Newsletter - *Calibrated for Creative Communications*

Vol. 5, no. 3, Autumn 2007

From the Editor

Dawning No. 10

This is the 10th consecutive issue since we resumed this publication in 2004, a fact that makes us happy and motivated on the backdrop of positive feedback and growing readership.

The Autumn issue contains insider facts coming from authoritative sources on the International Olympiad in Informatics and conveys the visions of two Presidents of the Council of European Professional Informatics Societies (CEPIS) on current European ICT matters and future developments within CEPIS's scope.

There is much more including the latest EC press release on e-Skills, an introduction to the new IT STAR book and news from IPTS and the WCC in Milano.

Thank you for being with us and happy reading,

Plamen Nedkov

Contents:

Letters to the Editor:

P. Nedkov, Leesdorfer Hauptstr. 96
A-2500 Baden, Austria
e-mail: **editor@starbus.org**, web-site: **nl.starbus.org**

See page 12 for details and registrations, IFIP WCC' 08, 7-10 September 2008, Milano

Organization

IT STAR will hold its next business meeting on 6 October 2007 in Timisoara, Romania. We are pleased to present below a short profile of IT STAR's Romanian member society and host of our Timisoara meeting, based on information provided by ATIC's management.

THE ASSOCIATION FOR INFORMATION TECHNOLOGY AND COMMUNICATIONS OF ROMANIA

ATIC, the Association for Information Technology and Communications of Romania, is the first independent non-governmental organization in the IT&C field in Romania. The association was registered in 1990 as the Romanian Software Association and changed its name to ATIC in 1996. ATIC represents the business sector and the scientific ICT community in Romania. Its full members are the most important Romanian IT&C companies. Individual members are well-known professionals from universities, research and industry.

The Association organizes and promotes information exchange, collaboration and cooperation between its members, establishing as a fundamental principle the support of the science practice in this field, honoring creativity, respecting the law, in a wide exchange of opinion for the utilization with maximum efficiency and professionalism of new scientific innovations.

It deems itself an active part of the Romanian civil society, aiming to participate on behalf of its members in the elaboration process as well as the public debate of the strategic orientations, lawmaking initiatives, written and audio-visual communication regarding the development of the IT&C field in Romania.

ATIC is a full member of the following international organizations:

- WITSA – World Information and Services Alliance
- CEPIS – Council of the European Professional Societies
- IT STAR – Regional ICT Association in Central, Eastern and Southern Europe

Its affiliation to the Council of European Informatics Societies enabled Romania to take part in the European Computer Driving License program (ECDL), the world's leading end-user computer skills certification, a global model for the participation in today's Information Society. ATIC holds the exclusive rights for the ECDL license as well as the sub-license for the Romanian territory.

The Association promotes cooperation among Romanian and oversees companies and individuals and supports *Romania IT*, the sign of excellence of the Romanian IT industry. ■

EDITORIAL POLICY

This Newsletter aims to maintain a world-class standard in providing timely, accurate and interesting material on ICT and Information Society activities from the perspectives of Central, Eastern and Southern Europe (CESE) within a global context. It strives to facilitate the information and communication flow within the region and internationally by supporting a recognized platform and networking media and thus promoting and improving the visibility and activities of the IT STAR Association.

The entities and stakeholders whose interests this newspaper is addressing are

- IT STAR's 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.

Individual articles from the Newsletter may be reprinted, translated, and reproduced, except for denoted copyright protected material, provided that acknowledgement of the source is made. In order to reprint material protected by copyright, please apply for permission to the Newsletter Editor.

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

The newsletter is circulated to the 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. ■

Joke of the Issue

"Can I pour you a beer, Mr. Peterson?"
"A little early, isn't it, George?"
"For a beer?"
"No, for stupid questions."

[Visit www.itstar.org/jokes for the best anecdotes on the Internet] ■

International Olympiads in Informatics (IOI)

In the last issue of the Newsletter (Vol. 5. no.2, Summer 2007) there was a short information on the IOI. Since several of IT STAR's representatives expressed further interest in this topic and a recommendation that IT STAR and its member societies should seek to involve young IT professionals in their activities, we are pleased to publish the following 2 articles and the results of the last IOI in Croatia.

19th International Olympiad in Informatics, 15 – 22 August 2007, Zagreb, Croatia

The overall winner is **Tomasz Kulczyński** from Poland.

The participants from the IT STAR countries did extremely well compared to other world regions. The following results are for current IT STAR countries:

Gold medallists
Bulgaria- 2, Croatia- 1

Silver medallists
Romania- 4, Czech Republic- 3, Italy- 2, Lithuania- 2., Slovakia- 2. Bulgaria- 1, Croatia- 1, Hungary- 1

Bronze medallists
Croatia- 2, Hungary- 2, Italy- 2, Serbia- 2, Czech Republic- 1, Greece- 1, Slovakia- 1, Slovenia- 1

The full list of results for all countries is at http://www.hsin.hr/ioi2007/index.php?page=results

Bulgaria – Birthplace of International Competitions in Informatics for School Students

by Petar S. Kenderov

Prof. Dr. Petar S. Kenderov is Member of the Bulgarian Academy of Sciences. He coached the Bulgarian Team for the International Mathematical Olympiad in 1976 and 1977. From 1976 to 1988 he chaired the Bulgarian National Commission for the Mathematics Olympiad (Mathematics and Informatics Olympiads, since 1985). Petar was Chairman of the International Jury and organizer of the First International Olympiad in Informatics for Secondary School students (Pravetz, 1989), Vice President (1996 – 2000), Senior Vice President (2000 – 2004) and President (2004 –) of the World Federation of National Mathematics Competitions (WFNMC), an Affiliated Study Group of ICMI, the International Commission for Mathematical Instruction. Since 1988 he is President of the International Foundation "St Cyril and St Methodius", based in Sofia, Bulgaria.

Competitions in programming appeared in some Bulgarian schools already in the late 70's last century. Originally, the solutions to problems given at the contests required mainly "paper work". The contestants were asked to write on a paper a program which, if executed on a computer, performed a specific task. Then the papers were checked and assessed by the jury. If "computer time" was available, the programs of the students were executed on computer as well. The number of computers in the country in those years was very limited and the access to them for school students was rather restricted. With the advent of microcomputers the situation changed. More and more school students got access to computers and this made it possible to organize competitions which are similar to the ones practiced today - the execution of the code on a computer became an obligatory part of the assessment.

