



Behind *it*

We proudly present the Summer Issue with contributions from *Marc Bogdanowicz* – IPTS, *Dudley Dolan* – CEN WS on ICT Skills, *Boyan Radoykov* – UNESCO and *Marek Holynski* – PIPS, Poland.

Messrs Mastronardi, Scarabottolo, Schgör and Bevilacqua provide an overview of the 2016 IEEE Italy Section Medical Informatics Summer School co-organized by AICA, and *Dorothy Hayden*, our MultiCulti columnist, will lead you this time through fascinating Venice.

Our Who's Who section presents the new presidents of two of IT STAR's member societies – AICA and SSCS.

There is further useful and interesting information on various activities and events including the Joint Europol – Enisa Statement on lawful criminal investigation that respects 21st Century data protection, and information related to measures to allow consumers and companies to buy and sell products and services online more easily, tabled by the European Commission.

Take the Journey,

Plamen Nedkov

IT STAR representatives

Austria/OCG-R. Bieber, **Bulgaria**/BAS- I. Dimov, **Croatia**/CITA-M. Frkovic, **Cyprus**/CCS-P. Masouras, **Czech Rep.**/CSKI-J. Stuller, **Greece**/GCS-S. Katsikas, **Hungary**/NJSZT-B. Domolki, **Italy**/AICA-G. Occhini, **Lithuania**/LIKS-E. Telešius, **Macedonia**/MASIT-P. Indovski, **Poland**/PIPS-M. Holynski, **Romania**/ATIC-V. Baltac, **Serbia**/JISA-D. Dukic, **Slovakia**/SSCS-I. Privara, **Slovenia**/SSI-N. Schlamberger

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Letters to the Editor

... Thank you for the interesting information you send regularly.

Prof. Vladimir Kitov
Moscow, Russia



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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.

Who's Who in IT STAR

New AICA President

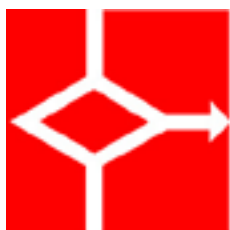


On 15 April 2016 **Giuseppe Mastronardi**, professor of Information Processing Systems at the Politecnico di Bari, was elected as President of **AICA** - Associazione Italiana per l'Informatica ed il Calcolo Automatico.

Prof. Mastronardi is a prestigious figure of the Italian computer science community: he has published over 140 scientific papers specifically focusing on biometrics. He worked in CSELT of Turin taking part in the design of the first Italian satellite for telecommunications (SIRIO 1) and the first microprocessors certified for space. He has been principal investigator of several European research projects and is professor of Medical Informatics and Data Security. He has contributed to the promotion of scientific research results of the Industrial Computing Laboratory, Department of Electrical and Information Engineering - Bari, and is holder of three patents in the fields of biometrics, bioinformatics and IoT applied to safety at the workplace.

Prof. Mastronardi is associated with AICA since 1980. In 2011 he was chosen as President of the Territorial Section AICA-Puglia and in 2013 as Vice President of the Association.

The IT STAR community met him first as speaker at the 6th IT STAR Workshop on *Digital Security*, April 2012 in Bratislava. The following year Giuseppe played host and local organizer of the 7th IT STAR Workshop on *e-Business II*, May 2013 in Bari – <http://www.starbus.org/ws7>, a very successful event in the IT STAR conference series. ■



AICA

New SSCS President



In April 2015 **Milan Ftáčnik**, associate professor at Comenius University in Bratislava, has succeeded Branislav Rován as President of the Slovak Society for Computer Science – SSCS (Slovenská informatická spoločnosť), an IT STAR Member Society.

Doc. Ftáčnik is an associate professor at the Department of Applied Informatics at the Faculty of Mathematics, Physics and Informatics of Comenius University in Bratislava. His research interests are in the fields of computer vision, image processing and visual security. His teaching relates to the basics of computer graphics and image processing and pattern recognition. He has served as the Head of Dept. of Computer Graphics and Image Processing, which later merged with the Institute of Informatics and formed the Dept. of Applied Informatics.

Before entering SSCS he was active in politics. He served as member of National Parliament of Slovakia from 1990 to 2002. He was Minister of Education of the Slovak Republic from 1998 to 2002, and later served as Mayor of Bratislava, the capital of Slovakia from 2010 to 2014.

He was elected president of SSCS for a three years term. ■



Case Studies on Open Innovation in ICT

Marc Bogdanowicz



Marc Bogdanowicz is Senior Scientist at the IS Unit of the Institute for Prospective Technological Studies (European Commission, Directorate-General JRC) in Seville, Spain.

The JRC-IPTS has just published a new study¹ in its ICT Innovation series.²

The study builds upon 13 case studies of innovative ICT and ICT-enabled European companies. These 13 case studies include four large companies and nine SMEs. The aim of the study is to assess the impact of Open Innovation strategies on companies' innovation procedures and to highlight the role of ICT in Open Innovation processes.

