Newsletter - *Calibrated for Creative Communications*

Vol. 7, no. 2, Summer 2009

Ready for the Summer Splash?

Whether you hear of the "Deep Blue", which fought it out with Chess Champion Garry Kasparov, or the "Shallow Green" of the Salza river above, the associations with splashing water are a stimulus to concentrate on an invigorating and regenerating summer break.

So, before you head-off for your big summer splash, we offer the Summer NL issue, which might lead you to some refreshing ideas while you enjoy your holidays.

Our leading stories this time:

- ICT Skills, with two articles on the Cost of ICT Ignorance, and the European e-Competence Framework
- OLEDs and e-Paper as disruptive technologies, and the opportunities they offer to the European ICT Industry
- The CEPIS Statement on Security and Data Privacy
- IT STAR's conference on ICT Skills, Education and Certification in Rome, 27-28 November, 2009

Still not decided where to spend your holidays? Take the IT STAR MultiCulti way to the Wachau – Great fun!

Enjoy,

Plamen Nedkov

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Editor

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Letters to the Editor

Extracts from emails to the Editor with respect to the last issue … comments and suggestions are always welcome – our coordinates are on page 1.

"Congratulations – really cool, as my students would say".

Jenny Sendova (BG)

"I have seen the Spring NL issue and it is excellent and very useful to all ICT professionals, due to your exceptionally successful and responsive work."

Dusan Hristovic (RS)

"Nice newsletter - full of interesting stuff. I particularly liked the short item on the Serbian CER computer and the news about the Atanasoff award (I envy you the time you spent with the Atanasoff family when he visited Bulgaria).

Keep up the good work."

Michael R. Williams, IEEE CS President, 2007 (CA)

"It is a very good edition of your Newsletter. I appreciated the article and memories of our trip to Bulgaria. I plan to repeat our visit to Bulgaria as soon as possible".

John V. Atanasoff II (US) ■

Photo of the Issue

This Great Summer Feeling ■

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.

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 editor@starbus.org. ■

The Cost of Ignorance in Information Society: An Italian Multi-annual Research Programme

by Fulvia Sala

Fulvia Sala is responsible for projects and research at AICA, the Italian computer association

1. Introduction

The ICT market is currently connected with a self–evident anomaly. On the one hand, supply is becoming increasingly varied and the use of digital technologies has resulted in major changes in the approaches to most jobs. In particular it has translated into the need for a change in the skills of a large number of employees whose jobs are influenced by the use of new technologies. On the other, users are still far from being suitably trained in the use of new technologies. The data supplied by the European Commission suggests that one person out of two uses the computer at the workplace; nevertheless, over 70% of users have not been given any IT training. In addition, only one employee out of five has been trained at the expense of his or her employer.

Training is a very relevant topic. The European Commission has emphasised on more than one occasion the importance of the concept of life–long learning, whereby training is viewed not as a sporadic moment (often occurring only before any professional activity), but rather as a systematic approach to maintaining and updating individual and professional competences. Furthermore, often training in the use of technology is left to individual learning abilities and initiative – also in terms of time and economic commitment.

The question arises whether an autodidactic approach can be effective and what consequences would more systematic training of users have.

Even if literature emphasises that, for successfully introducing and assimilating Information and Communication Technologies (ICT) in organisations, it is important that users and specialists are adequately trained, research projects aimed at exploring the real impact of training on individuals and organisations are not frequent and works aimed at measuring training impacts are very rare.

In 2001 AICA, in partnership with Bocconi University, started a project – *"The cost of ignorance in information society"* – which defined a model to observe the impact of training (and conversely the lack of it) on individuals, businesses and specific market sectors.

The main objectives of the project are: to quantitatively measure the cost of insufficient computer training, that is, how much inadequately prepared human resources, in terms of the workforce's late literacy in information technology, cost the Italian economy. In addition, the study was aimed at empirically assessing whether basic training, as provided, for example, by ECDL courses, can reduce such lack of training and to what extent, thus helping reduce the cost of computer ignorance.

The project has been broken down into separate surveys which have been carried out independently in the manufacturing, health, banking and Public Administration sectors respectively.

2. The cost of IT incompetence

The model for evaluating the cost of IT incompetence was derived from a study conducted in Norway, where ICT use is intensive, therefore representing a reality particularly sensitive to training and productivity of human resources.

The researchers of the Norwegian Institute of Statistics attempted to determine the "cost of ignorance" in the use of normal informatics instruments, i.e. PCs, software for individual productivity (MS/Office), fruition of services online (email, Internet) and *legacy* applications (internal institutional systems). What methodology did they use? The sample survey asked users how much time they spent on average using a computer, with respect to total working hours. The interviewees then quantified the amount of average time lost per week due to interruptions or problems in the use of IT systems. This allows to easily evaluate the percentage of "unproductive" time and to subsequently estimate related costs.

The first research of the Italian multi-annual programme analysed the business sector in the whole: Italian businesses underestimate the importance of learning to use IT tools and many companies are reluctant to arrange training programmes for many of their employees. The research discovered that the annual economic impact of a delay in ensuring that the workforce is computer-literate exceeds 17 billion EUR in Italy. This figure must obviously be viewed simply as a broad indicator, but its significance shows that a problem does exist and that it must be addressed in order to reduce the effects of the phenomenon.