To compete means to compare your abilities and skills with the abilities and skills of others. The broader the base of comparison (larger participation in the competition), the better. This is in the base of the frequently observed trend when school competitions outgrow the frames of the school and become town competitions, the latter grow again to national competitions and, finally, students get involved in international competitions. In Bulgaria regular national competitions in Informatics are conducted since 1981. The nation-wide Olympiad in Informatics (with this name) started in May 1985. An international competition called "Open Competition on Programming" took place in Sofia (May 17-19, 1987). It was organized just before (and in connection with) the Second International Conference and Exhibition "CHILDREN IN THE INFORMATION AGE" (May 19 – 23, 1987) with the intention to make it a traditional event conducted every two years. There were 28 contestants (school students) from 6 countries: Bulgaria (BG), Czechoslovakia (CZ), Federal Republic of Germany (FRG), Hungary (H), Romania (R) and Soviet Union (SU). Bulgaria and Romania participated with two teams. The students were divided in three age groups (less than 14, less than 16 and less than 18 years). The International Jury chaired by Petar S. Kenderov (with Zdravko Vassilev as Deputy) gave two first prizes - to Markus Gutschke (FRG) and to Vulcho Vulchev (BG1). There were three second prizes: Dimitrij Evsjuhin (SU), Andrei Dobos (CZ) and Tomas Mueller (FRG). Vladimir Vesely (CZ), Michael Sperber (FRG) and Svetoslav Nestorov (BG2) got third prize. The competition was a success and sparked great interest and enthusiasm both among participants and organizers. At the 24th session of the General Conference of UNESCO held six months later in Paris, Professor Blagovest Sendov, a member of the Bulgarian delegation, suggested to include an International Olympiad in Informatics (IOI) in the Fifth Main Programme of the UNESCO Plan for 1988-89. The proposal was approved and by a contract with the UNESCO Division of Science, Technical and Envi-

ronmental Education, Bulgaria took the obligation to organize the first IOI just before the third Conference and Exhibition "CHILDREN IN THE INFORMATION AGE" (Sofia, May 20 – 23, 1989).

Additional experience in conducting international informatics competitions was gained in 1988 when a competition for school students from technical schools was held in Bulgaria (Varna, October 5 – 8). There were 18 students from six countries: Bulgaria, Cuba (C), German Democratic Republic, Hungary, Poland (P) and Soviet Union. The International Jury was guided by Pavel Azalov (Chairman) and Evgeni Genchev (Deputy Chairman). There were two first prizes which went to Georghi Rivov (BG) and Marchin Wojas (P). A second prize was given to Alexiel Matos (C) while the third prize went to Pavlin Kostov (BG).

The first IOI was conducted in Pravetz, Bulgaria, from 16 to 19 May 1989. It was modeled after the International Mathematical Olympiad (IMO) and this was explicitly mentioned in the written Regulations of IOI. For instance, the participating countries were obliged to send in advance to local organizers sample problems from which the International Jury had to select the problems to be given at the competition. Only school students who have not completed certain age (in this case 19 years) by the beginning of the competition were admitted to participate. In the first half hour after the start of the competition the participants had the right to put questions to the International Jury (in written form) concerning the formulation of the problems. The student work was preliminarily checked and assessed by the respective team-leader and then finally marked by the "Coordinating Commission". The final marking was with the International Jury which decided also how many first, second and third prizes are to be given to the most successful participants. All expenses related to the stay in Bulgaria of the teams and the team-leaders were covered by the organizers. There was an excursion to Sofia and an entertainment program for the participants in the competition. Professor Iltscho Dimitrov, Minister of Education, gave a reception for IOI participants.

There were however significant deviations from the established routine of IMO. According to the rules of IOI, a team consisted of not more than three students accompanied by a team-leader. With teams of six students which was the case in IMO, it would have been difficult for organizers to ensure support for local expenses of participants and to provide the necessary number of computers (APPLE II compatibles or IBM PC/XT/AT/ compatibles) for all contestants. Another deviation from the practice of IMO was that, while doing the preliminary assessment of the papers, the team-leader had the right to talk to the participant and to ask for explanations of his/her work. This helped significantly the process of marking the papers. At the end of the competition each team leader accompanied by a member of the Coordinating Commission collected the problem solutions from the members of the respective team. The work of each student (the final version of the solution) was copied on two floppy disks. One remained with the team leader and the other stayed with the Coordinating Commission. The program of each student was run with a set of preliminarily prepared (and approved by the Jury) Test Examples.

Thirteen countries have sent teams to IOI. These were (alphabetically): Bulgaria, Cuba, Czechoslovakia, Federal Republic of Germany, German Democratic Republic (GDR), Greece, Hungary (H), Peoples Republic of China (PRC), Poland, Soviet Union (SU), Vietnam, Yugoslavia and Zimbabwe. The teams from Hungary and from Yugoslavia had two students each. Bulgaria participated with two teams and Soviet Union with three teams. Thus, altogether, there were 46 students distributed in 16 teams. The International Jury consisting of Chairman (Petar S. Kenderov), Deputy Chairman (Nelly Maneva) and the team leaders gathered on Wednesday morning (May 17, 1989) to select a problem for the competition. A special Scientific Commission has prepared in advance six problems based on suggestions made by team-leaders before the IOI. The International Jury selected a problem originally proposed by China. Then the problem was refined and formulated in the official languages of the Olympiad: English and Russian. The team-leaders translated the problem into the respective languages understandable for their students.

Here is the problem given at the first IOI (by default *N* stands for an arbitrary positive integer):

Given 2N boxes in line, side by side; two adjacent boxes are empty, and the other boxes contain N - 1 symbols "A" and N - 1 symbols "B".

Example for N =5.

A	B	B	A			A	B	A	B

Exchanging rule:

The contents of any two adjacent non-empty boxes can be moved into the two empty ones, preserving their order.

Aim:

Obtain a configuration where all A's are placed to the left of all B's, no matter where the empty boxes are.