The Open Innovation (OI) paradigm is broadly defined as the shift from a traditional closed and controlled R&D and innovation environment towards open and flexible models (Chesbrough 2003, Chesbrough and Crowther, 2006; Gassman and Enkel, 2004; Enkel *et al.* 2009). An Open Innovation strategy (OIS) aims to redefine the boundaries between the company and its surrounding environment, making the firm more porous and embedded in loosely coupled networks of different actors, collectively and individually working towards creating and commercializing new knowledge.

Open Innovation is a strategy that extends well beyond the R&D department, and embraces many company functions. Large companies implement Open Innovation strategies in a very different way to SMEs.

In particular, all the large companies in our sample are:

- Better positioned than smaller companies- to orchestrate research partnerships, by setting the agenda of large consortia, identifying clear benefits for partners, and boosting and spreading the OIS attitude throughout the industry.
- More likely to give a central role to Human Resources Management in order to achieve OIS goals.
- More likely to adopt a long-term perspective, focusing not only on the short-term benefits of technology alliances but also identifying future objectives to be achieved along the road.

A comparative review of the main strategic elements that characterize OIS in the SMEs in our sample leads us to the following conclusions:

- Opening up through business model innovation rep-

resents a strong opportunity for SMEs to extract value from internally developed technologies through strategic partnerships and external collaborations.

- Participation in large R&D networks and strong engagement in academic ecosystems help SMEs to gain visibility and reputation, foster expertise exchange, and gather new knowledge and information on R&D priority setting.
- OI culture and strong appropriability strategies allow SMEs to open up their R&D strategies successfully, without running the risks related to rising knowledge search costs in inbound search strategies and the loss of business-critical knowledge (reduced value capture) in external collaborations.

In general, Open Innovation proved to be prevalent in many innovation processes. However, in all our 13 cases, the type of Open Innovation that we observed was part of an “open but controlled” innovation strategy. That is to say, it was open in the sense that it was collaborative, and controlled in the sense that companies tried to implement strategies to ensure a proper return on their investment.

The investigation has identified a series of drivers and barriers for an Open Innovation strategy in Europe (and indeed innovation in general).

Drivers:

- Large EU consortia can play an important role in enabling Open Innovation Strategies (OISs), particularly as regards explorative R&D activities.
- When implementing OI 2.0 strategies, companies claimed to build communities and platforms using the assets that they best control.
- The control secured thanks to IP makes companies more prone to build alliances and collaborate when they can protect their own technologies and knowledge.
- The Horizon 2020 SME Instrument was seen by the SMEs in our sample as offering a boost for business development of innovative propositions.
- Embeddedness in a rich ecosystem, i.e. being a player in a cluster characterized by easy access to complementary assets, and by an intense flow of knowledge and information, was seen as leading to significant advantages and more effective OISs.

Barriers: two different groups of obstacles stand out. They refer to:

- i. Internal management. OIS requires the coordination of resources and is a complex strategy to implement. Companies in the sample suggest that reaching the right balance between internal R&D and external sourcing of knowledge and technology remains a serious barrier for implementation of OIS.
- ii. European and national innovation systems. Despite the critical role played by EU and national programmes, various companies still report that the lack of institutional support and/or the presence of rules and regulations that prevent innovation constitute a considerable barrier. Companies in the sample lament the rigidities of policy-makers and the public sector, which hinders innovation dynamics in Europe.

1 A.DiMinin, C.Eleonora De Marco, C.Marullo, A.Piccaluga, E.Casprini, M.Mahdad, A.Paraboschi. Editors: G.Gabison, A.Pesole. 2016. Case Studies on Open Innovation in ICT. JRC-IPTS. Seville, Spain. EUR 27911 EN 2 EURIPIDIS:
<http://is.jrc.ec.europa.eu/pages/ISG/EURIPIDIS/EURIPIDIS.index.html>

To access the report and read about its policy recommendations, see http://publications.jrc.ec.europa.eu/repository/bitstream/JRC100823/jrc100823_case%20studies%20on%20open%20innovation%20in%20ict.pdf ■

2016 IEEE Italy Section Medical Informatics Summer School (MISS)

Giuseppe Mastronardi, Nello Scarabottolo, Paolo Schgör, Vitoantonio Bevilacqua



Giuseppe Mastronardi is General Chair of MISS 2016. He was recently elected President of AICA and is professor of information processing systems at the Politecnico di Bari. A detailed bio is published on page 3 of this Newsletter.



Nello Scarabottolo is co-chair of MISS 2016. He is full professor in computer engineering at “Università degli Studi di Milano”. His research activities refer to various aspects of computer architectures and IP applications. Nello is (co)-author of more than 100 papers and has been involved in various national and international research projects. He was President of CEPIS and currently serves as AICA’s International Section Chair.



Paolo Schgör was recently chosen as AICA Treasurer. He represents AICA at the international level, notably as Secretary of its International Section, and as CEPIS Vice-President and GA representative to IFIP.