The second survey dealt with the health sector. In a context which sees half of hospital employees and almost the totality of general practitioners using informatics systems, the amount of unproductive time due to limited knowledge in the use of computers entails significant costs. The phenomenon is particularly critical in moments such as the current one which puts a strong focus on restricting health spending (linked for the most part to demographic problems) while maintaining standards in service quality. To evaluate the costs related to unproductive time owing to limited knowledge in the use of IT systems, information was gathered through direct interviews to a sample of users asking how much time, on average, was lost due to problems in using computers; in addition average labour costs for the individual professional segment were taken into account. The estimate of the annual cost of unproductiveness for the Italian system resulted in the order of 1% of total health expenditure in Italy.

In the banking industry information technology is extensively relied on, and, according to the survey, a bank clerk spends, on average, 72% of his or her weekly working time on the computer. The survey showed a generally very high level of knowledge of IT tools, in particular those related to banking procedures. But as far as the optimized use of tools is concerned, actually assimilating IT tools in daily procedures, the predominant tendency is on the job training. This results in a daily loss of productive work time in order to understand how to use software or to help colleagues who need tips and assistance. Therefore, also in the banking sector, there is a cost of IT unproductiveness, which was estimated to around 350 million EUR a year.

The most recent research, currently underway, is focused on the largest productive structure in Italy, the Public Administration. In particular, the report published at the end of 2008 concerns the Central Public Administration, and will be followed by a survey on Local Administration Bodies.

The analysis conducted on the Central Public Administration illustrated virtues and vices of IT training in the sector: Public Administration is the driving element for IT training of civil servants. However, total investments for employee training are still rather limited**;** for example, according to official statistics, only 25% of users possess an ECDL and/or equivalent competences. This poses as a critical element in consideration of the role of Public Administration which represents a model of reference for the entire society.

The study also showed how widespread the use of IT systems is, involving roughly 60% of civil servants for around two thirds of their total working hours. Unproductive time, owing to inability or problems in the use of informatics systems, as determined by users, was on average in the region of one hour ten minutes per week, bringing the annual cost to a total of around 1500 EUR per employee, which adds up to over 790 million EUR for the entire sector.

The following table summarises the annual costs due to unproductive time, per individual and for the entire sector, as measured by the studies conducted.

	per users	total sector
Entire economic system	€ 2.564	€ 17.6 bln.
Health	€ 2.842	€ 862 mln.
Banking	€ 1.124	€ 350 mln.
Central Public Administration	€ 1.439	€ 791 mln.

Table 1: Annual costs due to unproductive time

3. The causes for unproductive time

The main causes for unproductive time at the workplace according to users' indications can be summarised into three categories:

- limited knowledge of applications (individual problems)
- time spent for helping colleagues in using the PC (problems arising from colleagues)
- a number of problems related to technical issues: printers, network downtime, etc. (technical issues not related to incompetence)

In general, a relation between lost time and the first two factors has been observed, directly attributable to users' limited IT knowledge, whereas a one to two relation exists for time lost due to technical problems. Taking into consideration the last two researches, in the banking sector the amount of unproductive time directly linked to factors relating to user ignorance is 30%, while 70% was due to technical problems. In the Central Public Administration the percentages dropped to 35 and 65% respectively (Fig.1).

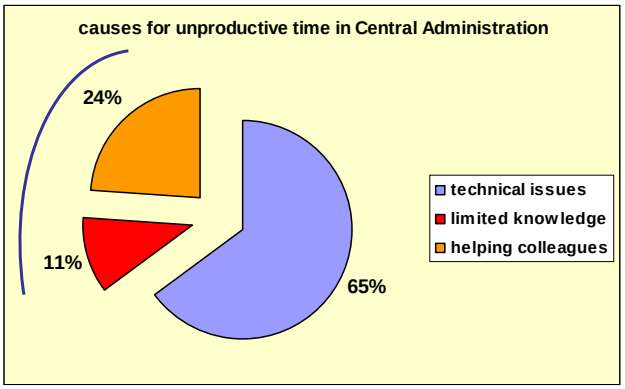

Fig.1: causes for unproductive time according to users' indications

The amount of time lost, which translates into unproductiveness at work, can be reduced with various initiatives.

First of all by providing basic qualified training to users, in order to improve their ability to solve problems and reduce requests for direct support among colleagues. ECDL is the typical certification in this case. It is, however, also important to improve system performances by eliminating/reducing the causes of technical malfunctioning with interventions on service processes as well as by providing training and certification for the profiles of the IT professionals involved: in particular for those operating in IT systems management, but also for those responsible for the maintenance and planning of services.

4. Return on basic IT training

What has been described so far is based on a qualitative approach which the research integrated with quantitative analysis to measure the return on investment for basic IT training of users.

Which is the model used for this analysis?

The research team organises ECDL courses for small groups of users and requires them to take two similar tests: one before the training and the second one after; the test comprises of 37 questions concerning the solution of problems in individual IT environments. The information collected (session scoring and time to complete the test) allows to quantify the benefits deriving from specific IT training.

The surveys carried out by AICA – SDA Bocconi suggest that the people who attended training courses to achieve ECDL certification reduced the amount of time needed for the tests by a proportion which ranges from 5% to 24% depending on the sector. This can be translated into a decrease in the amount of time required for any job to be done on the computer, among those who were not specifically trained vs. those who attended the course (Table 2)

	average decrease
Entire economic system	**- 10%**
Health	**- 10%**
Banking	**- 24%**
Central Public Administration	**- 5%**

Table2: decrease in the amount of time spent in dealing with problems after ECDL course

For this sample the analysts estimate both the variation in the amount of time spent in dealing with problems and the scores achieved in the tests before and after attending the course. Obviously enough, the score is an indicator of the level of knowledge or mastery of the subject. It should be pointed out that most of those people were not totally illiterate about information technology – that is, they had a fairly good knowledge of IT tools, which may have resulted from daily use.

