

UPGRADE is the European Journal for the Informatics Professional, published bimonthly at <<http://www.upgrade-cepis.org/>>

#### Publisher

UPGRADE is published on behalf of CEPIS (Council of European Professional Informatics Societies, <<http://www.cepis.org/>>) by **Novática** <<http://www.ati.es/novatica/>>, journal of the Spanish CEPIS society ATI (*Asociación de Técnicos de Informática*, <<http://www.ati.es/>>)

UPGRADE monographs are also published in Spanish (full version printed; summary, abstracts and some articles online) by **Novática**

UPGRADE was created in October 2000 by CEPIS and was first published by **Novática** and **INFORMATIK/INFORMATIQUE**, bimonthly journal of SVI/FSI (Swiss Federation of Professional Informatics Societies, <<http://www.svifsi.ch/>>)

UPGRADE is the anchor point for UPENET (UPGRADE European NETWORK), the network of CEPIS member societies' publications, that currently includes the following ones:

- **Informatica**, journal from the Slovenian CEPIS society SDI
- **Informatik-Spektrum**, journal published by Springer Verlag on behalf of the CEPIS societies GI, Germany, and SI, Switzerland
- **ITNOW**, magazine published by Oxford University Press on behalf of the British CEPIS society BCS
- **Mondo Digitale**, digital journal from the Italian CEPIS society AICA
- **Novática**, journal from the Spanish CEPIS society ATI
- **OCG Journal**, journal from the Austrian CEPIS society OCG
- **Pliroforiki**, journal from the Cyprus CEPIS society CCS
- **Pro Dialog**, journal from the Polish CEPIS society PTI-PIPS
- **Tölvumál**, journal from the Icelandic CEPIS society ISIP

#### Editorial Team

Chief Editor: Llorenç Pagés-Casas

Deputy Chief Editor: Francisco-Javier Cantais-Sánchez

Associate Editor: Rafael Fernández Calvo

#### Editorial Board

Prof. Wolfried Stucky, CEPIS Former President

Prof. Nello Scarabottolo, CEPIS Vice President

Fernando Plera Gómez and Llorenç Pagés-Casas, ATI (Spain)

François Louis Nicolet, SI (Switzerland)

Roberto Carniel, ALSI - Tecnoteca (Italy)

#### UPENET Advisory Board

Matjaz Gams (Informatica, Slovenia)

Hermann Engesser (Informatik-Spektrum, Germany and Switzerland)

Brian Runciman (ITNOW, United Kingdom)

Franco Filippazzi (Mondo Digitale, Italy)

Llorenç Pagés-Casas (Novática, Spain)

Veith Risak (OCG Journal, Austria)

Panicos Masouras (Pliroforiki, Cyprus)

Andrzej Marciniak (Pro Dialog, Poland)

Thorvaldur Kári Ólafsson (Tölvumál, Iceland)

Rafael Fernández Calvo (Coordination)

**English Language Editors:** Mike Andersson, David Cash, Arthur Cook, Tracey Darch, Laura Davies, Nick Dunn, Rodney Fennemore, Hilary Green, Roger Harris, Jim Holder, Pat Moody, Brian Robson

Cover page designed by Concha Arias Pérez

"The Sphere of Europe" / © CEPIS 2008

Layout Design: François Louis Nicolet

Composition: Jorge Llácer-Gil de Ramales

Editorial correspondence: Llorenç Pagés-Casas <[pages@ati.es](mailto:pages@ati.es)>

Advertising correspondence: <[novatica@ati.es](mailto:novatica@ati.es)>

UPGRADE Newslist available at

<<http://www.upgrade-cepis.org/pages/editinfo.html#newslist>>

#### Copyright

© CEPIS 2008

All rights reserved under otherwise stated. Abstracting is permitted with credit to the source. For copying, reprint, or republication permission, contact the Editorial Team

The opinions expressed by the authors are their exclusive responsibility

ISSN 1684-5285

Monograph of next issue (October 2008)

**"Innovation Driven by ICT Users"**

(The full schedule of UPGRADE is available at our website)



The European Journal for the Informatics Professional  
<http://www.upgrade-cepis.org>

Vol. IX, issue No. 4, August 2008

- 3 Editorial. European Certification of Informatics Professionals — *Niko Schlamberger*