Vitoantonio Bevilacqua is co-chair of MISS 2016. He is assistant professor of Human Computer Interaction, expert systems, medical informatics and image processing at the Department of Electrical and Information Engineering of the Politecnico di Bari (Italy) and of Electronics Bioengineering and Informatics at the Medical School of

University of Bari. Vitoantonio is author of more than 120 international papers and co-inventor of two patents.

After the success of Human-Machine Interaction Summer School (www.hmiss.it) held in Monopoli – Puglia (Italy) 14th – 18th September 2015 and co-sponsored by AICA, the IEEE Medical Informatics Summer School (<http://www.miss2016.it>) co-organised by IEEE Italy Section and AICA, will take place in the picturesque locality

of Trani, in Puglia (Italy), from September 13th to 17th 2016.

This year, the challenge is rendering the Summer School multidisciplinary: to this end, it gathers together researchers, professionals and students interested in the intersection of healthcare and technology. As a result, MISS is unique in its focus and in its offer: an innovative and compelling program devoted on several fields within engineering, informatics and medicine to address an increasingly hot topic to transform Healthcare through Information and Communication Technology. The IEEE Medical Informatics Summer School is specifically addressed to Master students, Ph.D. students, Post-Docs, young researchers (both academic and industrial), senior researchers (both academic and industrial) or academic/industrial professionals.



Its program consists of a balanced mix of interactive lectures and workshops on basic and advanced concepts in medical informatics, and it has been specifically designed with the purpose of providing candidates with a deep knowledge of topics such as: security and safety for hospitals, decision support systems in medicine for diagnosis, prognosis, and therapy, bioinformatics, biometry, robotics for therapy, virtual/augmented reality for surgery, and Ambient Assisted Living.

Moreover, morning and afternoon sessions are designed to provide participants with the opportunity both of reviewing the state of the art of the applications of Computer Science and Engineering to the Medical sector and to Healthcare, and of achieving hands-on experience on the most interesting developments within the field. To this end, the program will include a workshop on the final results and future work of major ICT projects in Apulia Region (Smart Health 2.0, MET-AAL, IHCS, Rescap, Precious and CoReMar Network).

In addition to the outstanding schedule of scientific content, an international committee consisting of 25 distinguished professionals and academics from the field put together a rich program of social events and activities. This will give attendees the best chance to experience the vibrant life and culture of Southern Italy, and especially the elegant architecture of Trani, a gem overlooking the Adriatic Sea with its unique bouquet of flavours, fine food, and wine. Participation to the school is subject to an all-inclusive fee of 800€ for Master, Ph.D. students, Post-Docs and young researchers, and of 750€ for IEEE students.

The fee includes 4 days accommodation, all course materials, coffee breaks, bus service from Bari to School Location and vice versa, wi-fi Internet Connection and social events. Special discounted fees are available and make MISS accessible to Master and Ph.D. students. Participants from all over the world are encouraged to apply. Applications can directly be sent on the website of the school (<http://www.miss2016.it/application>) until June 20th. The best 100 candidates will be selected and will have the opportunity to join the school. The school received the patronage from IEEE Italy Section, AICA, Polytechnic of Bari, and University of Milan. Further information can be found on the website of the school <http://www.miss2016.it> or by writing to info@miss2016.it. ■

CEN Workshop on ICT Skills

Dudley Dolan



***Dudley Dolan** is Chairman of the CEN Workshop on ICT Skills. He is Head of Delegation for NSAI (National Standards Authority of Ireland) to TC 428.*

A standard is born

The CEN Workshop on ICT Skills was created in 2003 to support the e-Skills policy of the European Union. CEN Workshops create CWAs (CEN Workshop Agreements) and this workshop has created some 17 CWAs since it was founded.

The most widely known CWA is the European e-Competence Framework for ICT Professionals (e-CF). Version 1 of the e-CF was launched in 2008, followed by version 2 in 2010. The current version, version 3, was launched in 2013. It was agreed that this version had reached a level of maturity, which would see it being readily transformed into a European Standard.

To create a European Standard requires a Technical Committee of CEN. On the proposal of the Italian Standards body it was agreed to set up CEN Technical Committee 428 entitled “e-Competences and ICT professionalism”. The first meeting of this Committee which started as a Project Committee (PC 428) and ultimately became a TC 428, was held in January 2014.

This committee is chaired by Fabio Massimo and the secretariat is provided by UNI, the Italian Standards Member of CEN. (www.uni.com)

All the work of the project teams in the CEN Workshop and the volunteers in the TC 428 came to fruition on 6th April 2016

when the standard EN 16234-1:2016 was made available by CEN. This standard is entitled “e-Competence Framework (e-CF) - A common European Framework for ICT Professionals in all industry sectors - Part 1: Framework”

The scope of the standard is as described on the CEN Web Site “This European Standard provides a reference of 40 competences as required and applied at the Information and Communication Technology (ICT) business related workplace, using a common language for competences, skills and proficiency levels that can be understood across Europe. As the first sector-specific implementation of the European Qualifications Framework (EQF), this European Standard aligns its proficiency levels to the EQF learning levels. This European Standard was created for application by: - ICT service, user and supply organizations, - ICT professionals, managers and human resource (HR) departments, - vocational education institutions and training bodies including higher education, - social partners (trade unions and employer association), professional associations, accreditation, validation and assessment bodies, - market analysts and policy makers, and other organizations and stakeholders in public and private sectors.”

