Newsletter - *Calibrated for Creative Communications*

Vol. 10, no. 4, Winter 2012/13

Frosty Bytes

Mind the frosty bites outside - keep at Starbus to be warm and happy with 2012!

This last issue of the Newsletter might give you an impression of what we have in mind: it contains two articles on

* IOI-2012, and
* CESE ICT priorities to match DAE

which are retrospective of IT STAR's activities and foresight.

There is also the contribution of IPTS, providing further assurance that this EC Institute in Seville and IT STAR are in for the long haul.

Please take note of the announcement and call for contribution on p. 5 as we hope you will support us in making the 7th IT STAR WS on eBusiness in Bari next year a great success.

Thank you for being with us and all best wishes for the Holidays and 2013!

The Editor

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Ex officio: IT STAR MS representatives (see page 1)

EDITORIAL POLICY

This Newsletter maintains a world-class standard in providing researched material on ICT and Information Society activities from the perspective of Central, Eastern and Southern Europe (CESE) within a global context. It facilitates the information and communication flow within the region and internationally by supporting a recognized platform and networking media and thus enhancing the visibility and activities of the IT STAR Association.

The stakeholders whose interests this newspaper is addressing are

- IT STAR member societies and members
- ICT professionals, practitioners and institutions across the broad range of activities related to ICTs in government, business, academia and the public sector in general
- International organizations

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Special arrangements for the production and circulation of the Newsletter could be negotiated.

The newsletter is circulated to leading CESE ICT societies and professionals, as well as to other societies and IT professionals internationally. Everyone interested in CESE developments and working in the ICT field is welcome to contribute with original material. Proposals for articles and material for the Newsletter should be sent two months before the publication date to info@starbus.org.

IOI 2012

One of the topics that was continuously revisited this year was the International Olympiad in Informatics and its 24th edition, held from 23 to 30 September 2012 in Sirmione – Montichiari, Lombardi, Italy.

For AICA and IT STAR the organization of the IOI is memorable: AICA, along with the Italian Ministry of Education and its Regional Educational Office for Lombardy, was organizer of this world-class event while IT STAR assisted in conducting the AICA-IT STAR Survey on Young Talent in Informatics, which was prepared for the International Conference on Young Talents and the Digital Future, held on 26 September in Milan in conjunction with the IOI.

The games are over, the results are known and the focus will now shift to the next 25th IOI, 6 – 13 July 2013, at the University of Queensland's campus in Brisbane, Australia.

Yet, we thought a final word is in order before the page is turned, and we invited AICA's CEO to share some IOI reflections – the Editor.

24th International Olympiad in Informatics – Some Reflections

Giulio Occhini

Dr. Occhini is AICA's Chief Executive Officer. He has graduated in physics and has held various academic and industry research-oriented positions. He was President of CEPIS in the mid-90s during a period that was crucial for introducing the European Computer Driving License (ECDL) on a pan-European scale. Giulio has held leading positions in AICA including National President and Chairman of the Board. He served as IT STAR Coordinator for the period 2006-2010.

There are three dimensions of the 24th IOI in Italy that come to mind:

The first relates to Organization. The IOI is a major event requiring serious preparations and logistics with the involvement of hundreds of volunteers and professionals on the part of the hosts. As to the international participation, the statistics show that for IOI'2012 there were 86 delegations, 320 students, 87 visitors, 82 delegation leaders, 77 deputies, and 11 observers. It was a predominantly male competition with only 5 girls officially enrolled as competitors. The competition is an extended process of preparations - calls and selection of tasks, site inspections, the Contest management system (we are proud that a professor of the University of Pisa is among its creators) and many other organizing elements requiring determination from the IOI committee members and hosts.

The second dimension has to do with Talent and Achievement, and there are 2 aspects to it:

- Excellence of the competitors, and
- Learning experience

The competitors are some of the brightest young programmers in their respective countries with an excellent grasp of algorithms and mathematics. 26 gold, 52 silver and 77 bronze medals were awarded in Italy. Many of the champions will soon head towards leading universities around the world, with stipends and scholarships such as the ones that were offered at the closing of the 24th IOI by the Swiss Italian University, Milan Polytechnic and Milan State University. Many of the competitors will continue as leaders of the Knowledge Economy in their respective countries. It is important to note that their success in programming and in the IOI competitions was hardly incidental – it is certainly based on talent, guided by experience, tradition and dedication on the part of the competitors, their mentors and sup-

porting organizations.

As to the learning experience aspect, I am very pleased to report that AICA and IT STAR were able to successfully conduct in time for the 24th IOI a unique survey on Young Talent in Informatics based on the experience of six European countries – Bulgaria, Croatia, Latvia, Poland, Romania and Slovakia – with remarkable results in recognizing, assisting and growing talented youngsters in the process of competitions within the format of the International Olympiad in Informatics. It includes the views and perspectives of leaders of national bodies and IOI teams, academics, teachers, trainers, former and current contestants.

The Survey [now also available online at http://publications.starbus.org/ and http://www.aicanet.it/eventicontestuali/allegati-eventi-2012/IOI_Survey-final.pdf] identifies common features, which have contributed to their success, including tradition in organizing and participating in informatics-related competitions, strong emphasis on mathematics, extra-curricular activities and individual training, early start in training and competing, dedicated and motivated individuals and organizations. The many-sided perspectives are of attention to the IOI community, with wider implications within education and beyond. The findings provide a platform for further consideration by a broader circle of educationalists, researchers, decision-makers, public and private organizations in Europe and worldwide.

In this vein, I recall the words of Francesco Profumo, Italian Minister of Education and Research that "… *IOI is important not only for our country, but for the entire international community of young students involved in the ICT field" and that "… the Italian academic sector is undergoing strong renovations, with a focus on implementing new technologies for both organization and communication as well as content management. Certainly this event will be further motivation to accelerate the entire process."*

The Survey was at the heart of the International Conference *Young Talents and the Digital Future*, organized on 26 September in Milan – starting with its findings and continuing with a stimulating debate on how best to nurture and develop young talents in informatics.