For both test sessions, scoring and time to complete the test were used to calculate the variation: change in performance (scores reached) and speed (time needed to complete the test).

In addition, the increase in test scores, comparing those obtained before and after training, implies improved knowledge and therefore greater efficiency and a reduction of unproductive time linked to incompetence in the use of IT tools - a reduction, which is assumed as equal to the measured increment.

	average increase
Entire economic system	**+ 20%**
Health	**+ 18%**
Banking	**+ 16%**
Central Public Administration	**+ 29%**

Table3: increase in the test scores after ECDL course (and reduction of unproductive time linked to incompetence)

On the basis of these parameters it is therefore possible to calculate and quantify the entity of time recovered in performing activities using the computer owing to training. This calculation is therefore an indication of how unproductiveness can be reduced by providing a training course.

Considering the average cost of labour it is possible to determine the economic value of saved time through IT training and therefore to evaluate the relevant return on investment, at an individual level as well as at the enterprise or sector levels.
The reduction of unproductive time for the Italian economy is estimated in the region of 2500 EUR a year per individual, which translates to 17 billion EUR overall. Estimated savings exceed 2 billion EUR for the health sector, 3 billion for the banking sector and 800 million for Central Public Administration (Table 4)

	per users (€)	total sector (bln. €)
Entire economic system	**2.479**	**17.0**
Health	**2.957**	**2.2**
Banking	**10.700**	**3.6**
Central Public Administration	**1.520**	**0.8**

Table4: estimated annual savings

These figures are to be considered as purely indicative and must be interpreted as broad indicators; the analyses carried out however prove how the acquisition of basic competences enables to obtain a significant increase in efficiency and correlated economic savings which are of a considerable entity; training is therefore an investment which brings substantial returns especially in the medium and long terms. In fact, a cost that is in the order of a few hundred EUR per user can yield a return on productivity of a few thousand EUR. ■

European e-Competence Framework

A common European reference for ICT Professionals in all industry sectors

by Jutta Breyer

After completing her degree as a teacher for Secondary Schools, Jutta Breyer worked as instructor for Qualification and Personnel Development in the Media and ICT sector. Since 2004, Jutta is an independent Consultant for education and media projects in business, politics and education. She was project co-ordinator of the e-CF 1.0 and continues in the same capacity with CEN's project "European e-Competence Framework in Action".

Following two years' work by e-Skills multi-stakeholder, ICT and human resources experts, the European e-Competence Framework (e-CF) is ready for Europe-wide use. The framework consists of 32 jointly defined ICT practitioner and manager competences as needed and applied in the workplace. This common European reference tool can be used and understood by ICT user and supply companies, ICT specialists, managers and HR departments, the public sector, and educational and social partners across Europe. It provides, for the first time, a European standard reference for communicating ICT competence requirements in a transnational environment.

The European e-Competence Framework has been developed by a large number of European ICT and HR experts in the context of the CEN/ISSS Workshop on ICT Skills[1].

[1]For CEN/ISSS and WS on ICT Skills pls check *Setting European Standards on ICT Skills* by P. Schgör in NL - Vol.7, no.1 Spring 2009 and http://www.cen.eu/cenorm/sectors/ sectors/isss/activity/wsict-skills.asp

To achieve European agreement and beneficial results on an international and national level, the Europe-wide involvement of players from the ICT sector and stakeholders from business, politics and education has been crucial for the development of the framework philosophy and strategy.

The European e-Competence Framework version 1.0 provides a basic, clear and sound orientation for companies and further ICT sector players who need to take decisions about recruitment, career paths, training, assessment, etc. It articulates knowledge, skills and competence as needed and applied in the ICT workplace for the ICT vendor industry as well as in the public sector.

32 ICT practitioner and manager competences on a European scale

The European reference framework for ICT competences makes a link between national and company systems. It jointly defines 32 ICT practitioner and manager competences, classified according to their corresponding ICT business areas. These are further specified on five proficiency levels (e-1 to e-5) which are related to the European Qualification Framework (EQF) levels 3-8. This provides a European basis for internationally efficient personnel planning and development.

Framework structure and look

Structured in four dimensions, the European e-Competence Framework reflects different levels of business and human resource planning requirements, as well as job and work proficiency guidelines.

- Dimension 1 reflects 5 e-Competence areas, derived from ICT business processes PLAN – BUILD – RUN – ENABLE – MANAGE.
- Dimension 2 defines a set of reference e-Competences for each area, with a generic description for each competence. 32 identified competences provide the framework with European generic reference definitions.
- In dimension 3, proficiency levels of each e-Competence give European reference specifications on e-Competence levels e-1 to e-5, which are related to EQF levels 3 to 8.
- Dimension 4 of the framework is dedicated to knowledge and skills related to the e-Competences. Knowledge and skills are indicated as optional framework components, supplied for inspiration they are not exhaustive; nevertheless they provide the key link to the ICT qualification offer side of the European e-Skills market.

User guidelines for framework application by European ICT sector players

To support the understanding, adoption and use of the European e-Competence Framework (e-CF), a complementary CEN Workshop Agreement (CWA) incorporating user guidelines for the European e-Competence Framework is also provided. ICT stakeholders – ICT user and supply companies, the public sector, ICT managers and practitioners, HR developers, ICT job seekers, educational institutions, recruiting agencies and social partners – can find a basic explanation of the framework context and underpinning methodology as well as initial guidance on how to adapt the framework and exploit its benefits for specific needs.