**Monograph: "EUCIP: A Model for Definition and Measurement of ICT Skills"** (published jointly with Novática\*)

Guest Editors: *Renny Bakke Amundsen, Neil Farren, and Paolo Schgör*

- 4 Presentation. Introducing EUCIP — *Renny Bakke Amundsen, Neil Farren, and Paolo Schgör* (with contributions by *Niko Schlamberger*)

- 7 EUCIP General Overview — *Michael Sherwood-Smith and Giovanni Franza*

- 12 Exploring the EUCIP Certification Range and Progression Options — *Paolo Schgör, Frank Mockler, and Neil Farren*

- 17 Advanced Experiences in Norway — *Renny Bakke Amundsen*

- 20 Advanced Experiences in Italy: The University Approach to EUCIP — *Marco Ferretti and Nello Scarabottolo*

- 27 Advanced Experiences in Italy: EUCIP as a Shared Model in the ICT Community — *Roberto Bellini, Franco Patini, and Antonio Teti*

- 32 Ireland Implementation Model — *Mary Cleary*

- 34 Estonia Implementation Model — *Jaan Oruaas*

- 36 Spanish Implementation Model: Current Situation — *José O. Montesa-Andrés, José-María Torralba-Martínez, and Manuel Rodenas-Adam*

- 39 A Web-based Computer System as a Main Tool of Certification Processes Automation in EUCIP Poland — *Grzegorz Szyjewski*

- 44 Implementing EUCIP IT Administrator in Romania — *Ana Dulu*

- 46 An Overview of Recent Adoption in Croatia — *Kristijan Zimmer and Enola Knežević*

- 49 CISCO and EUCIP Co-operation in ICT Professional Competencies Development — *Fabrizio Agnesi*

- 52 EUCIP Services for Organizations — *Roberto Bellini*

- 55 E-Learning Tools and Projects on EUCIP Core — *Marco Ferretti and Jaan Oruaas* (with contributions by *P. Prinetto, A. Chianese, P. Salomoni and Lily Loidap*)

#### UPENET (UPGRADE European NETWORK)

- 67 From **Novática** (ATI, Spain)

Mobile Technologies

**ICING: Building the Cities of the Future** — *Joan Batlle-Montserrat, Irma Merino-Zapirain, and Carlos Paternain-Soler*

#### CEPIS NEWS

- 72 CEPIS Working Groups

Thinking Ahead on e-Skills in Europe: Matching Supply to Demand — *Consortium Team led by CEPIS*

\* This monograph will be also published in Spanish (full version printed; summary, abstracts, and some articles online) by **Novática**, journal of the Spanish CEPIS society ATI (*Asociación de Técnicos de Informática*) at <<http://www.ati.es/novatica/>>.

# An Overview of Recent Adoption in Croatia

*Kristijan Zimmer and Enola Knežević*

*This article provides an overview of the EUCIP programme as organised in Croatia by the Croatian Information Technology Society (HIZ/CITS) through its network of seven newly established test and education centres. The article explores the first EUCIP Core education and certification pilot programme that took place in Zagreb between March 25th and June 13th, 2008, as a result of collaboration between HIZ/CITS and Algebra IT School. The article also outlines plans to roll out the EUCIP Professional level certification.*

**Keywords:** EUCIP, EUCIP Core, EUCIP Professional, International Certification, IT Certification, IT Expert Shortages, Professionalism in IT, Test and Education Network.

## 1 EUCIP Core Roll Out

The EUCIP programme (European Certification of Informatics Professionals) was introduced in Croatia for the first time during a press conference on March 6, 2008, at the Faculty of Electrical Engineering and Computing, University of Zagreb. The programme is organised in Croatia by the Croatian Information Technology Society (HIZ/CITS) through its test and education centres, with Algebra IT School as the forerunner.

One of the problems EUCIP aims to solve is the existing demand for IT experts in Croatia. The lack of IT experts in the country is currently estimated at being between 3,500 and 9,000, while only around 900 students graduate annually from higher education programmes in the field of informatics and computing. Therefore, one of the main goals of the EUCIP programme is to define the standards for basic and specialist IT knowledge, in order to provide additional education for those who are migrating to the IT field from other fields and vocations, and help those who wish to "update" their knowledge with new technologies, practices and standards in the field.

Another important goal is to promote professionalism in informatics in Croatia and help create an efficient organizational model, such as the professional chamber, that would protect and help IT professionals by improving the IT legal framework, working conditions and their position in a better regulated market.