The 3rd dimension is Culture. I don't think I have to convince anyone that hosting for a week hundreds of teenagers from all corners of the World is challenging. I dare say that Lombardy and the Garda Region provided an attractive cultural setting, which was enriched by the competitors and their trainers with flavors of their countries making IOI'2012 an unforgettable experience.

Prof. Blagovest Sendov, IOI initiator and creator of the competition, was a distinguished speaker at the Young Talents conference in Milan. When asked about the original impulse for proposing such a competition 25 years ago he said, "Opening Doors". How right he was! ■

Ranking

Johnny Ho (USA) came first with a full score of 600 points.

Chinese and Russian competitors won 4 gold medals respectively, followed by Romanian and US competitors, with 3 gold medals each for their countries. Competitors from Belarus and Iran were awarded 2 gold medals, respectively.

As expected, the IOI teams of the countries included in the IT STAR Survey on Young Talent in Informatics did well in the Competition – competitors from Poland, Slovakia, Croatia and Bulgaria were among the Gold winners.

26 gold, 52 silver and 77 bronze medals were awarded – The full list is at http://www.ioi2012.org/the-official-ranking/. ■

[*Source of photos in this article - www.ioi2012.org*]

7th IT STAR WS on Electronic Business

3 & 4 May 2013, Bari, Italy

Announcement & Call for Papers

Announcement & Call for Papers

7th IT STAR Workshop on ELECTRONIC BUSINESS II

We are pleased to announce that the 7th IT STAR workshop will be held on the 3rd (Friday – full day) and 4th (Saturday – morning) of May 2013 at the Oriente Hotel – www.hotelorientebari.it in Bari, Italy

Hosts & Co-sponsors

AICA	**Associazione Italiana per l'Informatica ed il Calcolo Automatico**
	Politecnico di Bari

Topics & Program Outline

The event will provide a forum to 60-85 representatives of academia, government, business and professional organizations to debate the state, problems and challenges within such topical areas as *innovation in business processes, maximizing the impact of e-Business in periods of crisis, legal framework and security issues, e-Signature, e-Identity, e-Invoicing, e-Procurement, skills for eBusiness, technological interoperability networked economy, obstacles, and other*.

These will be addressed within 3 thematic sessions on:
National Strategies and State-of-Play (incl. legislation, challenges, international cooperation and other)
Reengineering the Enterprise (Corporate strategies, new products and channels, key research topics and other)
Skills for eBusiness (incl. education and university related courses, eLeadership and eSkills).

Papers & Publication

The post-conference proceedings will be published within the IT STAR series.

Key Dates for papers and presentations:

Deadline for extended abstracts – **1 February 2013**
Based on the extended abstracts, 2 types of presentations will be solicited:

- Maximum 16 paper presentations during 3 May
- Poster Session, with short presentations during the morning of 4 May

Notification of acceptance – **20 February 2013** with concrete instructions concerning scheduling, format and preparation of full papers.

The deadline for submission of full papers and ppt presentations is **10 April**.

www.starbus.org/ws7

Contacts & Website

Please send your expressions of interest and extended abstracts to P. Nedkov <nedkov@utanet.at>
Conference information will be regularly updated and posted at www.starbus.org/ws7

Digital Agenda Fact-sheet

The Digital Agenda for Europe (DAE) is one of the "flagship" initiatives within the Europe 2020 strategy to fast-track Europe's economy by a more profound and efficient use of digital technologies.

ICTs are a critical factor in future growth and the ICT sector contributes to 5% of European GDP and to a great share of EU productivity. They remain a critical factor in future growth.

DAE contains 101 actions, grouped in seven priority areas:

- Digital Single Market
- Interoperability and Standards
- Internet Trust and Security
- Faster Internet Access
- Investment in R&D
- Digital literacy, Skills and Inclusion
- Applying ICT to address challenges facing society

13 specific goals are outlined:

- The entire EU to be covered by broadband by 2013.
- The entire EU to be covered by broadband above 30% by 2020
- 50% of the EU to subscribe to broadband above 100 Mbps by 2020
- 50% of the population to buy online by 2015
- 20% of the population to buy online cross-border by 2015
- 33% of SMEs to make online sales by 2015
- The difference between roaming and national tariffs to approach zero by 2015
- To increase regular Internet usage from 60% to 75% by 2015, and from 41% to 60% among disadvantaged people.
- To halve the proportion of the population that has never used the internet from 30% to 15% by 2015
- 50% of citizens to use eGovernment by 2015, with more than half returning completed forms
- All key cross-border public services, to be agreed by Member States in 2011, to be available online by 2015
- To double public investment in ICT R&D to € 11 bn by 2020
- To reduce energy use of lighting by 20% by 2020

Progress is measured in the annual **Digital Agenda Scoreboard** of EU member states (see http://ec.europa.eu/digital-agenda/node/637). ■

Match IT

ICT Priorities of Professional Associations in the IT STAR Region

Plamen Nedkov, with contributions from Balint Domolki, Branislav Rovan, Fulvia Sala, Marek Holynski, Niko Schlamberger and Saulius Maskeliunas

In October 2012, the IT STAR Newsletter initiated a survey on priority areas in Informatics for national and international activities and cooperation in the immediate future.

To this end, we invited IT STAR's member societies to submit 3 concretely defined topics (areas) in order of priority, as they have been considered and probably formulated for action by the respective organizations, along with a short annotation in support of each topic. The intention was to prepare a report for the Winter 2012/2013 issue of the NL with the purpose to have some guidelines for activities within our Region and Europe.

In parallel, we wished to review IT STAR's activities and events that are indicative of the interest of our member societies, and also to invite EC representatives working on information society issues to contribute with short articles to match the findings of the survey with ICT priorities as seen from Brussels, so as to identify overlaps and areas for deeper involvement in EU programs.