The CWA "European e-Competence Framework", consisting of the framework as well as the accompanying user guidelines, was approved in October 2008. It has been digitally published by CEN and the European Commission and is available via www.ecompetences.eu

European e-Competence Framework in Action – Framework maintenance and update

To keep a framework relevant, its maintenance is vital. The new CEN project "European e-Competence Framework in Action" aims at maintaining and updating the e-CF competence descriptions in framework dimensions 2 and 3 and at further specification of dimension 4. Dimension 4 defines explicit knowledge and skills, which are relevant for efficient competence performance, and reinforces therefore the link to the qualification side of the European e-Skills market.

To facilitate framework access and use by end-users in daily business environment, the e-CF will be supported by a pragmatic navigation structuring and graphical presentation for print and online implementation. A detailed methodological documentation of the framework underpinning definitions and choices will address the needs of a more scientifically interested public.

The "e-CF in Action" results, including the updated and further developed European e-Competence Framework version 2.0, are expected to be available by end of 2010.

The e-CF in Action Project Team of Experts

Clockwise (fm top left): Clementina Marinoni (Fondazione Politecnico di Milano, Italy), Frédéric Lau (CIGREF, France), Joyce van Berlo (ECABO, The Netherlands), Plamen Nedkov (IT STAR), Riccardo Scquizzato (Cpi Progetti spa, Italy), Terry Hook (e-Skills UK). For Jutta Breyer see photo and article above.

■

OLEDs and e-Paper: An Opportunity for the European Display Industry?

by Marc Bogdanowicz

Displays are an increasingly important segment of the ICT industry. In the early 1990s, the bulky cathode ray tube (CRT) began to be replaced by flat panel displays (FPD) based predominantly on LCD technology. Since then, the global display industry has grown dramatically to over €125 billion. Moreover, development of flat panel technologies has enabled the creation of important new product segments, two of which are the dominant growth categories today in consumer electronic devices - laptop computers and mobile handsets.

Geo-politically, Asian suppliers for TFT LCD have come to dominate the display industry. Now two new technologies may be on the verge of breaking into the market – organic light emitting diodes (OLEDs) and electronic paper (e-paper). The purpose of this report is to assess Europe's future competitive position in the display industry resulting from progress in these new technologies.

More specifically, the study assesses whether these technologies may be disruptive, in that they have the potential to disrupt the current market in displays. Will these technologies substitute existing technologies? Will they also enable completely new applications and the creation of entirely new market segments? If so, what are the implications for the competitive position of the EU ICT industry and, if there are new opportunities, how well placed are EU firms to take advantage of them?

1. Technologies

OLED

The study defines OLEDs as polymers that emit light when a current is passed through them in one direction. In multi-pixel colour form, OLEDs can be used for displays for ICT, consumer goods and industrial applications. In the single-pixel form, OLEDs can be used as a new kind of lighting. E–paper, on the other hand, is a portable, reusable storage and display medium, typically thin and flexible. It is literally the electronic substitution for the printed page. Typically it reproduces mainly static text, usually monochrome, with high flexibility of the whole screen so in the future it may even be folded or rolled like traditional paper.

Theoretically OLEDS have several advantages over LCD. First, since they generate their own light, they do not require backlighting like LCDs, meaning they can be made thinner and lighter. This attribute also means they consume less power, which makes them attractive for applications such as laptops and mobile handsets. Also, the quality of OLEDs in terms of colour range, resolution, brightness, contrast, response time and viewing angle is impressive in comparison with LCD. Their manufacture could be via a simpler continuous method at low temperature rather than the batch processing in high temperature clean-room conditions necessary for LCDs. This implies a far lower cost base would be attainable in volume production compared to LCD and plasma FPDs

On the downside, being organic, OLEDs suffer from degradation in the basic material affecting their lifespan. Longevity no doubt will improve but early OLED TV screens have perhaps only one-third of the lifetime of an LCD. Moreover, OLEDS degrade in such a way that the red, green and blue colours deteriorate at different rates, adding to the complexity in producing them. These are serious drawbacks that will limit their application and may hamper the investment necessary for a volume of production which would allow their cost advantages to be realised.

e-Paper

E-paper is an application that can use several alternative technologies, such as electrophoretic, cholesteric LCD, electrochromic and nematic bistable LCD. These different technologies bring different advantages and drawbacks in terms of their features and their manufacture. Like OLEDs, e-paper is light in weight and has even lower power requirements because images remain without needing to be refreshed. The characteristics of ultra-thinness and flexibility really make e-paper different to current displays.

Though e-paper has been envisioned for decades, it has been slow to arrive because two entirely new technologies have had to be put together. The first is the 'electronic ink' that creates the actual printed display on the e-paper page, and the second is the flexible electronics required to generate the pattern of text and images on a flexible page. The challenge has been to produce low-cost, high-volume flexible display products using organic electronic materials that can be used at room temperature allowing the circuitry to be mounted upon a flexible plastic substrate rather than glass.

2. The disruptive potential of the two technologies

Both OLEDs and e-paper have the potential to disrupt the existing displays market, but it is still too soon to say with certainty whether this will occur and when. Success for OLEDs depends on two key technical advances: first, the operating lifetime, which is based on stability of each colour and second, the production process. If the latter can be developed for larger screen sizes, with consistent high quality at low cost by using low cost printing and room temperature processes, that combination could take unit costs well below those of LCD. However, TFT LCD is far from a mature technology and incremental improvements will continue to be made, so the bar will get higher for OLEDs. Moreover LCD FPD prices are also being driven down by the global recession. In some ways this might hasten the entry of OLEDs, if OLED production costs are lower as the bulk LCD buyers (TV manufacturers, laptop makers etc) are now demanding below-cost prices when purchasing LCD FPDs. Due to the collapse in global demand, LCD FPD sales may even shrink for the first time, predicted in December 2008 to be perhaps by 3% meas-

Social Networks –
Problems of Security and Data Privacy Statement

CEPIS

The Council of European Professional Informatics Societies (CEPIS) is a non-profit organisation seeking to improve and promote a high standard among Informatics Professionals in recognition of the impact that Informatics has on employment, business and society. CEPIS – which represents 36 Member Societies in 33 countries across greater Europe – has agreed on the following statement:

1. Introduction

The use of the Internet is changing as new ways of exploiting it are found – social software / social networking services move the focus of the web away from the content suppliers and give more control to the user. This is, in general, a good thing but brings security and privacy problems.