The standard has a date of availability of 6th April 2016; this is defined as “when the definitive text in the official language versions of an approved CEN/CENELEC publication is distributed by the Central Secretariat”

The date of announcement of this standard is 31st July 2016; this is defined as “the latest date by which the existence of an EN has to be announced at national level”

And finally the date of publication of the standard is 31st October 2016; this is defined as “latest date by which an EN has to be implemented at national level by publication of an identical national standard or by endorsement”

Where do we go now?

As the standard is based on e-CF version 3 it is time for an update and so plans are under way already to work on the production of the next version of the standard, effectively e-CF version 4.

The plans include three imperatives for the development process:

1. To review the experience of the current users of e-CF version 3 and make such changes as demanded by the experience to date.
2. To enhance the competences relating to e-Leadership in the framework to reflect the growing importance of these in the current marketplace.
3. To consider other skills frameworks and in particular to map the e-CF to SFIA with a view to convergence in the future.

The development of this standard is crucial for the future of the ICT profession and it is vital that as many people as possible are involved in this development. In order to be

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10th IT STAR WS on IT Security

28 October 2016, Turin, Italy



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PROGRAM

PRELIMINARY PROGRAM
10th IT STAR Workshop on IT Security
28 October 2016, Turin, Italy

09.00 Opening and Setting the Scene

IT Security – Overview of the Issues
Giuseppe Mastronardi, AICA President

Topic I. EU and National Strategies for Information Security

- ENISA – EU Agency for Network and Information Security (t.b.a.)
- Information Security in Slovakia – from concepts to implementation, **Daniel Olejar, Comenius University, Bratislava**
- Bulgarian ICT Security Challenges and Policy for Research Activities
Kiril Boyanov, Ivan Dimov, Blagovest Sendov, Bulgarian Academy of Sciences
- Presentation (t.b.a.)

11.00 Coffee

11.30 Topic II. Business Strategies and Best Practices

- A New Method for Successful Digital Transformation for Mature SME Businesses
Martin Przewlaka, Germany
- Understanding Covert Channels of Communication
Claudio Cilli, "La Sapienza" University, Rome
- Presentation (T.B.A.) – Italy

13.00 Lunch break

14.00 Topic III. Information Security Competences, Education and Research

- Standardization of Knowledge and Skills for IT Security
Veronica Salsano, UNINFO, Italy
- e-CFPlus and IT Security Module
Roberto Bellini, AICA
- Presentation (t.b.a.)

15.30 Coffee

16.00 Panel on Legal Informatics – Document Management, Privacy, Security

17.30 Closing

Organization

- IT STAR
- Conference Co-Chairs
- Contact

Venue

- Turin, Italy
- [Conference location to be communicated soon]

Host

- AICA

Member Societies

- IT STAR Member Societies

<http://www.starbus.org/ws10>

involved you should make contact with your local standards body which is a member of CEN and seek to have input to the revision of the standard. There are 33 members of CEN which include the 28 member states of the EU plus Norway, Iceland, Switzerland, Turkey and the Former Yugoslav Republic of Macedonia. (www.cen.eu). This is really important as to date there are very few countries involved in the development.

Why is this important?

This is important because the capability of European enterprises to compete and evolve is becoming increasingly dependent on effective use of ICT. The European e-skills strategy aims to boost the competitiveness, productivity and employability of the workforce, in particular ICT Professionals.

The development of a comprehensive Framework for ICT professionalism in Europe is an initiative to assist in achieving the above objective. The proposed framework consists of four pillars:

1. Competences, as demonstrated by the e-Competence Framework
2. Body of Knowledge, the first version of the European Foundational Body of Knowledge has been created. (www.ictbok.eu)
3. Education and training. Much work has been carried out in this area by the CEN Workshop on ICT Skills. (CEN CWA 16052 ICT Certification in Europe)
4. Professional Ethics. While work is ongoing in this area within various bodies including CEPIS, the CEN Workshop on ICT Skills has not, as yet, commenced consideration of this topic.

There is a consortium led by Capgemini together with Ernst & Young (EY) and IDC currently working on a project regarding a framework for ICT professionalism (www.ictprofessionalism.eu). The main objectives of the current work of this consortium are as follows:

1. Update the key indicators and progress on what the situation of the ICT profession in Europe looks like using the latest data, trends and developments.
2. Develop the first comprehensive European Framework for the ICT profession, and initiate the implementation of the four foundational building blocks in at least three countries.
3. Bring together a group of leading European experts with the aim to expand into a sustainable pan-European network for the future.