It turned to be a busy time for the EC (though we have assurances that such articles will come for a future NL issue); instead, we prepared a Fact-sheet for the **DAE** (*see left column).*

1. IT STAR Activities as Priority Indicators

The Association's basic aims are to promote ICT and its applications in Central, Eastern and Southern Europe, to encourage activities in education, research, development and application of ICT, to disseminate information and results internationally, and to advance regional and international cooperation.

To this end, it carries out a variety of activities, including consultations and studies, conferences, publications and other. An analysis of these identifies three clusters of priorities:

Information Society Status and Development in CESE

Activities here include the Joint IT STAR – FISTERA Workshop on ICT and the Eastern European Dimension, the 3rd WS on National Information Society Experiences (NISE 08), publications and statements coming from these events as well as other publications such as *Current State of Informatics in CESE: The IT STAR Experience* (UPGRADE, Vol. X, issue no. 4, Aug 2009).

ICT Education, Skills and Digital Literacy

Activities include the 2nd IT STAR WS on Universities and the ICT Industry, the 4th on Skills Education and Certification, publications and statements, as well as the latest AICA - IT STAR Survey on *Young Talent in Informatics.*

ICT Research, Applications and Security

The 1st IT STAR WS was on R&D in ICT, followed by the IPTS - IT STAR Conference on R&D in EEMS, in 2011. The topics of Electronic Business appear to be of priority importance to IT STAR's community with the 5th eBusiness WS held in Zagreb and the 7th WS scheduled for Bari, Italy in 2013 (*see p. 5)*. Digital Security was the theme of this year's WS in Bratislava.

In addition to these, IT STAR has been active in a medley of other areas including history of computing (*articles published in IT STAR NL*) and an event in this field is scheduled for 2014 in Hungary.

All these activities are well documented, and detailed information is available at www.itstar.eu.

2. Priorities: Reponses of Member Societies

The Association's membership is composed of leading national professional societies in the ICT field. Their objectives are very similar though the focus of their activities might differ – most are powerfully engaged in issues related to Digital competences and skills, some are strongly oriented towards research while others concentrate on "downstream" activities.

Six societies responded to our invitation and another three wrote saying that due to ongoing elections (or ongoing debate related to priorities) they are not currently in a position to take part.

We are grateful for the following input:

JvNCS-Hungary

Digital equal Opportunities

Fighting all aspects of the digital gap is in the center of the activities of JvNCS. Advancing digital literacy is one of the main tools here, including_more than 430.000 candidates for ECDL and supporting people with disadvantages (blind, deaf, old, children with cancer, etc) and also special courses for the first steps in the information society. Since 2006, the most successful yearly conferences of JvNCS are devoted to this topic.

Young Talent Promotion

National competitions with more than 10.000 students are organized regularly, special courses held for selected participants of international competitions, Olympiads hosted in Hungary (latest CEOI 2012 in Tata), participating in the establishing of new initiatives.

History of Computing

The Computer History Museum, being one of the largest collections of old computing equipment in Europe, opens on 13 December 2012 in Szeged, presenting several unique memorabilia from the life of John von Neumann. A special interest group of JvNCS is devoted to the History of Informatics, regularly organizing events and producing publications on the history of computing in Hungary.

Apart from activities in the priority areas described above, the main task of JvNCS is to participate in the development of IT professionalism in different areas, with the help of our 21 professional and 14 regional sub-organizations.

AICA-Italy

Digital School

In Italy, the government is paying attention to the use of ICT in schools and is providing many schools with IWB and tablets for students. A main objective is to develop competences of students and teachers in every level of schools: starting out in primary schools and then continuing up to high schools.

Specialized Digital Skills

Due to the widespread usage of ICT it's fundamental to monitor and improve the digital skills and competences of persons working in different sectors: i.e. health sector, law offices, media and communication sectors.

Mobile Technologies

It's more and more important to exploit new devices and collaborative tools to provide skills and competences and to build up educational material.

LIKS-Lithuania

Teaching Informatics, Informatics Teacher Education

Pupils in primary and secondary schools, students in Universities should get deeper understanding of computers and computing, it should be shown that Informatics is interesting and an essential science. Many countries have started to develop Informatics programs, for example the UK have been preparing reports and other documents (www.computingatschool.org.uk).

E-Security

It is crucial to ensure the confidentiality, integrity and availability of electronic information, and protecting it against malicious attackers who could use or alter the information to disrupt critical national infrastructures and industries.

Mobile technologies: how they impact and transform society

More and more people are using mobile technologies:
-How can we use them to make a better society?
-What kind of new technologies are in the pipeline?

PIPS-Poland

PIPS is actively involved in the following national projects and priorities:

Electronic Platform of Public Administration Services (ePUAP)

ePUAP is a single, secure and electronic access channel to public services for citizens, businesses and public administration. The base project was carried out in the years 2005 – 2008, currently its continuation ePUAP2 focuses on increase of the online services available to the public including the registry services and widening the scale of their usage.

"Digital School"

This is a large scale government program to develop competences of students and teachers in the use of ICT, being carried out from April 2012 to August 2013 in schools throughout the country. They receive funding for the purchase of computers and modern multimedia equipment.

Nationwide Health Care System

Using electronic Patient Health Card with mobile access to the information about diagnosis, prescriptions and referrals sent to patient's account directly by doctor or pharmacist. The National Health Fund is currently implementing it.

SSCS-Slovakia

The priorities for Slovakia are being formulated at the moment and the President of the Slovak Society for Computer Science (SSCS) chairs the Board for the ICT priority, one of the six research and development priorities for Slovakia for the period up to 2020.

SSCS is not seeking active participation in projects but is active in several areas and takes part in relevant committees at various ministries. These include:

- **Informatics education and competitions**,
- **Standards for eGovernment, and**
- **Information Security.**

Besides, SSCS is active in the ECDL certification.