Problem:

Write a problem that:

1. *Inputs from the keyboard the initial state as a sequence of A's and B's and zeros (for the empty boxes), and models the exchanging.*
2. *For a given initial state finds at least one exchanging plan, which riches the aim or reports that such a plan does not exist. The output should contain the initial state, the intermediate states after each step, and the final state.*

3. *Finds a plan reaching the aim with a minimal number of steps.*

Results:

Present at least one solution for the example mentioned above.

The maximal number of points given for a complete solution to this problem was 100. Those students who scored 91 and more points were given the first prize. These were:
Teodor Tonchev (BG2), Markus Kuhn (FRG), Emanuil Todorov (BG1), Andrius Cepaitis (SU1), Igor Maly (CZ) and Daniel Szabo (H). Second prize was given to students who got between 80 and 90 points. These were: A. Altanov (BG1), I. Marinov (BG1), H. Schwetlick (GDR), U. Nielaender (GDR) and L. Novick (SU1). The third prize went to students who got points in the range 60-80. Two encouragement prizes were also awarded. One of them went to Alexei Kolybin (SU3) who was the youngest participant and the second was given to Anita Laloo (Zimbabwe) – the only girl among the participants.

The first eight places in the unofficial country (team) ranking is given by the next table:

No	Country/team	Team Leader	Score
1	Bulgaria (first team)	P. Azalov	275
2	Peoples Republic of China	W. Wu, Q. Ling (Deputy)	221
3	Federal Republic of Germany	P. Heyderhoff	215
4	Czechoslovakia	O. Demacek	209
5	German Democratic Republic	M. Fothe	207
6	Soviet Union	V. Kirjuchin	190
7	Bulgaria (second team)	K. Manev	188
8	Hungary (two students only!)	T. Toeroek L. Zsako (Deputy)	149

Many people contributed to the organization and conduction of IOI. The work of the International Jury was supported by the software system created by P. Azalov and V. Dimitrov. In the hands of I. Nenova and V. Dimitrov this system served perfectly all the information needs of IOI – starting with the registration of participants and ending with the ranking with respect to results obtained in the competition. Alexander Pokrovsky from UNESCO (Division of Science, Technical and Environmental Education) was involved on all stages with the organization and conduction of IOI.

Since then IOI is taking place annually. In 2009, twenty years after its birth, the IOI will be conducted again in its native country Bulgaria. ■

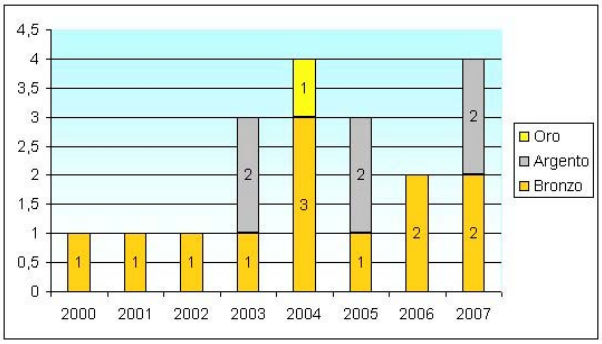
THE IOI COMPETITION: AN ITALIAN PERSPECTIVE

by *Giulio Occhini*

Giulio Occhini is Chief Executive Officer of AICA and Coordinator of IT STAR

The IOI (International Olympiad in Informatics) is a world wide annual competition of secondary school students. The 2007 edition took place in Zagreb (Croatia) from August 15 to 22.

The Italian team, constituted of four delegates, winners of the National Olympiad in Informatics, won two Silver and two Bronze medals. With this success, the total number of medals gained by the Italian teams since 2000, when Italy started to participate, is 19 - 1 Gold, 6 Silver and 12 Bronze.



The Italian IOI participation is organised by AICA (Associazione Italiana per l'Informatica ed il Calcolo Automatico) in co-operation with the Italian Ministry of Education.

The team of four students is selected during a long process starting at the level of the individual school, going on to the regional level and eventually ending at the national games. The selection process begins in September and ends in July next year. The games typically measure the problem-solving capabilities of the candidates - it is necessary to invent the

solution algorithm, to program it in Pascal or C++ and to obtain the right result.

The IOI game session lasts 4 to 5 hours.

For the Italian students, the main difficulty of the IOI is that the Italian curriculum of secondary schools does not include a mandatory training on information and communication. When such training is available on a voluntary basis, it is because of an autonomous decision of the school and is limited to the user-practice represented by ECDL (European Computer Driving Licence), which is quite important but not enough for the Olympiad.

For this reason, AICA and the Ministry of Education were compelled, from the start, to create an Olympiad Committee, mainly of University professors, with the purpose to train and support students during and aside of the selection process.

In particular, the final team of candidates passes in July a 15 days intensive coaching in a residential location (generally, a University site) to get acquainted with the Olympiad. It should be noted that the IOI problems are of such a level that PhDs in Informatics have to work hard to find the right solution.
From AICA's standpoint, the IOI competition is fully coherent with its status of a non-profit association engaged in the growing of the country ICT knowledge and is instrumental to attract young people. ■

Visions from CEPIS

Invitations were extended to two CEPIS Presidents – the current and the forthcoming – to contribute to this issue of the Newsletter with articles on their views on current and future developments of the EUropean ICT scene. Both responded positively and we are pleased to publish the two articles below.

The Current State of European Co-operation in E-skills

by Geoff McMullen

Geoff is President of CEPIS for 2006 and 2007. He has been President of the British Computer Society and Chairman of the UK National Industry Training Organisation.

His working life includes periods as CIO for Shell UK, head of the Shell Group IT unit, and director of JANET, the UK academic Internet. His strongest interests professionally are large/complex projects and skills.

Introduction

A large part of CEPIS's activities involves representing its members throughout Europe in relation to the Commission and elsewhere. This article outlines issues of general concern in the development of European co-operation in e-skills. It describes the current work of CEPIS against a background of what is going on in Europe in this area, then summarises the issues for member societies in dealing with their national governments.