Conclusion

The CEN Workshop on ICT Skills will continue to provide an open platform for stakeholders to come together to support the e-skills policy of the European Union. As it moves into the fourteenth year I will retire as Chairman having completed three terms of office. It has been a pleasure and a privilege to act as Chair of such an important group. The incoming chair will be Mary Cleary, Deputy CEO of the Irish Computer Society. She will assume her new role on 1st October 2016. extend every good wish to her in this new position. ■

UNESCO

UNESCO addresses the UN Permanent Forum on Indigenous Issues

Universal Access to Knowledge for the Empowerment of Indigenous Peoples

Boyana Radoykov



Dr. Boyana Radoykov is heading the Universal Access and Preservation of Information Section and supervises the development and implementation of several major UNESCO programmes. Mr. Radoykov's overall professional career, that has taken him to more than 110 countries worldwide, is marked by a strong commitment to international

cooperation for peace and sustainable development, and for consolidating the emerging global knowledge societies.

As the UN specialized agency responsible for international cooperation in the field of education, the sciences, culture and communication, UNESCO is significantly contributing to increasing and diffusing knowledge, as well as to enhancing peace and mutual understanding by promoting cultural and linguistic diversity.

From 9 to 12 May, I attended the fifteenth session of the UN Permanent Forum on Indigenous Issues, held at United Nations Headquarters, in New York.

UNESCO is convinced that access to information and knowledge is an integral part of the universal rights for the empowerment of all citizens and that it is crucial for upholding sustainable development and democracy. Despite the progress achieved in the facilitation of these rights, there are still many communities around the world, including indigenous ones, which are not able to access on and off-line content, including in their respective languages. Moreover, their exceptionally diverse and abundant documentary heritage is often ignored and barely preserved and shared. Also, exposure of this documentary heritage sometimes happens without taking into consideration the views or the interests of these communities as legitimate rights-holders.

In addressing the participants on two separate items on the Agenda of the UN Forum, I reaffirmed the Organization's commitment to promote universal access to multilingual information in cyberspace as one of the core aspects of building inclusive knowledge societies and stressed that *'ultimately, it is about effectively protecting the invaluable*

tangible and intangible heritage of our world, which is rich with its multidimensional diversity, with its irreplaceable variety of mixtures of small and large communities and nations, with its constantly innovating know-hows and policies to accumulate and preserve knowledge for the future generations about the past and present traditions, cultures and civilizations'. In this respect, I also referred to UNESCO's Atlas of Languages in Danger as a global monitoring tool which provides information on the status of linguistic diversity and about the 2,500 languages that are in danger, most of which are spoken by indigenous communities around the world.

Additionally, the side event organized by UNESCO, entitled 'Universal Access to Information in Cyberspace for Empowerment of Indigenous Peoples', addressed digital empowerment of indigenous communities within three thematic focus-areas:

Promotion of indigenous languages in cyberspace

Mr Christopher Moseley, Chief-Editor of the UNESCO's Atlas of the World Languages in Danger shared concrete examples on how the online tool 'UNESCO Atlas of Languages in Danger - contributes to the promotion of universal access to multilingual information by monitoring the status of linguistic diversity at a global level. Reference was also made to UNESCO's plans to develop a 'World Atlas of Languages' and to the continued efforts to implement UNESCO's normative instrument 'Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace' (2003). The outcomes of the Regional Conference for Central America 'Multilingualism in cyberspace: Indigenous Languages for Empowerment', which took place from 27-28 November 2015 in San Jose, Costa Rica, were presented as well to the participants of the session.

Digital preservation of documentary heritage of indigenous communities

In my capacity as the UNESCO representative at the Forum, I introduced the normative instrument 'Recommendation concerning the Preservation of, and Access to, Documentary Heritage Including in Digital Form', recently adopted by the General Conference of UNESCO, which provides a strategic framework for coordinated and sustainable actions for the effective preservation of documentary heritage worldwide.

In the digital preservation field, Mr Paul Trilsbeek, Head of the Language Archive, Max Planck Institute for Psycholinguistics, The Netherlands, shared information about the 'Language Archive' inscription related to the documentary heritage of indigenous communities on the International Registry of the Memory of the World Programme. The nominated heritage offers and preserves a unique sample of the world's linguistic and cultural diversity. It represents a landmark for language documentation in terms of quality of content and archiving infrastructure.

Ethical dimensions of making information and documentary heritage of indigenous communities accessible to all

Dr. Dick Kawooya, Assistant Professor from School of Library and Information Science, University of South Carolina, USA addressed the ethical dimensions of making data, information and documentary heritage of indigenous communities accessible in the public domain. Respect of fundamental universal ethical principles, in particular those related to the production of new content, storage, distribution, privacy, access to and use by a global community, was debated and examples of best practices were shared with the participants in the side event.

The event ended with a question-and-answer segment providing opportunity for the audience to react and exchange views with the panelists. ■



On lawful criminal investigation that respects 21st Century data protection

Europol and ENISA Joint Statement- 20 May 2016

1 The communication society

The desire to preserve the secrecy and integrity of a document is as old as written communication, and is deeply inscribed in our modern legislation, touching basic rights such as freedom of expression and the right to privacy.

