒ **21 June: United Nations Public Service Forum (UNPSA) (Barcelona, Spain)**  
At the United Nations Public Service Forum (UNPSA 2010) entitled "The Role of Public Service in Achieving the Millennium Development Goals: Challenges and Best Practices", IPTS participated in the Capacity development Workshop and Expert group meeting on "Advancing E-Government Development and Knowledge Management" and made a presentation on eGovernment in Europe at the crossroad between the past and the future. More information on the [events webpage](#). Contact: [Gianluca.Misuraca@ec.europa.eu](mailto:Gianluca.Misuraca@ec.europa.eu)
- ⇒ **9 June: Workshop on "Exploring the Future of Mobile Search" (at the 9th Conference of Telecommunication, Media and Internet Techno-Economics, Ghent, Belgium)**  
The aim of this workshop was to gain insights of the techno-economic trends in mobile search and how it will impact the European Economy and Society. Market dynamics, strengths and weaknesses, opportunities and threats as well as future prospects for the mobile search domain were the focus of the workshop discussion, structured around keynote speeches, by invited experts. Representatives from the Telco Industry as well as from the Search Engine segment participated to this event together with user experts, academics and market analysts. For more details and all the presentation see the [Mobile Search Workshop webpage](#). Contact: [Stavri.Nikolov@ec.europa.eu](mailto:Stavri.Nikolov@ec.europa.eu)
- ⇒ **1-2 June: Validation workshop on Creative Learning & Innovative Teaching (IPTS, Seville)**  
The aim of the workshop was to validate the different phases of the study on Creativity and Innovation in Education in EU Member States and to disseminate preliminary results. The workshop agenda as well as all presentations can be found on the [ICEAC project page](#). Contact: [Anusca.Ferrari@ec.europa.eu](mailto:Anusca.Ferrari@ec.europa.eu) & [Romina.Cachia@ec.europa.eu](mailto:Romina.Cachia@ec.europa.eu)
- ⇒ **27-28 May: Workshop on "The Output of R&D Activities: Harnessing the Power of Patents Data - II" (IPTS, Seville)**  
The workshop was attended by experts from public policy bodies such as EPO and OECD and from academia, both from inside and outside the EU, to discuss the production of patent data and its contribution to the analysis of the innovation and R&D activities in their international dimension. More on the [Patents webpage](#). Contact: [Giuditta.De-Prato@ec.europa.eu](mailto:Giuditta.De-Prato@ec.europa.eu)
- ⇒ **9-11 May: 2nd Congress on the Modernization of Public Services (Granada, Spain)**  
The congress featured conferences, roundtable discussions, panels of experts and presentations relating to new service models and increasing participation by and for the citizens; aiming at making bureaucratic tasks simpler and more efficient; managing personnel and infrastructure; and a special focus was on e-Government as well as cooperation between different governance stakeholders, enabled by ICTs. IPTS participated with a presentation on "The future of public services, an European policy-research perspective", presenting the main findings of its reports on the impact on Social Computing and Public Services 2.0, as well as IPTS activities on e-Governance. More information on the [conference website](#). Contact: [Gianluca.Misuraca@ec.europa.eu](mailto:Gianluca.Misuraca@ec.europa.eu)
- ⇒ **29 April: Validation workshop on "Assessing economic impact of Emerging Robot Technologies and competitiveness of the EU ICT industry" (Brussels, Belgium)**  
The workshop discussed the results of a study on "Competitiveness in Emerging Robot Technologies" and placed particular attention on two areas of robot technologies: robotics for the SME market and robotics safety. The purpose was to assess Europe's future competitive position in selected emerging robot technologies and to discuss how EU policy could support in strengthening that position. More information on the [robotics webpage](#). Contact: [Paul.Desruelle@ec.europa.eu](mailto:Paul.Desruelle@ec.europa.eu)
- ⇒ **28 April: International expert workshop on "Assessing the economic competitiveness of the European Automotive Embedded Software industry" (Brussels, Belgium)**  
The workshop discussed the results of a study on the "Competitiveness of the European Automotive Embedded Software industry" and had the purpose to assess Europe's future competitive position in selected emerging Automotive Embedded Software technologies, as well as to discuss how EU policy could support in strengthening that position. More information on the [automotive webpage](#). Contact: [Marc.Bogdanowicz@ec.europa.eu](mailto:Marc.Bogdanowicz@ec.europa.eu)

## Upcoming events

Date	Place	Title	Contact*
23 November 2010	Brussels	ePractice workshop "Understanding the role of ICT in the integration of Immigrant and Ethnic Minorities (IEM)"	<a href="mailto:Gabriel.Rissola@ec.europa.eu">Gabriel Rissola</a>
23 November 2010	Brussels	2010 Paradiso Workshop on "Understanding the interaction between Internet and societal developments" Session on Visions of the future of our societies	<a href="mailto:Yves.Punie@ec.europa.eu">Yves Punie</a>
25-26 November 2010	Brussels	Design and Learning Conference: Session on Addressing the digital learning challenge	<a href="mailto:Yves.Punie@ec.europa.eu">Yves Punie</a>
25-26 November 2010	Brussels	Media and Learning Conference: Session on the future of learning	<a href="mailto:Yves.Punie@ec.europa.eu">Yves Punie</a>
1-2 December 2010	Brussels	The Paradoxes of ICTs and Social Inclusion: Do ICTs increase Opportunities for Young People at Risk?	<a href="mailto:Esteve.Sanz@ec.europa.eu">Esteve Sanz</a>
15-16 December 2010	Brussels	'Lift Off Towards Open Government' Conference	<a href="mailto:Gianluca.Misuraca@ec.europa.eu">Gianluca Misuraca</a>
31 January 2011	Brussels	Expert Workshop: EXPGOV	<a href="mailto:Gianluca.Misuraca@ec.europa.eu">Gianluca Misuraca</a>
16-17 February 2011	Brussels	ICT Industry R&D trends in Asia – Asian challenges – European Options	<a href="mailto:Jean-Paul.Simon@ec.europa.eu">Jean-Paul Simon</a>

\* E-mail addresses are formed as follows: name.surname@ec.europa.eu

For more and updated information on our upcoming & past events, please have a look at the [Events section of the IS website](#).

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