SSI-Slovenia

The priorities as identified by Slovenian Society INFORMATIKA relate to areas that are loosely connected; however, they fit together in a broader picture of SSI assisting the country and the government, in particular to overcome the unfortunate situation in which they are at the present. Most SSI attention is presently devoted to the following areas:

Providing Value to the Constituency

The SSI General Assembly 2012 required of the SSI Board to provide a mechanism that will help bring together the members, at the same time offering them a value that they might use in their everyday activities and work. The answer has been found in starting a series of one-day events that would be available to the members at no charge. The first such event – *Return on Investment in IT* has taken place on November 27, 2012, in the premises of the Chamber of Economy of Slovenia that has shown interest in the activity and has helped SSI in organizing the event. A series of eight further topics has been already identified and adopted by the SSI Board.

Increasing Digital Literacy

The issue is not new but is far from being exhausted. SSI is the ECDL licence holder for the Republic of Slovenia and has succeeded in introducing it in the country but compared to the neighbouring countries there is still much room for development. The bottom line is of course competitiveness in the labour market and social inclusion but there is much more to it. A recent public announcement by the ECDL Foundation shows that because of poor IT skills some countries' economies suffer losses of income of the order of magnitude of billions of euro. One consequence of this is a reduced income of the country budget. SSI has started two initiatives to help overcome the situation in Slovenia. First is to intensify promotion and marketing of ECDL by deploying a company that is willing to engage under partner terms. The other is a start of an initiative together with the CoEoS and the Union of Societies of Retired Persons of Slovenia to establish a body – Forum IKT 50+ with the aim to increase digital skills of the population that is not labour-active any more but is motivated to do so, at the same time to utilize the IT expertise and knowledge of retired persons to be of assistance in the process.

IT in Public Sector

The importance of IT in providing public services is recognized and accepted. However, the underlying technology must be managed and controlled in an appropriate manner for the public authorities to be able to deliver the expected services consistently and in an uninterrupted way. One government department has started to prepare a strategy to this effect and SSI is willing to offer its knowledge and expertise to help produce a document that will show the way for the future of hopefully more than one mandate of the government. Further to that, the Digital Agenda for Europe 2020 has outlined homework to EU Member States

that are quantified and measurable. There is also sufficient EU finance foreseen to support the efforts of those that will come forward in the process with suitable and acceptable projects. The idea that SSI has launched is to bring together high-ranking public servants that are in charge of IT in their departments and to provide a forum to formulate initiatives. The conference will take place on December 19, 2012 and over 200 participants are expected, also those coming from the IT industry.

3. IT STAR and the EC Connection

Two IT STAR events enjoyed the input and contributions from EC DG INFSO (now CONNECT) and DG Enterprise and Industry. Another two were joint activities with IPTS, JRC – EC. There's a record of other cooperation.

As an association representing national professional ICT organizations in 13 EU member states (counting Croatia on the threshold) + 2 other states in the pipeline. IT STAR offers a playground for contacts, expertise and cooperation at the professional level, especially in identifying and matching achievement at world level in informatics.

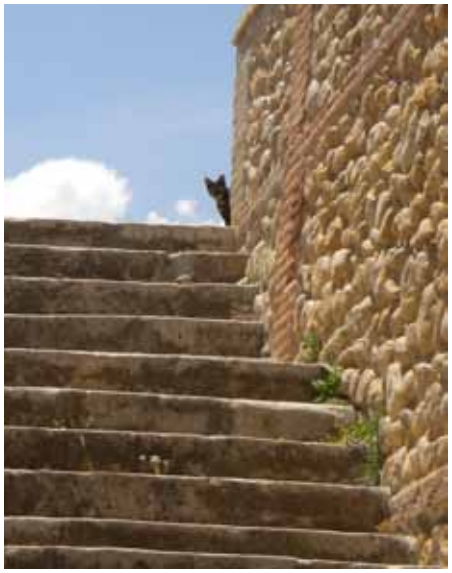
In late 2004 on the occasion of the Joint IT STAR -FISTERA WS, two of the contributors to this article were interviewed about their recommendations to the EC.

Here is what they said:

Balint Domolki: *"Countries of the CEE region have in many senses similar situations and problems as in the rest of Europe. They might be somewhat less developed and may have problems which are already solved in more advanced countries, but in some cases may show specific, interesting approaches and solutions. Therefore, an exchange of experiences in the development of information societies might be useful not only between the CEE countries (as it was in Prague) but between this region and the EU - 15 as well. Such an event could bring together national policy makers of the different countries in order to discuss best practices (and also pitfalls) in building the information society.*

An important feature of the Prague Workshop was that issues of the Information Society were discussed with the participation of representatives of civil organizations (professional societies, chambers of commerce, etc.) These organizations may bring a specific insight into the picture, sometimes different from the official opinions of government representatives. It might be recommended to the European Commission to rely to a greater extent on such organizations, by involving national computer/informatics societies (and their regional association: IT STAR) into European activities about the Information Society".

Niko Schlamberger: *"Traditionally, people from Central and East European (CEE) countries have a good educational basis to build upon. In terms of economical development CEE countries are below the average of EU countries. Propulsive industries are not the same for all but rather depend on the stage of development. Information technologies are propulsive for developed countries but related services are available to all. In this respect it is good that the internal EU borders are fading away as, even not so long ago, in terms of ICT they were functioning as a semi-permeable membrane, letting commodities into CEE countries but allowing a next to negligible reverse flow. If the intentions of the Commission of the European Communities are sincere, and there is no ground to think otherwise, it should establish conditions, under which an intensive reverse flow of ICT related knowledge and services from CEE into traditional EU countries could take place, thus creating a possibility for their relatively faster development".* ■



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MultiCulti

Advent in Baden

Dorothy Hayden

Advent is a Western Christmas practice during a time of expectations for the nativity of Jesus, starting four Sundays before Christmas.

It's about the cultural aspect of it that I write here, based on tradition in Baden.

Baden is a Biedermeier town of some 30,000 located 26 km south of Vienna, connected by tram to the Viennese Opera and 20+ min away from Vienna by train, bus or car. It boasts the biggest Casino in Europe, has wonderful spa facilities and a great Rose Garden and Kurpark at the foothills of the Wienerwald.