With the move to the information society and the automation of data processing, this need is becoming ever more important. Moreover, these issues go beyond individual's rights: in a society that is ever more depending on the correct functioning of electronic communication services, technical protection of these services is mandatory, since otherwise criminals will abuse vulnerable services. From a technical standpoint, both confidentiality and integrity may be fulfilled by the same cryptographic mechanisms. However, while secure communication services have many legitimate purposes, they may also be used to plan and conduct criminal activities. Hence, law enforcement services need tools to investigate cybercrimes as well as cyber-facilitated forms of crimes.

2 The limits of privacy

An individual's rights need to be evaluated carefully in relation to the individual rights of others to find a balance between the individual interests of the persons concerned. Thus, in the face of serious crimes, law enforcement may lawfully intrude privacy or break into security mechanisms of electronic communication systems. Legislation must ex-

explicitly stipulate the conditions under which law enforcement can operate. Here, we want to stress the importance of **proportionality** for the use of intrusive investigative tools. This requires that the intrusive effect of the investigative measure is proportionate to the crime that was committed. It also requires the selection of the least intrusive measure to achieve the investigative objective. The legislation should include the provision of appropriate supervision to ensure that intrusive measures are used in accordance with these principles.

Intercepting an encrypted communication or breaking into a digital service might be considered as proportional with respect to an individual suspect, but breaking the cryptographic mechanisms might cause collateral damage. The focus should be on getting access to the communication or information; not on breaking the protection mechanism. The good news is that the information needs to be unencrypted at some point to be useful to the criminals. This creates opportunities for alternatives such as undercover operations, infiltration into criminal groups, and getting access to the communication devices beyond the point of encryption, for instance by means of live forensics on seized devices or by lawful interception on those devices while still used by suspects. Moreover, forensic methods that make use of physical fingerprints of devices might not help to intercept the communication content itself, but might provide other important clues for the investigator. Even so, there are cases in which there are no such alternatives and access to the concealed content can only be gained by a form of decryption.

3 Considerations on decryption

While no practical encryption mechanism is perfect in its design and implementation, decryption appears to be less and less feasible for law enforcement purposes. This has led to proposals to introduce mandatory backdoors or key escrow to weaken encryption. While this would give investigators lawful access in the event of serious crimes or terrorist threats, it would also increase the attack surface for malicious abuse, which, consequently, would have much wider implications for society. Moreover, criminals can easily circumvent such weakened mechanisms and make use of the existing knowledge on cryptography to develop (or buy) their own solutions without backdoors or key escrow.

The latest generation of encryption tools allow forward secrecy, meaning that the disclosure of a long-term private key does not allow the deciphering of messages from the past.

4 Resolving the encryption dilemma

Solutions that intentionally weaken technical protection mechanisms to support law enforcement will intrinsically weaken the protection against criminals as well, which makes an easy solution impossible. So far, we observe a continued arms race between cryptographers and crypto-analysts. In terms of practical breaks, cryptographers are currently miles ahead, which is good news for all the legit-

imate users who can benefit from the improving protection of their data. However, there is no doubt that malevolent parties use the same techniques to conceal their criminal activities and identities. For the investigation and disruption of crimes, it is important to use all possible and lawfully permitted means to get access to any relevant information, even if the suspect encrypted it.

To achieve this, it would be worthwhile to collect and share best practices to circumvent encryption already in use in some jurisdictions. Investigators would benefit from more explicit and ideally aligned regulation of the lawful online use of privacy-invasive investigative tools and the conditions under which they can be applied. Moreover, policy makers in consultation with the judiciary could further contribute by issuing clear policy guidance on the proportionality of the online use of such privacy-invasive investigative tools.

When circumvention is not possible yet access to encrypted information is imperative for security and justice, then feasible solutions to decryption without weakening the protective mechanisms must be offered, both in legislation and through continuous technical evolution. For the latter, the fostering of close cooperation with industry partners, as well as the research community with expertise in crypto-analyses for the breaking of encryption where lawfully indicated, is strongly advised. We are convinced that a solution that strikes a sensible and workable balance between individual rights and protection of EU citizen's security interests can be found. In this respect, the deployment of European R&D instruments may drive this collaboration while at the same time EU Agencies can work closely together in establishing best practices.

This Joint Statement is presented as a contribution from ENISA and Europol to the on-going debate on privacy and encryption. It is based on the practical experiences and perspectives of the two organisations and is neither intended as being the formal position of the EU Institutions on this subject, nor as having any prejudice to that. ■

New e-commerce rules to help consumers and companies reap full benefit of Single Market

Source: http://europa.eu/rapid/press-release_IP-16-1887_en.htm

Brussels, 25 May 2016

The European Commission today tabled a package of measures to allow consumers and companies to buy and sell products and services online more easily and confidently across the EU.

Delivering on its Digital Single Market and Single Market strategies, the European Commission has presented a three-pronged plan to boost e-commerce by tackling geoblocking, making cross-border parcel delivery more affordable

and efficient and promoting customer trust through better protection and enforcement.