From a personal perspective, there is a huge growth in the volume of personal information being shared on the web and often those sharing their information do not think carefully enough about how this information may be used. Both the individuals and the companies providing the services need to be more security-aware and to take greater responsibility for their actions.

From a commercial/business perspective, there is an overwhelming business case for exploiting the opportunity to interact with customers through these sites, but the benefits also bring new risks to the business, as social software sites become integrated into the business computing strategy yet are not controlled by the business. The level of security offered on these sites is not robust.

2. Issues

Personal information may be uploaded by an individual to be made available to friends, or company information may be supplied by an organization to communicate with staff or customers, but the information may be placed on a server which is located anywhere in the world and viewed globally. Those providing the information need to be more aware of the potential consequences.

Companies offering the services people use need to be security-aware and to be more open about the level of security offered.

National initiatives are usually ineffective in cases where information is stored in a foreign server farm which is owned by a foreign company and is then exploited by hostile foreign individuals, and wider international agreements need to be put in place.

Virtual reality sites such as 'Second Life' have additional issues which are not yet fully recognized. These sites offer opportunities for individuals to interact in various ways, by use of 'avatars' or virtual people which the participants can control. This may expose not only personal information, but attributes of behaviour which may be analysed. The exploitation of the facilities on offer for illegal purposes is not well understood, but where the virtual world environment has an economy based upon real money, and allows people unlimited scope to work through their avatars to interact with others, exploitation is inevitable. It may be a game, but the consequences can be real, and the security issues arising from the internationally based virtual world need to be addressed.

For a more detailed analysis of the issues described here, please refer to the CEPIS Background paper on Social Networks – Problems of Security and Data Privacy –
https://www.cepis.org/files/cepis/docs/20080729024104_CEPIS social network Backgroun.pdf

3. Recommendation

CEPIS sees extreme importance in the European Network and Information Security Agency (ENISA) and national authorities taking the following actions:

(a) Encourage the citizen to gain a better awareness of the issues involved, to protect the citizen from the consequences of their actions;

(b) Encourage international agreements on security and privacy protection responsibilities of the service supplier, and on the standards to be adopted;

(c) Initiate a debate on the need for new standards and a new approach to security and privacy protection for organizations wishing to use these sites for commercial purposes;

(d) Initiate debate on the legal and social implications of virtual world 'crime', including the extent to which the actions of avatars may be legally attributable to the avatar 'owner' and an agreed way of defining the jurisdiction under which this may fall;

(e) Promote 'Safer Social Networking' for all.

Please send your thoughts and comments on this paper to Les Fraser <les.fraser@croftinfosec.co.uk>

ured in unit sales, in 2009.[2] Also, it has recently come to light that some LCD FPD industry players have been engaged in price fixing, indicating there is a buffer zone in pricing for LCD FPD's which will further challenge OLEDs.[3]

The industry is quite divided on how this will play out over the next few years. It is in the interests of the large Asian TV suppliers to maintain the status quo, because they are only now reaping the rewards of their large investments in infrastructure to manufacture LCD. Unsurprisingly those in favour of OLEDs are generally those whose fortunes are not tied to LCD success and they are most probably being overoptimistic in their view about the speed with which OLEDs will progress technically and in the marketplace. Nevertheless, it is notable that many of the big Asian display suppliers, such as Sony, Samsung and Sharp, are hedging their bets and positioning themselves to take advantage of any discontinuity. Taking all the study's findings into account, it is unlikely that we will see significant market share for OLED TVs until 2015-2020, although they are likely to be available as premium products in the next few years, led by Sony's small TV, an 11-inch model initially costing US$2500. More likely is the take up of smaller OLED screens for devices with shorter lifetimes, such as laptops, mobile handsets and MP3 players and we could see this occurring in the next three to five years. OLED lighting products seem likely to remain a niche segment and are not likely to disrupt the lighting market in the short to medium term. Their use in pure ICT applications is restricted - perhaps a more efficient backlight for LCD FPDs.

The situation for e-paper is somewhat different since it is not just a technology substitution but also an application that forms a new product category. In this sense it is highly disruptive because it opens the door to new applications, largely text-based, not just in ICTs but also in consumer goods, pictures and advertising that can use its key properties. It could also displace display technologies that offer text-reading functions in ICT terminals such as tablet notebooks.

The industry applications in retail, advertising, industrial and vehicle display could occur as soon as robust technology is available. This would imply a timeframe of the next 3-5 years for major technology take-off, although the actual changeover may not be evident but piecemeal. The most visible form may be the e-reader, and there are signs that the market may be ready to take off, with Amazon's Kindle success in 2008 and other devices on the market such as Sony's e-reader now being relaunched.[4] On the content side, the publishers have been preparing for this for at least 20 years. The question is whether the consumer is ready and here one senses that successive waves of ubiquitous diffusion of consumer electronic devices over the past 15 years, especially mobile phones and MP3 players, may well mean that consumers will soon be ready for the 'next big thing'. Everyone, of course, dreams of replicating Apple's iTunes model.