So what is it about Advent here?

Let's take the view of the hundreds of visitors that come by coach daily:

The festively decorated and illuminated streets and shop windows within Baden's pedestrian zone and inner city are impressive. The "Badener Adventmile" offers a traditional handwork weekend, followed by the candle-day with public lighting turned off between 4 and 7 pm and replaced by candles and lanterns. A pagan custom is revived with the "Perchtenlauf" – scarily disguised men with masks, furs, horns and other devilish attributes roam the streets to chase away evil ghosts.

There are also numerous events such as the gospel classics, concerts and readings for adults and children.

The best part of it, however, is getting around the "punsch" hut on a Saturday evening in the company of strangers and friends for a "gluewein and chestnuts" with a tall story and a joke to go along. ■

Source: http://advent.baden-bei-wien.at/

An Analysis of ICT R&D in the EU and Beyond

Paul Desruelle & Juraj Stancik

***Paul Desruelle** is a senior scientific officer in the IS Unit and coordinates the activities of the team in charge of producing the annual "PREDICT" report on research and development (R&D) in information and communication technologies (ICT) in the European Union. The PREDICT report, jointly published by JRC-IPTS and by the Information Society and Media Directorate General, provides an analysis of EU R&D investments and performance in the ICT sector and benchmarks them at world level.*

Prior to joining the IS Unit in 2008, Paul worked for several years in the IPTS Knowledge for Growth Unit. Before joining IPTS, he worked at the European Commission in Brussels, first as a project officer for the ESPRIT and then for the Information Society Technologies R&D programs. Paul is an engineer, with degrees obtained in France and at the University of Wisconsin-Madison, U.S.A. (M.S. and Ph.D.).

***Juraj Stancik** joined IPTS in June 2010 to work on the International Digital Economy Analysis project. He carries out research on the ICT industry, ICT R&D expenditures and employment, ICT-enabled innovation, ICT economic impacts and the contribution ICT could make to the transformation of the EU economy in the future.*

Juraj has a Ph.D. in Economics from the Center for Economic Research and Graduate Education in Prague. He spent 5 months in the Economic and Financial Studies division of the European Investment Bank as a research intern. In 2007, he was a visiting scholar at the School of Arts and Sciences of the University of Pennsylvania. Juraj also holds a M.Sc. in Mathematics of Economy and Finance from Comenius University in Bratislava. His areas of interest cover international economics and econometrics.

The ICT sector

The ICT sector is composed of the following sub-sectors:

ICT manufacturing

- 261 Manufacture of electronic components and boards
- 262 Manufacture of computers and peripheral equipment
- 263 Manufacture of communication equipment
- 264 Manufacture of consumer electronics
- 268 Manufacture of magnetic and optical media

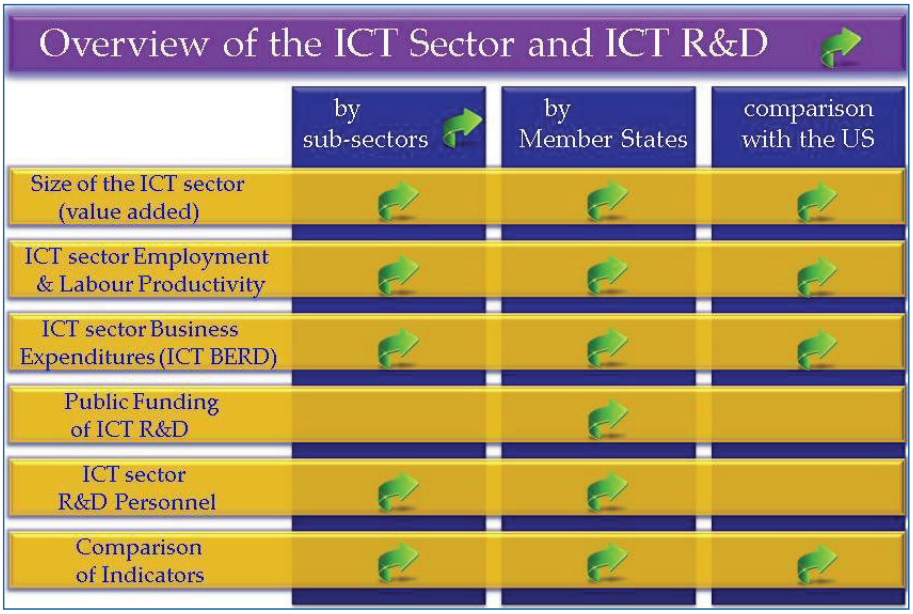
ICT services

- 4651 Wholesale of computers, computer peripheral equipment and software
- 4652 Wholesale of electronic and telecommunications equipment and parts
- 5820 Software publishing
- 61 Telecommunications
- 62 Computer programming, consultancy and related activities
- 631 Data processing, hosting and related activities; web portals
- 951 Repair of computers and communication equipment

The JRC-IPTS has just published its 2012 PREDICT report (*Prospective Insights on R&D in ICT*)[1]. It provides a detailed quantitative analysis of the state of the Information and Communication Technologies (ICT) sector and its Research and Development (R&D) in the European Union and beyond.

This is the fifth in a series of reports, which are published annually, and it is the first web-based edition (see Figure 1). Like the previous reports, this one is based on the latest data available from official sources such as EUROSTAT and OECD. This year the analysis therefore covers the years 2008 and 2009, a period marked by a deep financial and economic crisis. The analysis provides first an overview of the importance of the EU ICT sector and its R&D. It then gives detailed information by ICT manufacturing and services sub-sector and by EU Member State, and in comparison with the USA.

Figure 1: Image of the report's interactive menu



The interactive report is available at http://is.jrc.ec.europa.eu/pages/ISG/PREDICT/2da/index.html

1 PREDICT is being run by JRC-IPTS, one of the 7 European Research Institutes of the European Commission, for the Directorate General for Communications Networks, Content and Technology (DG CONNECT) of the European Commission and provides indicators for the Digital Agenda for Europe.