Andrus **Ansip**, Vice-President for the Digital Single Market, said: *“All too often people are blocked from accessing the best offers when shopping online or decide not to buy cross-border because the delivery prices are too high or they are worried about how to claim their rights if something goes wrong. We want to solve the problems that are preventing consumers and businesses from fully enjoying the opportunities of buying and selling products and services online.”*

Günther H. **Oettinger**, Commissioner for the Digital Economy and Society said: *“The geoblocking initiative strikes the right balance between consumers’ interest to be able to shop online without borders and providing businesses with sufficient legal certainty. I am confident that our approach, taking due account of specificities of certain sectors, will give the right boost to cross-border e-commerce in the EU.”*

Elżbieta **Bieńkowska**, Commissioner for Internal Market, Industry, Entrepreneurship and SMEs, added: *“Discrimination between EU consumers based on the objective to segment markets along national borders has no place in the Single Market. With clearer rules, better enforcement and more affordable cross-border parcel delivery, it will be easier for consumers and companies, especially SMEs, to make the most of the EU Single Market and the cross-border e-commerce.”*

Vera **Jourová**, Commissioner for Justice, Consumers and Gender Equality, said: *“Too many people in Europe are hesitant to purchase online because they don’t know their rights or think they are hard to enforce. I want consumers to buy online as confidently as they would offline. We will give teeth to consumer protection authorities to better enforce consumer rights online and crack down on fraudulent practices. Today’s package is an important step to bring consumer protection up to speed with the online world and to give legal certainty to traders.”*

Today’s e-commerce package is composed of:

- A legislative proposal to address unjustified geoblocking and other forms of discrimination on the grounds of nationality, residence or establishment;
- A legislative proposal on cross-border parcel delivery services to increase the transparency of prices and improve regulatory oversight;
- A legislative proposal to strengthen enforcement of consumers’ rights and guidance to clarify, among others, what qualifies as an unfair commercial practice in the digital world.

[The full Press release is available at http://europa.eu/rapid/press-release_IP-16-1887_en.htm] ■

Partner Publication



<http://mondodigitale.aicanet.net/ultimo/index.xml> ■

Member Society News & Events

Bulgaria

New post for Bulgaria’s IT STAR representative

Prof. Ivan Dimov, the BAS representative to IT STAR, was recently appointed as Vice – Minister of the Bulgarian Ministry of Education and Science.

17th International Conference on Artificial Intelligence: Methodology, Systems, Applications – AIMS A 2016

7 – 9 September 2016

Varna, BG

<http://www.aimsconference.org/>

Italy

43rd International Colloquium on Automata, Languages and Programming (ICALP 2016)

12 – 15 July 2016, Rome, IT

<http://www.easyconferences.eu/icalp2016/>

Poland



The Polish Information Processing Society marks its 35th Anniversary

*Marek Holynski
PIPS Representative to IT STAR*

The celebration of the 35th Anniversary of the Polish Information Processing Society (Polskie Towarzystwo Informatyczne) took place on June 2 in Warsaw. The ceremony brought together almost 200 people professionally connected with computers: PTI members, representatives of government, academia, professional organizations and business. Special guests of the event were founding members of PTI.



35th Anniversary Celebration

The Polish Information Processing Society was established in 1981 during a brief period of relative freedom during “Solidarity” time. From its beginning, PIPS fosters links between experts from industry, academia and business promoting education, knowledge sharing, codes of conduct and skills frameworks. It voices the Society’s members’ opinions, needs, interests, and rights in relations with the general public, local and central government and with other associations in Poland and abroad. In 1992 PIPS was the first organization from the post-communist countries to become a member of the Council of European Professional Informatics Societies (CEPIS).

On the occasion of the anniversary PIPS received many awards, medals and letters of congratulation. In their speeches, representatives of government (including the Secretary of State in the Ministry of Digital Affairs), local administration and other professional societies emphasized the importance of PIPS in representing the needs of the IT professionals and promoting issues related to computers to the general public.

During the gala, a summary of the Polish activities associated with the World Information Society Day was

also made. In May there had been numerous public debates, conferences, seminars, educational events, competitions and social gatherings organized on that occasion. Participants also listened to the message of Mr. Houlin Zhao, Secretary General of the International Telecommunication Union (ITU), which patronizes the celebration of the Information Society Day.



Message from Mr. Houlin Zhao

The gala ended with a panel during which PIPS’s founding members shared memories. Seniors of Polish computer science also answered questions submitted by students, like if at the beginning they had expected the mass use of information technology, or what they had dreamed of when starting their professional carrier.



Panel

European Commission



The 4th edition of Code Week EU is scheduled between 15 and 23 October. Millions of children, young adults, adults, parents, teachers, entrepreneurs, and policymakers will again come together at events, in classrooms and libraries across Europe and beyond to learn to create with code.

Further information about Code Week is available at <https://ec.europa.eu/digital-single-market/en/news/code-week-eu-2016-skill-digital-world-codeeu>



Closing high-level event of the eSkills for Jobs campaign, organized under the EU Slovakian Presidency
17-18 October 2016
Bratislava, Slovakia

Topic and website to be communicated.