Given our declared objectives, CEPIS sees the key issues as:

- The need to promote the idea of a fully developed ICT profession in Europe, so as to ensure that ICT services offered to citizens and institutions are correctly designed, built and operated
- The consequent need for relevant definitions of proper skills and certification products that will demonstrate the competence of people wishing to practise in this area as professionals
- Better understanding of the "labour market" in this area, as an aid to planning for governments, organisations and individuals

The European political environment

The EU established the Lisbon agenda in 2000 to make a significant improvement in the competitiveness and productivity of Europe; in short: "to make Europe, by 2010, the most competitive and the most dynamic knowledge-based economy in the world".

All documents concerning the agenda and its implementation recognise that the current dominant technology globally, leading to innovation and the improvements sought in the implementation of the Lisbon agenda, is ICT (Information and Computer Technology) – our principal field of activity. CEPIS therefore sees it as essential to influence policy development in support of the Lisbon agenda[1].

The strategy rests on three pillars: economic, social and environmental (added one year after the declaration of the agenda). There is no technology pillar, so our programme to influence the overall public programme will necessarily assist with the promotion of one of the defined pillars. From the perspective of the European Commission, the activities that support the development of the pillars include:

1. Broad economic policy guidelines (BEPG)
2. Employment
3. Environment
4. European Employment Strategy (EES)

[1] Wikipedia has useful articles on the Lisbon process and its current status; any Google search will lead to hundreds of useful references.

5. Globalisation
6. Information society
7. Open method of co-ordination
8. Research and development

CEPIS is currently active in four of these areas – 1, 2, 6 and 8. We have recently appointed a manager for EU affairs, Nikos Ioannou, who is developing effective working relationships across the Commission. He can be contacted at ioannou@cepis.org and is available for help and advice to member societies on EU matters.

A useful lead into the whole subject from an official point of view will be found at:
http://europa.eu/scadplus/glossary/lisbon_strategy_en.htm

The Commission reported in 2005 on some confusion in development of the agenda in a mid-term review of implementation that led to substantial change in the implementation *modus operandi*. CEPIS continues to work with the agenda and those seeking to promote it.

The implementation approach taken by the Commission involves what is called an open method of co-ordination (OMC). This approach calls for action to be taken at two levels - national and European - and for the Commission to ensure that linkages exist between the two. Consequently, there are and will continue to be opportunities for intervention both for CEPIS and its member societies.

What follows is a summary of current CEPIS involvement in the areas where European policy is developing; and a number of suggestions about how national societies within CEPIS and IT STAR can seek to help in the developing public agenda while promoting their own image and interests.

CEPIS activities

CEPIS has been working with the Commission in various areas:

- Within the CEN/ISSS workshop on eskills
- As a contractor on strategic e-skills projects – most notably Harmonise and e-Skills Foresight Scenarios
- As a contributor of expert opinion at workshops, like the biennial eskills Forum
- As contributor to other projects by invitation

The CEN/ISSS workshop on e-skills is currently developing a reference framework for promotion by the Commission to enable member states to align their own national systems for defining ICT areas of competence. Several member societies are members of the workshop. Others who are interested in knowing more can contact the workshop secretary (Mme. Valérie Bertrand at valerie.bertrand@afnor.org). CEPIS currently holds the workshop chair, and a replacement will be elected in November 2008. It will be useful if CEPIS and its members or associates can at least offer candidates for this significant role.

The Harmonise project http://www.cepis-harmonise.org/php/ is providing a very useful overview of existing qualification and certification schemes in ICT across Europe. The Foresight project is a first attempt at examining the key trends that will play a role in influencing the supply and demand of each of the three types of e-skills (user, practitioner and e-business).

CEPIS selected key areas for action in dealing with the Commission and other European bodies last year by selecting professionalism, skills and education/research as key areas for attention at a meeting of member society Presidents in Vienna. The output of these activities in these areas can be seen on www.cepis.org. It will continue to be necessary to re-visit our choices periodically to ensure that CEPIS continues to work on topics consistent with the interests of a majority of member societies.

Independently, CEPIS has addressed the need for more people with identifiable and useful end user skills for the last 12 years through the extremely successful ECDL programme - now the world's leading user ICT certification. Building on that experience, CEPIS launched EUCIP in 2002 – the European Certification of Informatics Professionals. This qualification is available in several countries and is showing signs of increasing demand in Norway and Italy. Visit www.eucip.com or email info@eucip.com for further details.

Areas for member society activity

Many member societies are actively engaged with their national governments in addressing the issues outlined in the introductory paragraph of this article. Relevant contacts can be traced by searches starting with the Commission website for countries that are members of the EU. Our experience of member societies suggests that the key issues seem generally to be:

- Securing recognition that ICT practitioners need to be treated as a recognisable professional group working with an established body of knowledge and able to demonstrate relevant levels of qualification
- Integrating into the national education system relevant qualifications at secondary and tertiary levels (and promoting our own ECDL and EUCIP certifications)
- Providing advice to government from expert members on important topics of the day, for example security and safety
- Encouraging young people to seek a career in ICT and showing them how adopting a professional approach can make the career easier to achieve, simpler to understand and more satisfying

CEPIS was established nearly twenty years ago and has dealt with challenges in these areas with overall success. I wish members of CEPIS and IT STAR success and good fortune in addressing these issues locally. ■

CEPIS
Council of European Professional Informatics Societies

The Council of European Professional Informatics Societies (CEPIS), as representative of the European Network of Informatics Professionals, is focusing on taking part in European initiatives to represent its Member Societies and to help improve the development of ICT Skills coordination at European level. Currently CEPIS is the project leader for Harmonise, a 36 month project funded by the European Commission under the Leonardo da Vinci Program of DG Education and Culture.

Harmonise aspires to establish comparable data on ICT vocational training systems and various approaches to ICT qualification and ICT certification in participating countries. The project aims to provide recommendations for the stakeholders in order to work towards the convergence of existing approaches to e-skills certification in Europe and beyond. In order to concentrate on the different scopes of the certification schemes, the study has been divided into four areas:

- **Demand and Supply** analyses the situation, the need and the importance of the certifications in the labour market.
- **e-Skills Certification** studies the certifications available at national or European level concerning their value, their importance and their specifications.
- **Market** concentrates on the organisation of the certification market in Europe.
- **Quality Assurance** of the certification schemes.