The main observations made in this year's report are the following:

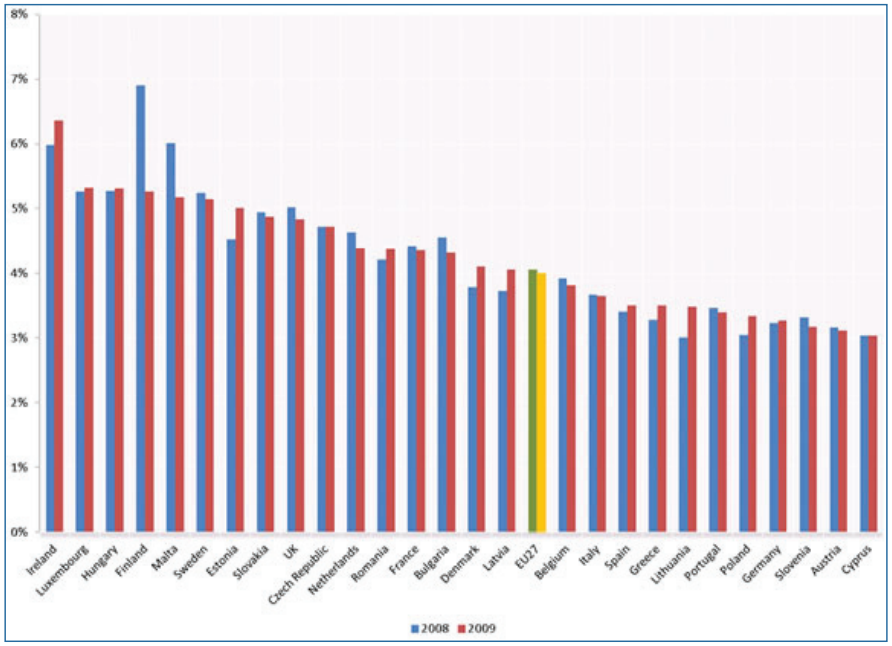
- The importance for the EU economy of the ICT sector as a whole, and of ICT services in particular
- The importance of R&D investments in the ICT sector
- The resilience of ICT services in times of crisis
- The important contribution of the largest EU economies to the performance of the EU ICT sector and the leadership of Nordic countries in terms of ICT R&D intensity
- The clear leadership of the US versus the EU

The importance for the EU economy of the ICT sector as a whole, and of ICT services in particular

In 2009, the EU ICT sector represented 4.0% of EU GDP, a share that has remained stable over the last few years. It employed 6.1 million people, or 2.7% of total EU employment. It is characterised by the predominance of services over manufacturing. In 2009, more than 90% of the Value Added produced by the ICT sector was produced in ICT services, which employed 5.1 million people, or 85% of the ICT sector workforce.

When looking closer at ICT service sub-sectors in 2009, *Telecommunications and Computer programming, consultancy and related activities* together represented almost 75% of the total Value Added produced by the EU ICT sector (respectively 38% and 35%).

Share of ICT VA in GDP by Member State (2008-2009)

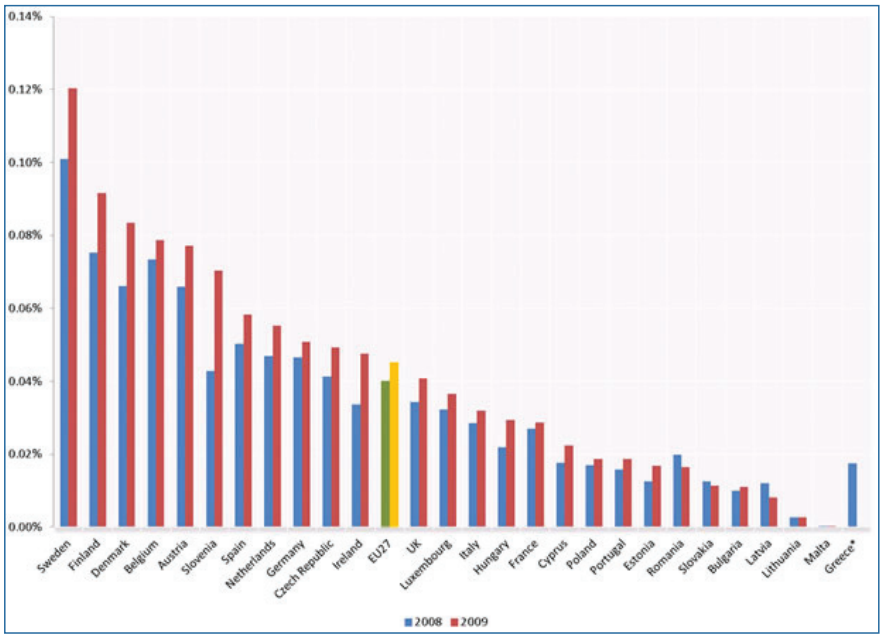


Source: Eurostat, elaborated by Ivie and JRC-IPTS

The importance of R&D investments in the ICT sector

The ICT sector is one of the most research-intensive sectors in the EU economy. With a ratio of 5.3% in 2009, the R&D intensity of the ICT sector was more than four times the average ratio of 1.2% in the EU economy (R&D intensity measured by the ratio of R&D expenditures in Value Added.). Estimated public ICT R&D funding in the EU in 2009 amounted to € 5.3 billion, which represented almost 6% of total EU public funding of R&D. The ICT sector is therefore a key contributor to the EU's aim to reach the target of 3% of GDP invested in R&D by 2020.

Share of Public Funding of ICT R&D in GDP by Member State (2008, 2009)



Source: JRC-IPTS estimations (based on Stancík 2012). Note: Data for Greece in 2009 are not available.