3. The opportunities for Europe

With regard to OLEDs, there are three discrete segments in the OLED value chain where any discontinuity could offer EU firms the opportunity to play a more significant part in the displays sector:

- Original R&D and IPR for devices and for the manufacturing process and material supply/verification: innovation by the EU in OLED technology is strong and growing in the basic OLED mechanisms, manufacturing and materials.
- Bulk materials for manufacture and glass: the EU is potentially strong in this and has leading special organic compounds suppliers, but other global suppliers are also present.
- Process equipment: there are some strong EU players but also major competition from Asia and USA.

Evidently, from the point of view of an entry for EU manufacturers, the optimal strategy would be to pursue these particular segments in the potential new markets.

However the question arises then whether suppliers in this segment would have enough of a critical mass to change the balance of industrial power in the whole display segment.

With the EU's fairly restricted access to finished goods production cycle, especially TVs and laptops, i.e. screen dimensions of over 10 inches, this seems remote. Only in smaller screen sizes for mobile handsets could there perhaps be a possibility of entry by EU display screen suppliers.

Thus the real point of entry in OLED FPDs for Europe is most likely to be in the mass production of smaller FPDs for mobile handsets. This is an enormous market with some 3 billion users globally and still growing. The replacement and growth handset market volume combined may be of the order of 1 billion FPD units per year, depending on global economic conditions and OLED handset pricing.

From the analysis of the e-paper value chain, the report states that the entry of EU suppliers is perhaps possible across more value chain segments than for OLEDs, specifically in: Original IPR and/or material supply/ verification; Supply of bulk and refined materials; As a process equipment supplier; with pilot plants for OEM e-paper film and/or screen manufacture. This could spill over into other applications, for packaging and signage; Branded application device and display manufacturers with retail device sales; content for e-readers.

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[2] Kwong, R. (2008)

[3] Jordan, LJ. (2008)

[4] It was chosen as a contender for one of the 'gadgets of the year' in December 2008 in a popular UK TV show and is selling via bookshop chains in Europe.

4. Conclusions

Interestingly, although OLED is a pure technology and e-paper an application with many technologies, the market entry strategy has common features. A summary of how Europe can enter the display market with both OLEDs and e-paper is shown in the table below.

The above analysis implies that the EU has a reasonable chance of re-entering the display industry. It is weak in the key area of complete FPD or device production, owing to its lack of eco-systems of components. Nevertheless, if the EU industry concentrates on participating in the value chain, not hoping to dominate it end-to-end, then it can be a player in those segments. Moreover, as regards certain e-paper devices such as e-readers, there is the possibility that the EU could enter the global export market via production in lower cost Eastern and Central Member States. As regards OLEDs, the EU might enter production for small screen sizes. This is a very important market in its own right, with mobile handsets being a major segment demanding high volume.

The corresponding report will be soon available at: http://ipts.jrc.ec.europa.eu/publications/index.cfm
Title: OLEDs and e-paper. Disruptive potential for the European display industry
Authors: Simon Forge and Colin Blackman.
Editor: Sven Lindmark ■

Manner of market entry	***Degree of EU strength***	***Value of strength factor***
New players, formed for new technologies with an evolved industry structure	HIGH in certain value chain links – especially R&D, materials, production processes	High, despite the display value chain being close to the LCD/ semiconductor model today
IPR – Ownership and control	MEDIUM – EU has gained more expertise in applying IPR to production.	Low – value is in local skills acquired, not necessarily pure ownership of IPR. Relevant IPR is fairly globally owned so ownership may be useful for trading IPR
Competences and skills	HIGH - in some key segments – materials, printing, production equipment, original R&D and end-product design	High – possibly the key parameter for creation of industry in the EU
Industrial ecosystem or clusters with 'mini value-chain'	LOW - From original R&D, EU has built some eco-systems in materials, print production processes, the manufacturing equipment to end-product design	Medium – for the segments in which the EU may concentrate but not as crucial as for final assembly

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MultiCulti

by Dorothy Hayden

Greetings everyone,

After my Verona story in the Spring NL issue I would like to take you to the **Wachau**. Never heard of it? Two magnificent Benedictine abbeys, Göttweig and Melk, about 50 kilometers apart, mark the endpoints of the fabulous Wachau valley along the Danube, a UNESCO World Heritage Landscape since 2000 and certainly one of the most interesting destinations in Austria.

Destination - Wachau

History in the Wachau extends over 30,000 years - from the Willendorf Venus statuette through Roman times and middle-age castles of baron pirates and magnificent baroque abbeys. It is famous for cultivating grapes and producing fine wines of international reputation, especially of the Green Veltliner variety. The blossoming of the apricot trees in spring is particularly attractive. In summer, the Wachau is an increasing attraction for cyclists, with picturesque routes along the Danube banks crossing orchards and vineyards, historic villages and towns. If you visit one of the many Heurigen (local wine-gardens where wine is served by the glass, with a buffet mainly consisting of cold snacks) along the cycling tracks, you will be amazed by the international atmosphere of visitors coming from Germany, Japan, USA, Hungary and other neighboring and distant countries. If

you then take a look down to the river you would see numerous pleasure cruisers under the flags of the Danubean countries.

I recently revisited the Wachau and started with the Melk Abbey (www.stiftmelk.at). For some the name might ring a bell from Umberto Eco's "The Name of the Rose" and Sean Connery's performance in the film. The Abbey's location is splendid. The monastic library with some 100,000 volumes and the marble hall with frescoes by Paul Troger are a must, but one would also enjoy other parts and exhibits, including the church, museum and park laid

as an English landscape garden with pavilions, botanical gardens, medicinal and aromatic plants.