CEPIS acts as coordinator of the project. AIFB (University of Karlsruhe) and IFS (Institute for Future Studies) are the scientific leaders and are helped by the BCS (British Computer Society), AICA (Associazione Italiana per l'Informatica ed il Calcolo Automatico), GI (Gesellschaft für Informatik eV), NJSZT (John v Neumann Computer Society), the ECDL Foundation (European Computer Driving Licence Foundation) and EITS (Estonian Information Technology Society). In the long run the project intends to contribute to the actual developments towards the possible harmonisation in the field of ICT qualifications for ICT practitioners in the context of lifelong learning, drawing and building on the successful experience of the ECDL (European Computer Driving Licence).

To find out more about Harmonise visit http://www.cepis-harmonise.org

www.cepis-harmonise.org

harmonise IT
Toward Harmonisation of Information Technology Learning in Europe

Education and Culture
Leonardo da Vinci

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

CEPIS – What Next?

by Niko Schlamberger

Niko Schlamberger is president of the Slovenian Society "INFORMATIKA" and secretary for special projects at the Slovenian statistical office.

He served as IT STAR coordinator for the period 2003 – 2006 and is at present Vice-President of IFIP. In 2006 Niko was elected as the next President of CEPIS for the period 2007 – 2009.

Where do we live?

Whether we live in the best of all worlds is a dilemma that has not been resolved by philosophers to this day and it is not my aspiration to resolve it now. Yet, it is a common wisdom that if we are to define the right goals and make a plan how to reach them we must understand our past and our present. So where do we live? The answer to this question is not as simple as it might seem at first glance. Is it our home, our town, our country, the continent? All of them or just some of them?

An appropriate description would seem to be such that is possible to describe without too much of personal bias and with as much of impartial data as possible. As the theme of this article is CEPIS the obvious answer is that we live in Europe. Regardless of the fact that Europe is not one in a political sense it is true that seen from some distance such as Asia or America Europe is rather a comprehensive world whose countries for the first time in modern history start to converge not by force but by their own intent and will. Probably the most important underlying feature is that never in history the life in Europe has been so good for so many people. Computers, information science and information technology professionals play an important role in the process. While the revenue of the IT industry or budgetary IT related expenditure do not account for the best part of the turnover it is the effects of introducing and deploying computers that has enabled such progress. In short, the information society is not a science fiction any more but rather an expected course of development.

Why CEPIS?

Computer scientists and practitioners have more or less expected such a course, which also bears risks of its own. It seemed wise to follow examples of established professions and start societies of IT professionals. It was also clear that with the convergence of countries there is necessarily a closer collaboration of national computer societies and this is how CEPIS came into being. Its mission and goal was to be the main representative of European IT professionals and their voice. The mission is being carried out successfully by engaging in projects that are of European significance and endorsed by the highest bodies of the European Union. Nevertheless there is more work for CEPIS also in the future for two reasons. First, our world is changing constantly so our targets, our goals are ever moving. Next, regardless of being an autonomous entity, CEPIS is a council of computer societies and given the number of member societies and their own ambitions in fields they expect involvement of CEPIS, this will continually bring new challenges to it.

Personal experience

Soon after 1998 when the Slovenian Society INFORMATIKA joined CEPIS, a council meeting took place in Ljubljana and as a representative of SSI I was asked to address the audience. Membership of Slovenia in the European Union seemed more far away then as it is possible to describe. The ECDL was on its way already and the SSI had a plan to introduce it in Slovenia but the primary motive of joining CEPIS was not the ECDL license. The ambition was to join the European IT professional community and I said I hoped that CEPIS will be prospering and SSI would be its member long after ECDL is forgotten. That was not meant as disregarding ECDL but rather to emphasize that there are stronger and more lasting qualities than a service that may be extremely useful at some time but will have been consummated sooner or later. As time passed and as I became closer and more involved, I was glad to notice that I have not needed to change my initial picture of CEPIS in any significant way. It is an important forum, has proved its worth, and has its place in the future of Europe and its countries – but not necessarily with the old answers to new challenges.

What next?

Answering the question we must notice that we live in Europe where regions are increasingly important; where countries have different histories; where Europe as a political entity in its own right is emerging but is not yet there; and that Europe such as it is is a part of a more and more globalized world. The answer must necessarily consist of national, regional, European, and global components. If I were to answer what does CEPIS want to be in the future the first answer would be that which is written in the statutes. The motives that led to its foundation are still there but need some elaboration with regard to who we are and where do we live. From the standpoint of the informatics practitioners that are members of a national computer society CEPIS should support their objectives. This is not an easy one as national computer societies have very different visions and goals and CEPIS cannot be engaged in all activities of all societies. There is nevertheless a common goal of most if not of all of them which is to promote IT skills and literacy. Nationally it can support attempts of national computer societies in increasing their visibility and influence. This can be done in many ways but there is no way without close collaboration between CEPIS and the national computer societies. Member societies with the help of CEPIS should take a

leading role in their national environments. Support of activities and projects of member societies such that a partnership relation could start to build is just a possibility of future relations. For example, a society could start a project where CEPIS would participate and the results of which would be available to the participating parties. A working paradigm is IT STAR PP Database.

Then there is a regional dimension of possible engagement of CEPIS. Nordic Data Union is an entity with some history and experience. IT STAR is another case of a regional forum that celebrated its fifth anniversary in 2006. There may be more such associations in existence or emerging. The common feature of all of them is that they unite computer societies on a regional basis. CEPIS should pay attention to them and try to support them in such ways that will lead to accomplish their goals, which will in turn also support the CEPIS objectives. As IT STAR and NDU member societies are national computer societies, they both (and possibly others) expect collaboration with CEPIS to become stronger. Here again a similar relation could be envisaged as that with national societies.

In terms of EU, CEPIS is engaged in several European projects and has got an increased visibility in European institutions but there are possibilities to enhance its role and position much more. What can and, indeed, should be done is CEPIS to become the voice of European informatics. The results of projects should be available to all CEPIS member societies for a not too high price as in a way they have been financed by their membership fee. That in turn means that in future CEPIS should focus on projects the results of which will be useful to its member societies. The main purpose is the European visibility and influence where the first and foremost aim is to be *the* voice of European IT professionals. The way to this goal is in providing opinions (even if unsolicited at first), position papers, monographs and similar documents on actual issues. In this respect CEPIS should stay close to the EC but hopefully more influential. Likewise, the member societies should, with the help of CEPIS, take a similar role in their national environment.