In 2009, ICT BERD was almost equally divided between ICT manufacturing (€ 11.3 billion) and ICT services (€ 13.7 billion). In 2009, ICT manufacturing was on average almost ten times more research-intensive than ICT services. When looking at individual ICT sub-sectors, the Computer programming, consultancy and related activities service sub-sector was however the most important in the EU in terms of the amount of ICT BERD. It overtook in 2009 Manufacturing of communication equipment (the most important ICT sub-sector in 2008). Telecommunications and Manufacturing of electronic components and boards followed.

The resilience of ICT services in times of crisis

From 2008 to 2009, ICT sector Value Added decreased by 7.0%, the result of a decrease of 30% in ICT manufacturing and of –only– 4% in ICT services. ICT sector employment decreased by 3% - in real terms, 183 000 people - therefore less than Value Added. The decrease in employment was also higher in ICT manufacturing than in ICT services.

ICT BERD decreased by a similar percentage to Value Added: 7.4%, the result of a decrease of 17% in ICT manufacturing combined with a slight increase in ICT services (2.2%). The hardest-hit manufacturing sub-sector was *Manufacturing of communication equipment*, while the increase of ICT BERD in services was mostly in the *Computer programming, consultancy and related activities* sub-sector. Similarly, while employment of R&D personnel decreased by 13% in ICT manufacturing (from 107 000 in 2008 to 93 000 in 2009), this decrease was partly offset by an 8% increase in ICT Services (from 177 000 in 2008 to 192 000 in 2009), resulting in a stable R&D employment figure for the ICT sector as a whole.

The important contribution of the largest EU economies to the performance of the EU ICT sector and the leadership of Nordic countries in terms of ICT R&D intensity

Mainly because of the size of their economies, Germany, France, the United Kingdom and Italy (the four largest economies in the EU) lead on all main figures: ICT Value Added, ICT employment, ICT R&D expenditures (both private investment and public funding) and ICT R&D personnel.

Nordic countries kept their lead in ICT BERD intensity: in 2009, Finland, Sweden and Denmark had the highest levels (ICT BERD/ICT Value Added) as well as the highest shares in GDP of public funding of ICT R&D. Finland and Sweden also had the highest shares of ICT R&D personnel in ICT employment. But in spite of the ICT specialization of their economy, the contributions made by these countries to total EU ICT sector value added and employment are rather low because of the relatively small size of their economies.

In 2009, the twelve newer EU Member States employed together a rather high percentage of the EU ICT sector workforce (16%), but produced only 8% of total EU ICT Value Added. Their combined investment in ICT R&D remained low (4% of total public funding of ICT R&D in the EU and 2% of total private ICT investment in the EU) and they employed only 6% of the total EU ICT R&D personnel. Of the newer Member States, Poland, the Czech Republic, Hungary and Romania are leaders for most of the analyzed ICT indicators.

The clear leadership of the US versus the EU

When comparing performance of the EU and US ICT sectors, the US clearly leads on all figures (this comparison with the US excludes — for both regions — the Trade and Repair sub-sectors for which US data is not available).

In 2009, the US ICT sector's Value Added was higher than the EU ICT sector's Value Added by 22% and, while the total ICT Value Added decreased in the EU, it increased in the US in both ICT manufacturing and ICT services in spite of the crisis. In 2009, US ICT manufacturing Value Added was therefore more than twice that of the EU. The US ICT sub-sectors *Manufacture of electronic components and boards and Manufacture of computers and peripheral equipment* produced respectively four times and five times the Value Added produced by those sectors in the EU. Even Value Added of *Manufacture of communication equipment,* the most important ICT manufacturing sub-sector in the EU, was 20% larger in the US.

The US ICT sector labor productivity lead is clear in all ICT sub-sectors. Although it produces more Value Added, the US ICT sector employs considerably fewer people than the EU. In 2009, over 3.4 million people worked in the ICT sector in the US, compared with 5.3 million in the EU. On average, in 2009, US ICT labor productivity was twice that of the EU and was higher than in any individual EU Member State.

In 2009, US ICT BERD amounted to 2.5 times the EU figure, having increased slightly from 2008 to 2009. This increase originated in the manufacturing sub-sectors. The largest US lead in ICT BERD was in Software publishing, and in Manufacture of electronic components and boards. US ICT BERD increased slightly from 2008 to 2009 mostly in the manufacturing sub-sectors.

Finally, US ICT BERD intensity (measured by the ratio of ICT BERD in ICT Value Added) is more than twice the EU figure (12.3% vs. 5.89% in 2009). This is partly due to the higher weight of manufacturing in the US ICT Sector (18% vs. 9%), but also to higher R&D intensity in both ICT manufacturing and services.

These differences between the EU and US ICT sectors show both different specialization patterns and progressively different trajectories in terms of industrial development in the two regions.

The above observations are analyzed in detail in the 2012 PREDICT report, which is available in easy-to-read sections formatted for the web, or as a fully downloadable report at: http://is.jrc.ec.europa.eu/pages/ISG/PREDICT/2da/index.html ■

Member Society News & Events

Bulgaria

At its regular session on 3 December 2012, the General Assembly of the Bulgarian Academy of Sciences elected Academician Stefan Vodenicharov as President of BAS, the Bulgarian member of IT STAR.

Czech Republic

The 39th International Conference on Current Trends in Theory and Practice of Computer Science will take place from 26 to 31 January, 2013 in Špindlerův Mlýn, Czech Republic.