Oskar Kokoschka, the famous painter and graphics artist, was born in 1886 in Pöchlarn, a few kilometers up the river from Melk. The house of his birth is now a museum with some 100 works of the great expressionist. But we chose to drive downstream along the southern bank and after a short while the towering castle ruin of Aggstein appeared high above the Danube. One could either drive or hike up the forest road. The reward is breath-taking views, a rich 900 year history of this castle of robber barons, an exhibit (at the time of my visit the Nibelungen saga was on display), a tavern serving rustic delicacies formerly enjoyed by the knights, souvenir shop and other tourist amenities.

Further down the Danube, we crossed to the other bank with a ferry, providing a regular service for cars, bikers and hikers, and then continued towards Dürnstein. Everyone has heard of Richard the Lion-heart, kidnapped and held prisoner in 1192 in the Dürnstein fort above the village. The story goes that his loyal page and singer Blondel crossed the region in search of the King, singing his favorite song … from the dungeons he heard the King continuing to sing the second stanza.

My visit ended at Krems, one of the oldest small cities in Austria with a lively cultural scene. The art hall and caricature museum regularly host high-class international exhibitions. Visitors are also tempted by the rich gastronomic culture. Not far away lies serene on a mountaintop the Abbey of Göttweig, known as the "Austrian Montecassino" with its impressive Kaiserstiege, frescoes and abbey church.

To round our impressions, we ended up in a local "vinothek" for a glass of excellent wine. Santé!

I hope you enjoyed the visit. From Krems, 80 km downsteam is Vienna, and then follow Bratislava, Budapest, Belgrade and other wonderful cities and landmarks as the mighty Danube winds its way through the IT STAR region towards the Black Sea.

You are welcome to contact me at d.hayden@gmx.at with comments and suggestion.

Until Autumn,
Dorothy ■

Member Society News

Bulgaria

Pilot project "Computers at Home" launched by Government

This project plans to provide governmental financial support to 10,000 Bulgarian children from the 9th to 12th high school classes in acquiring a PC. The government will help pupils from low-income families by providing vouchers representing 40% of the sum needed to purchase a laptop. The families would pay the remaining amount under special arrangements for installment payments. Similar projects already function in Denmark, Portugal and the UK.

Hungary

Annual Assembly of John von Neumann Computer Society (NJSZT)

by Robert Müller
Senior Associate at NJSZT

The General Assembly of NJSZT, held on 14 May 2009, presented an excellent opportunity to summarize the Organization's achievements.

Mr. Gabor Peceli, President of NJSZT, gave a detailed overview of NJSZT's activities during the last year. He emphasized that NJSZT with Mr. Istvan Alfoldi as CEO has a dominant position in disseminating achievements in informatics, computer literacy and the culture of computing in Hungary. He reviewed the excellent work of the organization's departments and the impressive activity of NJSZT's regional branches and professional communities, as well as international projects.

Mr. Istvan Alfoldi highlighted that ECDL is running successfully: so far 350,000 Hungarian citizens have taken ECDL exams in some 400 Test Centers. Furthermore, in 2008 NJSZT had presented numerous innovations to the International ECDL Foundation (among others the new model „ECDL Select").

The nationwide movement *Digital Equal Opportunities (DE)* has broadened with a new factor: the eVITA National Program (acronym as per the Hungarian „facilitating info-communication technologies and applications") which was also launched in 2008. According to the eVITA Technological Platform, the application of info-communication technologies aims to solve societal problems such as aging of the nation, change the proportion of earners and non-earners, persons with disabilities, chronic patients, permanently disabled persons, etc. The Platform's aim is to develop a widely accepted strategy, programs and, first and foremost, to hold together and promote cooperation of isolated and segmented R+D+I projects.

Mr. Alfoldi reported on the outstanding importance of the project of establishing the unique Museum of History of Informatics in Szeged. NJSZT shoulders not only the responsibility of working out the professional content of the Museum but commits itself to operate the building, during the first five years, investing hundreds of millions Forints in the project.

A new NJSZT Board was elected for the coming three years. Prof. Peceli continues as President.

Lithuania

Forthcoming event

Computer Days - 2009
25-26 September 2009, Kaunas, Lithuania
Organizer: Lithuanian Computer Society
e-mail: liks@liks.lt
http://www.liks.lt/en/kodi

Slovakia

Forthcoming event

34th International Symposium on Mathematical Foundations of Computer Science (MFCS 2009)

24-28 August 2009, Hotel Atrium, Novy Smokovec, High Tatras, Slovakia
Organizer: Slovak Society for Computer Science.
mfcs@informatika.sk
http://www.mfcs.sk/mfcs2009/

Slovenia

10th International Symposium on Operational Research in Slovenia - SOR'09, http://www.fgg.uni-lj.si/SOR09**,** Nova Gorica, Slovenia, 23-25 September 2009

by Prof. Dr. Lidija Zadnik Stirn
SDI-SOR Program and Organizing Committee

SOR'09 is organized by the Slovenian Society Informatika - Chapter of Operations Research (SOR). This symposium is the premiere scientific event in the area of operations research. It represents a continuity of nine previous symposia, which have attracted a growing number of international participants. SOR'09 is traditionally an international forum for scientific exchange at the frontiers of operations research (OR) in mathematics, statistics, economics, engineering, education, environment, computer science and more. Since OR encompasses a large variety of theories and methods to analyze complex situations and to contribute to responsible decision making, planning and efficient use of resources, we believe that in a world of increasing complexity and scarce natural resources there is a growing need for such approaches.