Then there is also a global component of CEPIS engagement. It has been successful with ECDL, which has in the form of ICDL with the valuable help of the ECDL Foundation become a global European export product. Another potentially global export product is EUCIP provided that it will be established and recognized in Europe first. There are more feasible products in the ECDL Foundation store all of which have a potential of a global product. CEPIS is also an affiliate member of IFIP which in itself means a global presence of CEPIS and possible collaboration in developing world-wide recognized schemes such as professionalism in IT. There may be more. What is the least that CEPIS can bring in is another view, a second opinion and a European angle to global challenges.

Future work

While CEPIS is an entity in its own right with its own goals and aims it should not be forgotten that it has been established by national computer societies to needs and plans on which it should concentrate more than it did in the past. Then there are the regional and global components that bear more potential than has been used so far. Both necessarily mean a stronger engagement by CEPIS for which also the operative support should possibly be strengthened. We want to be successful at least as much as we have been so far. It is my belief that the secret of success does not lie just in the work of the president or the executive committee or member societies alone but in the work of all of them combined. In trying to make out the best course for the future it is not unexpectedly that there are more questions than answers. The wisdom lies not in trying to find responses to the unknown challenges but to find the proper ones in the actual situation. We have been successful to do so in the past, which is a rather strong reason to believe that we will be successful in future. ■

New IT STAR Book

UNIVERSITIES AND THE ICT INDUSTRY

by Plamen Nedkov

Plamen Nedkov is Chief Executive of IT STAR and served as Moderator of the UNICTRY' 07 event in Genzano di Roma, Italy

The publication *"Universities and the ICT Industry"*

Giulio Occhini & Plamen Nedkov (Eds)
ISBN 88-901620-1-5
Publisher: AICA, Sept. 2007

contains the proceedings of the 2nd IT STAR Workshop on Universities and the ICT Industry (UNICTRY 07) held on 26 May 2007 in Genzano di Roma, Italy.

Here are some of the addressed issues:

- *Are there official EU standards for assessing and recognizing e-skills and academic excellence in computer science?*
- *How can Europe narrow the e-Skills gap and be more technologically competitive?*
- *Are there ways for European universities to provide both fundamental knowledge in computer science and the ability for immediate practical application of qualifications to meet the short-term demand and expectations of Industry?*
- *Does the university-industry partnership need a "Code of Conduct"?*

- *Is Europe continuing to loose computer science graduates to other world regions?*
- *What is the role of the EU and national governments in ameliorating the university-industry partnership?*
- *The Bologna process - fresh wind?*

The organizers, speakers and workshop participants are convinced that it is impossible to segregate and scrutinize the partnership between universities and the ICT industry without discussing this relationship within the broader socioeconomic context of development of our modern world. Such an approach was facilitated by the fact that along with the representatives from academia and industry, there were persons with vast experience in government and public policy, national and international NGOs and other civil society institutions.

The volume of the ICT industry clustered around the Internet is astounding. New revolutionary ways and business models are introduced in information, content, services and product exchange and there are profound changes in the value chains and industry structure. In 2006, according to OECD, the World market achieved a 6% growth with countries such as Brazil, Russia, India and China showing steady annual growth of over 20% since 2000. There are remarkable developments in information and communication systems – the number of URLs doubled from 50 to 100 million, 2.5 billion cell phone lines, 200 million DSL lines, 100 million 3G lines, …*[see Keynote by B. Lamborghini published in NL Vol. 5, no. 2., Summer 2007]*.

The new technological environment is rapidly changing our notion of limits and expectations of educational systems, qualifications, mobility, opportunities and risks. For the EU as a whole and for the IT STAR countries (some of which have shown lately IT growth of around 12%) this new environment is a time of great opportunities but also of risks. One particular issue on the "watch list" is the scarcity of human capital with appropriate ICT education to drive the technological change in Europe forward. According to EITO, CEPIS, AICA and other studies and observations there is a significant gap in ICT skills penetration and of e-business skills to use efficiently ICT technology for business and other applications.

ICT is an enabling technology, which is increasingly important for all professions and for all professional and private activities. In this regard one speaker made an analogue between the ICT sector and the Transportation sector. Along with language skills and basic management knowledge, general ICT skills form the essential "soft skills portfolio" for professional development. The issue of e-Skills levels, however, is tricky as it requires some form of certification. In this regard, another speaker drew a parallel with the driving license and pointed that most have one to certify their ability to drive a car without any discrimination between "Sunday" drivers and Formula 1 pilots.

Not that there are no defined levels of certification: Several refer to the Computer Driving License (ECDL) which is successfully and broadly introduced in Europe in pre-university education but also in some universities to assess computer usage abilities by first-year students of most bachelor courses.

When it comes to the level of Universities and computer science related disciplines, the expectations by academia and industry are clearly more profound forming a complex relationship:

- Universities need research to maintain a high level of academic excellence, to remain a key player in basic and high-end science and to receive additional funding from industry
- Industry relies on new academic recruitment by attracting and selecting talented students but also through joint research with universities in areas in which its own R&D units need further competence

In this partnership, conflicting interests arise due to the nature of the 2 spheres (i.e. education and profit). Often Industry requires immediate highly specialized solutions while academia supports the notion of the broader and more abstract horizons needed by the discipline and for long-term societal development. To ameliorate this relationship governments have a distinct role to play:

- Governments (and the EU) are obliged to support the education and research capability of their countries and to ensure a skilled labor force. They are interested to secure high employability and to promote schemes to stimulate closer partnership between academia and industry thus attracting an additional source of funding

The Tripartite relationship is essential for all European public universities. In this knot of multi-stakeholder relations the following important issues are brought to the fore:

- Innovativeness and the process of: The ICT industry is a sphere of rapid technological change, which makes existing knowledge quickly obsolete. While innovation today is mainly produced outside academia, universities can give high-value contributions by way of strong partnership schemes. A great challenge for European universities is to cultivate the spirit of innovativeness by regarding the process of education not simply as an individual endeavor of the students but rather an environment of group work, establishing trust and open exchange of ideas.