ITU News



The latest digital magazine with information on

- How ITU is accelerating the development of Smart Sustainable Cities
- How leaders can overcome key challenges facing cities today
- Tools and insight to build the Smart Sustainable Cities of tomorrow

is available at

http://www.itu.int/en/itunews/Documents/2016-02/2016_ITUNews02-en.pdf

Olympiads in Informatics

23rd Central European Olympiad in Informatics



18 – 23 July 2016
Piatra-Neamț, Romania
<http://www.ceoi2016.ro/>

28th International Olympiad in Informatics



12 – 19 August 2016
Kazan, Russia
<http://ioi2016.ru/>

Behind IT – Venice

Dorothy Hayden



Venice. Everyone knows it. It is one of the most visited tourist destinations, with some 25 million visitors yearly.

When you thread through the narrow lanes you hardly realize that Venice was constructed on wooden piles from trunks of alder trees felled in Slovenia and Croatia.

The first task to take care of, if you are arriving at the train terminal, is where to cross over to Saint Mark's square. The famous bridges over the Grand Canal are Rialto, Scalzi and Accademia. Bridges are an obsession in Venice – whether watching from above the Gondolieri ferrying their passengers, or from under admiring how the gondolas manage to wiggle within this *Elegant Decay*. One would think Venice holds the record for bridges – it is indeed situated on some 117 small islands separated by numerous canals but the statistics say that with its 60,000 inhabitants living in the historic city it is only a record holder per capita. Hamburg and Amsterdam have more of these.

There are over 100 churches in Venice, the most glamorous being the Patriarchal Basilica of San Marco, on the famous Square, boarded by the Palace of the Doges, the Clock Tower, the Lion of Venice and the Campanile – this was the center of the 13th Century World when Venice was at its greatest.

Other signature marks, buildings and establishments in the close vicinity are plentiful – Bridge of Sighs, Caffè Quadri, the Correr Museum, Hotel Danieli, the great view across to Isola di San Giorgio Maggiore, the pigeons, gelato, ...

The city offers a great variety of museums and if the alleys, piazzette, palazzi, churches, rides with the vaporetti and the other great things you could do while sightseeing are not enough you should consider visiting the Doges' Palace, Galleria Dell'Accademia, Museo Civico Correr, Ca'Rezzonico and the Guggenheim Collection just to mention a few.

This is my glimpse of *La Serenissima* – Venice is an obsession and to understand it you need to take the Journey!



Canale Grande



Isola San Giorgio Maggiore across San Marco Square



Basilica di San Marco

The MultiCulti Column runs since Vol. 7 no. 1, Spring 2009, with articles on Verona [IT], Wachau [AT], South Tyrol [IT], San Clemente Basilica - Rome [IT], Nesebar [BG], Zagreb [HR], Pecs [HU], Piran [SI], Lovran [HR], Budapest [HU], Riga [LV], Garda [IT], Baden [AT], Bari [IT], Krakaudorf [AT], Vienna [AT], Passau [DE], Turin [IT].



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) G. Kotsis, E. Mühlvenzl, R. Bieber
- Bulgaria (2003) K. Boyanov, I. Dimov
- 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
- Slovenia (2001) N. Schlamberger

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:

- 2015 Warsaw, **Poland** (October)
- 2014 Szeged, **Hungary** (September)
- 2013 Bari, **Italy** (May)
- 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

- 2015 – Marek Holynski
- 2010 – 2015 Igor Privara
- 2006 – 2010 Giulio Occhini
- 2003 – 2006 Niko Schlamberger
- 2001 – 2003 Plamen Nedkov (cur. Chief Executive)














Major Activities

- 9th IT STAR WS on ICT Strategies and Applications
<http://www.starbus.org/ws9>
- 8th IT STAR WS on History of Computing
<http://www.starbus.org/ws8>
- 7th IT STAR WS on eBusiness -
<http://www.starbus.org/ws7>
- 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>

Periodicals & Web-site

The IT STAR Newsletter (nl.starbus.org) published quarterly.
www.itstar.eu ■

IT STAR Member Societies

Austrian Computer Society – OCG Wollzeile 1, A-1010 VIENNA, Austria Tel. +43 1 512 0235 Fax +43 1 512 02359 e-mail: ocg@ocg.at www.ocg.at 	Bulgarian Academy of Sciences – BAS Institute for Information and Communication Technology Acad.G.Bonchev str.B1.25A SOFIA 1113, Bulgaria Tel +359 2 8708494 Fax +359 2 8707273 e-mail: vomidiv@gmail.com www.bas.bg 
Croatian IT Association– CITA Ilica 191 E/II, 10000 ZAGREB, Croatia Tel. +385 1 2222 722 Fax +385 1 2222 723 e-mail: hiz@hiz.hr www.hiz.hr 	The Cyprus Computer Society – CCS P.O.Box 27038 1641 NICOSIA, Cyprus Tel. +357 22460680 Fax +357 22767349 e-mail: info@ccs.org.cy www.ccs.org.cy 
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