For the scientific program of the 10th symposium contributions will consist of plenary lectures and papers in which authors from different countries will present their work in various branches of OR. Main topics of the international symposium are focused on professional aspects of OR, methods and techniques, areas of application, information, and computing aspects of OR. ■

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
- Bulgaria (2003) K. Boyanov
- Croatia (2002) M. Frkovic, M. Glasenhart
- 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:

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

2006 – Giulio Occhini
2003 – 2006 Niko Schlamberger
2001 – 2003 Plamen Nedkov
(currently Chief Executive)

Major Activities

- 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/r_d_ws2/r_d_ws2.htm
- 1st IT STAR WS and publication on R&D in ICT
  http://www.starbus.org/r_d_ws1/r_d_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
  http://fistera.jrc.es/pages/roadshows/prague%2004/FINAL%20REPORTrevised.pdf
- Support to Member Society initiatives and events

Periodicals

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

Web-site

www.itstar.eu ■

IT STAR Member Societies

Austrian Computer Society – OCG
Wollzeile 1-3,
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 Parallel Processing
Acad.G.Bonchev str.Bl.25A
SOFIA 1113, Bulgaria
Tel +359 2 8708494 Fax +359 2 8707273
e-mail: boyanov@acad.bg
www.bas.bg

Croatian Information Tech. Society – CITS
Ilica 191 E/II,
10000 ZAGREB, Croatia
Tel. +385 1 2222 722 Fax +385 1 2222 723
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www.hiz.hr

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Czech Republic
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Tel. +370 2 62 05 36 Fax +370 2 61 99 05
e-mail: liks@liks.lt
www.liks.lt

Macedonian Association for Information Technology – MASIT
Dimitrie Cupovski 13
1000 SKOPJE, Macedonia
e-mail: indovski.p@gord.com.mk
www.masit.org.mk

Polish Information Processing Society
Al. Solidarności 82A m.5
01-003 Warsaw
Tel./Fax +48 22 838 47 05
e-mail: marek.holynski@gmail.com
www.pti.org.pl

Asociatia pentru Tehnologia Informatiei si Comunicatii – ATIC
Calea Floreasca Nr. 167, Sectorul 1
72321 BUCAREST, Romania
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e-mail: info@atic.org.ro
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Slovak Society for Computer Science – SSCS
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www.informatika.sk

Slovenian Society INFORMATIKA – SSI
Vozarski pot 12
SLO-1000 LJUBLJANA, Slovenia
Tel. +386 123 40836 Fax +386 123 40860
e-mail: info@drustvo-informatika.si
www.drustvo-informatika.si

3rd ANNOUNCEMENT AND CALL FOR CONTRIBUTIONS

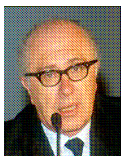
4th IT STAR Workshop

ICT Skills, Education and Certification: the Multi-stakeholder Partnership

27 – 28 November 2009, Rome, Italy

Host Society: Associazione Italiana per l'Informatica ed il Calcolo Automatico - **AICA**
Conference Venue: **Villa Aurelia** (www.villaaurelia.net)

The two-day event will gather senior representatives of academia, government, industry and international organizations with the Mission to investigate the current state, problems and challenges with respect to ICT skills, professional education and certification (SEC) in order to identify best practices and key issues of common interest and facilitate policymaking within the Region and the European Union. Current EU and national SEC policies, certification programs, ICT professionalism and the Bologna process would be some of the topics for consideration.



"The issues of ICT-skills, education and certification are central to Europe's industrial competitiveness and I have no doubt that this IT STAR event will be a milestone. As President of AICA, I am pleased to extend a warm invitation to all wishing to contribute to the conference topics." ***Bruno Lamborghini***

"IT STAR offers a forum to all stakeholders to contribute to an important event with the potential to influence policies across Europe. We look forward to your participation!"
Giulio Occhini & Plamen Nedkov
Organizing & Program co-chairs

Program

Opening on Friday, 27 November at 10.00; Closing on 28 November at 13.00
The Program will incorporate an Opening session, Keynotes, Round table on Governmental SEC policies, National presentations, Sessions on industry and activities of international organizations, Closing and Adoption of the conference resolution.

Speakers (List under development)

- *Government officials and presidents/representatives of IT STAR member societies*
- *André Richier, Principal Administrator, EC-DG Enterprise and Industry (t.b.c.)*
- *Bruno Lamborghini, Chairman of EITO*
- *Damien O'Sullivan, ECDL-F Chief Executive*
- *Fabio Colasanti, Director-General, EC-DG Information Society and Media (t.b.c.)*
- *Franco Patini, Confindustria, Italy*
- *Hugo Lueders, CompTIA*
- *Karol Jakubowicz, President, UNESCO's Intergovernmental Program "Information For All"*
- *Niko Schlamberger, CEPIS President*
- *Paolo Schgör, CEN/ISSS ICT-Skills WS Chairman*
- *Representative of FAO (t.b.c.)*
- *Representative of the Holy See (t.b.c.)*
- *Vasile Baltac, CEPIS President Elect*

Participation

A maximum of 80 participants will attend this high-profile event. 2 participants (including speakers) will be designated by each IT STAR member society. The rest will be selected on a first registered basis.
Registration fee: EUR 150 – incl. dinner, buffet lunch, conf. material and post-conference book.
Extended deadline for submitting abstracts to Plamen Nedkov <nedkov@utanet.at>: 20 June
Full papers (max 6,000 words) due 1 October

Contacts and further information (incl. participation form) – www.itstar.eu