- The demand for continuous life-long learning and e-learning projects
- The dilemma of the university curricula focus and the "skill-sets" and qualification of the computer science graduates – narrow and strictly specialized or broad and basic

- The urgent need of a pan-European system for the recognition of university diplomas and certificates: The lack of a system directly effects the mobility of ICT graduates, limits their working opportunities and deprives the ICT industry in general of skilled labor. The Bologna pan-European agreement of 1999 set the process toward the mutual recognition of university diplomas. Several papers discuss the restructuring that is occurring in the national systems of education as well as some of the experienced weaknesses.

Many concrete examples and useful case studies of mutually beneficial schemes for university-industry cooperation are contained in the book.

The Genzano di Roma Declaration [*see NL Vol. 5, no. 2., Summer 2007*] directly emanated from the Workshop recommendations. It is strongly recommended that IT STAR continues to provide a form for discussion on the important topic of University ICT education and research, qualifications and certification, and the Tripartite partnership between academia, industry and government. ■

Member Society News

AICA (Italy)

The 20th World Computer Congress (WCC 2008) organized by AICA under the auspices of IFIP will take place for the first time in Milano, Italy, **7 - 10 September 2008**.

During the four days delegates, coming from all world regions, will debate the main questions and perspectives in the ICT domain that are at the heart of the economy and knowledge of the 21st century and in the evolution of our society.

WCC 2008 aims to provide links between Business and Research. The new Italian approach will give the possibility to match specific subjects of the technical committees with cross subjects of the Italian reality, involving business and industry sectors.

The Congress program and all other related information is posted at www.wcc2008.org

Registrations

A Congress registration discount of 25% is provided to all registered persons by **31 January 2008** - the fees for Early birds are € 600,00 for non-members, € 487,50 for IFIP/AICA delegates and € 210,00 for students.

Details and online registration are at http://www.wcc2008.org/site/registration.php

Important dates for Authors

1 December 2007	Deadline for paper submissions (refereeing starts on 15 December)
10 March 2008	Authors will be informed of the results

MASIT (Macedonia)

Following established tradition, the 5th SEEITA Conference, jointly with the 4th MASIT Open Days, will be organized in Skopje from 27 to 29 September 2007. The event is supported by USAID RCI and the Government of the Republic of Macedonia.

The SEEITA conference is an important annual event in South-Eastern Europe and a major effort in improving the ICT business environment in the region.

More information is available at http://www.seeita.org

SSI (Slovenia)

The 9th International symposium on Operational Research in Slovenia – **SOR' 07** – will convene on September 26-28, 2007 in Nova Gorica, Slovenia.

It is organized by the Section of Operational research of SSI "INFORMATIKA". Its work is organized in several sections including Networks, Stochastic and Combinatorial Optimization, Algorithms, Multi-criteria Decision Making, Scheduling and Control, Location Theory and Transport, Environment and Human Resource Management, Duration Models, Finance and Investment, Production and Inventory, Education and Statistics, OR Communications and other.

The next annual conference **"Days of Slovenian Informatics"** (Dnevi slovenske informatike) will take place in Portoroz from 9 to 11 April, 2008 ■

News from the EC

Brussels, 7 September 2007 - Commission proposes actions to foster 21st Century e-Skills

Recent reports and surveys indicate that Europe may face severe e-skills shortages and mismatches in the coming years. At the same time, e-skills are becoming central to boost innovation, productivity and employability and to respond to global challenges. To this end, the European Commission proposes today a long-term e-skills agenda and a set of action lines at EU level following extensive expert group and stakeholder consultations. These actions will complement and enrich significant efforts already under way in Europe.

Most actions contributing to the implementation of a long term e-skills agenda are within the responsibility of Member States, industry, academia, trade unions, etc. The Commission encourages them to further develop their policies and initiatives, and facilitate the exchange of good practice, and will focus its own efforts on actions bringing added value at EU level:

***Raising Awareness**: exchanging information and good practice for the promotion of science, maths, ICT, teacher training and gender issues; encouraging awareness campaigns to provide parents, teachers and pupils with an accurate understanding of opportunities arising from ICT education and careers and reinforcing the links between ICT, learning and innovation.

***Developing supporting actions and tools**: supporting the development of a European e-competence framework, of a European e-skills and career portal, and the Europass initiative; promoting multi-stakeholder partnerships, quality criteria for industry-based training, new curriculum guidelines including services sciences, and appropriate incentives, especially for SMEs.

***Fostering employability and social inclusion**: launching an initiative on e-Inclusion in 2008 with a view to halve the digital divide by 2010; encouraging corporate social responsibility (CSR) initiatives such as the European Alliance on Skills for Employability under the umbrella of the Business CSR Alliance; and promoting how public and private funding instruments can support such initiatives.

***Promoting better and greater use of e-learning**: promoting the development of courses and mechanisms facilitating the exchange of e-skills training resources; supporting the networking of e-learning and training centres with the European Network of Living Labs and promoting successful e-learning strategies.

***Promoting long-term cooperation and monitoring progress**: maintaining a regular dialogue with Member States and stakeholders; releasing an annual report presenting a synthesis of supply and demand and assessing the impact of global sourcing on ICT jobs and occupations.

The way forward to the widening and deepening of e-skills within the EU is through multi-stakeholder dialogue and partnerships for action. The Commission will organise a major conference in co-operation with stakeholders at the end of 2008 to report on progress, present the results of the actions and discuss the way forward.

[The press-release is slightly abridged - the full text is available at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1286&format=HTML&aged=0&language=EN&guiLanguage=en]

IPTS[1] Takes Further Initiatives to Investigate the Information Society Take-up in Eastern and South-Eastern Europe

by Marc Bogdanowicz

Marc Bogdanowicz is Action Leader of the Techno-Economic Development of European Information Societies project at the ICT Unit of the EU's Institute for Prospective Technological Studies (JRC-IPTS) in Seville.

There is an almost banal consensus that Information and Communication Technologies (ICT) have become the dominant pervasive technology for the next half of the XXI century, enabling and structuring the advanced economies towards an Information Society.