For detailed information please check
http://www.sofsem.cz/sofsem13/index.php
Organizer: Dr. Julius Stuller <stuller@cs.cas.cz>

Lithuania

Multi-event "Computer Days - 2013" (KoDi'13)
19-21 September 2013, Šiauliai, Lithuania
http://www.liks.lt/kodi_en

Organizers: Lithuanian Computer Society and Šiauliai University

Contact:
Computer Days - 2013
Lithuanian Computer Society
Geležinio Vilko str. 12-113, LT-01112 Vilnius, Lithuania
Phone: (370 5) 210 9342
E-mail: liks@liks.lt

Slovenia

20th Jubilee Conference "Days of Slovenian Informatics"
15 - 17 April 2013
Grand hotel Bernardin, Portorož, Slovenia
http://www.dsi2013.si
Contact: dsi@drustvo-informatika.si

[The IT STAR Chief executive is an invited speaker for DSI-2013 on Talent in Informatics, based on the IOI experience and the recent AICA-IT STAR survey]. ■

Forthcoming IT STAR Events

7th IT STAR WS on Electronic Business II

Teatro Margherita: source - italianvisits.com

3-4 May 2013, Bari, Italy
www.starbus.org/ws7
(Announcement and CfP on p. 5)

2014 IT STAR Conference on History of Computing
August 2014, Szeged, Hungary ■

Other Events

European Quality Label for ICT Industry Training and Certifications

The Conference 'Towards a European Quality label for ICT industry training and certifications' will take place in **Brussels on 24 January 2013**.
It is organized in the context of the initiative launched by the European Commission on ICT industry training and certifications earlier in 2012 and will be a high profile, one-day event.

At this important event European experts will discuss the ICT skills shortages and mismatches and how industry-based training and certification in ICT can become part of the solution to reduce ICT skills shortages and unemployment. Solutions for achieving the much needed clarity and orientation support through the ICT education and training 'jungle' together with latest evidence on e-skills demand and supply developments and forecasts (2012 - 2020) will be presented.

Leading stakeholders will present their views on the importance of e-skills and ICT industry-based training and certification in Europe. Possible interactions with employment agencies and recruitment/staffing industry will be shown. A European e-Skills Quality label together with its criteria, processes and structures for ICT-based training and certification will be presented. In addition a prototype of an online e-skills landscape service and support tool for ICT practitioners (helping them in developing targeted career strategies) and key stakeholders like human resources managers (helping them in their job placement, management and recruitment processes) will be demonstrated.

More information on the event including the conference program and speakers can be found on the conference website: http://eskills-quality.eu/conference. ■

SNAPSHOT

REGIONAL ICT ASSOCIATION IN CENTRAL, EASTERN & SOUTHERN EUROPE

Type of organization

Regional non-governmental and non-profit professional association in the ICT field.

Date and place of establishment

18 April **2001**, Portoroz, Slovenia

Membership

Countries represented (*see next page for societies*), year of accession, representatives

- Austria (2001) V. Risak, G. Kotsis, E. Mühlvenzl
- Bulgaria (2003) K. Boyanov
- Croatia (2002) M. Frkovic
- Cyprus (2009) P. Masouras
- Czech Republic (2001) O. Stepankova, J. Stuller
- Greece (2003) S. Katsikas
- Hungary (2001) B. Domolki
- Italy (2001) G. Occhini
- Lithuania (2003) E. Telesius
- Macedonia (2003) P. Indovski
- Poland (2007) M. Holynski
- Romania (2003) V. Baltac
- Serbia (2003) G. Dukic
- Slovakia (2001) I. Privara, B. Rovan
- Slovenia (2001) N. Schlamberger

Statutes

IT STAR Charter http://www.starbus.org/download/charter.pdf adopted on 23 October 2004 by the IT STAR Business Meeting in Prague, the Czech Republic.

Mission

"To be the leading regional information and communication technology organization in Central, Eastern and Southern Europe which promotes, assists and increases the activities of its members and encourages and promotes regional and international cooperation for the benefit of its constituency, the region and the international ICT community."

Governance

IT STAR is governed according to the letter of its Charter by the Business Meeting of MS representatives:

2012 Bratislava, **Slovakia** (April)
2011 Portoroz, **Slovenia** (April)
2010 Zagreb, **Croatia** (November)
2009 Rome, **Italy** (November)
2008 Godollo, **Hungary** (November)
2007 Genzano di Roma, **Italy** (May)
Timisoara, **Romania** (October)
2006 Ljubljana, **Slovenia** (May)
Bratislava, **Slovakia** (November)
2005 Herceg Novi, **Serbia & Montenegro** (June)
Vienna, **Austria** (November)
2004 Chioggia, **Italy** (May)
Prague, **the Czech Republic** (October)
2003 Opatija, **Croatia** (June)
Budapest, **Hungary** (October)
2002 Portoroz, **Slovenia** (April)
Bratislava, **Slovakia** (November)
2001 Portoroz, **Slovenia** (April)
Como, **Italy** (September)

Coordinators

2010 – Igor Privara
2006 – 2010 Giulio Occhini
2003 – 2006 Niko Schlamberger
2001 – 2003 Plamen Nedkov (cur. Chief Executive)

Major Activities

- 6th IT STAR WS on Digital Security - http://www.starbus.org/ws6
- IPTS - IT STAR Conference on R&D in EEMS -
- http://eems.starbus.org
- 5th IT STAR WS and publication on Electronic Business - http://starbus.org/ws5/ws5.htm
- 4th IT STAR WS and publication on Skills Education and Certification - http://starbus.org/ws4/ws4.htm
- 3rd IT STAR WS and publication on National Information Society Experiences – NISE 08 http://www.starbus.org/ws3/ws3.htm
- 2nd IT STAR WS and publication on Universities and the ICT Industry
- http://www.starbus.org/ws2/ws2.htm
- 1st IT STAR WS and publication on R&D in ICT http://www.starbus.org/ws1/ws1.htm
- IT Professional Pool Database (in progress)
- Workshop and publication on National Experiences related to the EU's 5th and 6th FP http://www.starbus.org/download/supplement.pdf
- Joint IT STAR – FISTERA Workshop on ICT and the Eastern European Dimension

Periodicals

The IT STAR Newsletter (nl.starbus.org) published quarterly.

Web-site

www.itstar.eu ■

IT STAR Member Societies

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www.ocg.at

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Institute for Parallel Processing
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e-mail: boyanov@acad.bg
www.bas.bg

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www.ccs.org.cy

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Macedonian Association for Information Technology – MASIT
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www.masit.org.mk

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www.pti.org.pl

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