Eastern and South-Eastern European Member States have gone since 2000 through a period of accelerated absorption of Information and Communication Technologies that is somewhat comparable – even if different in nature and conditions - to the one that started around 1994 in their western counterparts.

---

[1] The Institute for Prospective Technological Studies is one out of seven Institutes, part of the Joint Research Centre, a DG of the European Commission. It is based in Seville, Spain.

Around 2000, most experts were agreeing on a rather pessimistic scenario for Information Society take-up in those eastern countries: the constellation of the usual eight to nine necessary factors for Information Society take-up[2] was such that at best it was estimated that these countries would develop some FDI-based industrial 'hi-tech islands' in an information and technology-starved landscape.

The alternative scenario called for a major public policy push, for example at European level. Probably some of this happened with the successive eEurope programmes and their counterpart plans in Eastern Europe. Also, the Enlargement process acted as an attractor for FDI and a booster for overall growth prospects, propelling technological transfer and demand in these countries. Consequently, the period 2003-2005 was a period of accelerated catch-up in terms of Information Society indicators for most Eastern and South-Eastern Member States.
These changes, and their impact on the domestic economy, have been observed and described at length by a network of Eastern European researchers who today, under the umbrella of the European Commission's Institute for Prospective Technological Studies (IPTS), publish a book that summarises the uptake of the Information Society in thirteen countries that at the time of the investigation were still in the process of acceding to the European Union[3].

Today, those Eastern European Member States are no longer "ICT laggards": they are catching up in terms of implementing the Information Society, and some of the indicators show that they do better than the EU in general, and the cohesion countries (Spain, Portugal, Greece) in particular. Time seems to be ripe for leap-frogging – using ICT in such ways that the economies flourish and that the countries reap the benefits of techno-economic change, induced by stimulating organisational changes and supporting innovation.

In particular, the articulation between the structural reforms of the Education, Pension, Health, Public services etc, and the development of eServices might serve as crucial areas for leap-frogging. In line with its earlier investigations, the IPTS supported during the period 2004-2006 a broad study focusing on the development of e-Services in the areas of eGovernment, eLearning and eEducation. This study is now in its last stages and is delivering national reports in each domain for the ten countries that joined the EU in May 2004, as well as cross-country synthesis reports for each domain. Those thirty-three reports will be available soon on the IPTS website (http://www.jrc.es/), as well as probably on CD Rom.

Finally, as integrating ICT as tools to support structural reforms is seen as a key factor for accelerating the transformation of the socio-economic activities and ensuring future economic growth and competitiveness, the IPTS is launching a new initiative in Eastern Europe, for the period 2007-2008. It is aimed at monitoring progress in ICT absorption and assessing the economic benefits of the integration of ICT in such areas as public eServices and the industrial activity at large.

This "Observatory of IS Take-up in the Eastern European Member States and the Candidate Countries" (OISTU) will open its website before the end of 2007, and will offer a vast selection of data, reports, contacts to keep informed on Information Society developments. In addition, it will launch a call for scientific papers on the measurement of the economic benefits associated with the deployment of eServices in the ten countries that joined the EU in May 2004. On this basis, it will edit annually an e-book of the best scientific contributions on the subject, and will aim at animating the scientific and policy-support debate on the issue. All services will be available from: http://icegec.hu/eng/index.htm.

As one can see from the above, IPTS is maintaining a continuous thread of investigation about the Information Society in the so-called "new" European Member States, hoping this will give support to all those who in these countries wish to give scientific or political support to the optimal take-up of their Information Society. ■

[2] For more, see: *Bogdanowicz M., Centeno C., Burgelman J.-C., 2004. Information Society Developments and Policies Towards 2010 in an Enlarged Europe: Ten Lessons from the Past and Three Challenges for the Future.* European Commission, IPTS; Seville, Spain.

[3] This book can be obtained, for free, by ordering it from Marc.Bogdanowicz@ec.europea.eu

Type of organization

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

Web-site

www.itstar.eu

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
- Romania (2003) V. Baltac
- Serbia and Montenegro (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, which convenes biannually:

2007 Genzano di Roma, **Italy** (May)

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

- 1st IT STAR WS 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. ■

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
e-mail: hiz@hiz.hr
www.hiz.hr

Czech Society for Cybernetics and Informatics – CSKI
Pod vodarenskou vezi 2,
CZ-182 07 PRAGUE 8 – Liben
Czech Republic
Tel. +420 266 053 901 Fax +420 286 585 789
e-mail: cski@utia.cas.cz
www.cski.cz

Greek Computer Society – GCS
Thessaloniki & Chandri 1, Moshato
GR-18346 ATHENS, Greece
Tel. +30 210 480 2886 Fax +30 210 480 2889
e-mail: epy@epy.gr
www.epy.gr

John v. Neumann Computer Society – NJSZT
P.O. Box 451,
Bathori u. 16
H-1054 BUDAPEST, Hungary
Tel.+36 1 472 2730 Fax +36 1 472 2739
e-mail: titkarsag@njszt.hu
www.njszt.hu

Associazione Italiana per l' Informatica ed il Calcolo Automatico – AICA
Piazzale R. Morandi, 2
I-20121 MILAN, Italy
Tel. +39 02 760 14082 Fax +39 02 760 15717
e-mail: g.occhini@aicanet.it
www.aicanet.it

Lithuanian Computer Society – LIKS
A.Gostauto 12 – 123
LT-01108 Vilnius, Lithuania
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

Asociatia pentru Tehnologia Informatiei si Comunicatii – ATIC
Calea Floreasca Nr. 167, Sectorul 1
72321 BUCAREST, Romania
Tel +402 1 233 1846 Fax +402 1 233 1877
e-mail: info@atic.org.ro
www.atic.org.ro

Informatics Alliance of Serbia – JISA
Zmaj Jovina 4
11000 BELGRADE, Serbia
Tel.+ 381 11 620374 Fax + 381 11 626576
e- mail: dukic@jisa.org.yu
www.jisa.org.yu

Slovak Society for Computer Science – SSCS
MFF UK, Mlynska dolina
SK-842 48 BRATISLAVA, Slovak Rep.
Tel. +421 2 65426635 Fax +421 2 65427041
e-mail: SSCS@dcs.fmph.uniba.sk
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