Following the launch of the EUCIP programme in Croatia, the president of the Croatian Information Technology Society, Mr. Mladen Glasenhardt said: *"After having successfully initiated the ECDL programme, which has so far been completed by over 12,000 people of all vocations in Croatia, the Croatian Information Technology Society will focus on informatics professionals and offer this programme to those individuals, bodies of public administration, corporations and academic institutions which oper-*

## Authors

**Kristijan Zimmer**, Mag.Ing.E.E., is head of the Information Services unit at the Faculty of Electrical Engineering and Computing, University of Zagreb, where he manages a team responsible for development of an advanced information portal and e-learning infrastructure known as the E-Campus. He is president of HrOpen (Croatian Society for Open Systems and Internet) and vice-president of HIZ/CITS (Croatian Information Technology Society), responsible for certification of informatics professionals. In recent years he has held workshops and seminars on web applications and design, content management systems, e-learning, PHP and Java programming languages, process visualization, VoIP, m-commerce and streaming multimedia. He is a program committee member of several Croatian annual IT conferences including Croatian open systems days (DORS), Information systems methods and tools (CASE), and Communication technologies and standards in informatics (KOM). <kristijan.zimmer@hiz.hr>.

**Enola Knežević** is a Diploma Degree student at the Faculty of Electrical Engineering and Computing, University of Zagreb, expected to graduate in late 2008. As part of the project between HrOpen and the Education and Teacher Training Agency, she has held workshops on various Open Source related tools and platforms such as Linux, HTML, PHP and Joomla CMS. Since the beginning of 2008, she has worked as an expert associate in the HIZ/CITS (Croatian Information Technology Society) responsible for the implementation and promotion of the EUCIP programme in Croatia. <enola.knezevic@hiz.hr>.

*ate in the field of informatics".*

The first EUCIP Core pilot education and certification programme started on March 25, 2008. The pilot consists of a 6-week education programme, spread over a 3-month period to enable sufficient self-study time and the possibility of consultation and learning support. The programme aims to provide an insight into the foundations of the IT profession as specified within the EUCIP Core curricula.

The pilot programme was organised in a partnership between the CITS and Algebra IT School, which at the time was most familiar with the EUCIP programme, since Alge-



Algebra IT School was founded in 1998 as a lifelong learning company and soon became one of best known IT education centres in Croatia offering various education programmes. In 2002, Algebra College was founded. Algebra became an ECDL training and testing centre in the end of year 2003.



The Financial Agency is the leading Croatian company in the sphere of financial outsourcing and IT support for government bodies. The national coverage, the information technology system tested in the most demanding operations of national importance, and high professional level of expert teams, are the major advantages of FINA. It currently offers ECDL training and testing service in major Croatian cities.



KING ICT has been present in the Croatian IT market since 1998 as a member of Croatian M SAN Grupa, providing its clients with integrated ICT and business solutions. The KING ICT educational centre started its work in the second half of 2004 and is currently the most successful ECDL educational and testing centre in Croatia.



The University Computing Centre (Srce) is the oldest infrastructural institution of the Croatian academic and research community in the field of application of ICT. It was founded in 1971 as an organizational unit of the University of Zagreb. Srce has been an authorized ECDL testing centre since February 2004.



FER - Faculty of Electrical Engineering and Computing, University of Zagreb, was founded in year 1956. In the 2005/2006 academic year a new syllabus was introduced in accordance with the Bologna processes. Many of the 3-year bachelor degree programmes and 2-year graduate degree programmes offer competitive knowledge in the fields of computing, electrical engineering, information technology and telecommunications.



FOI - The Faculty of Organization and Informatics, University of Zagreb (located in the city of Varaždin) was founded in 1974. It offers two 3-year undergraduate study programmes, one joint undergraduate study programme, four 2-year graduate study programmes, as well as one doctoral and three specialized postgraduate programmes, all in the field of information and organizational sciences.



TVZ - Technical Polytechnics School of Zagreb was founded in year 1998. It offers vocational studies in five fields including informatics, computing and electrical engineering, and also lifelong education through the NetAkademija. NetAkademija integrated Cisco, Network Security, Microsoft and Sun-Java programs into the Polytechnic of Zagreb, students have had the chance to upgrade their practical knowledge and experience taking advantage of the University's infrastructures.

Figure 1: Education Centres Integrated in the Croatian EUCIP Network in 2008.

bra integrated EUCIP into the curriculum of its new 3-year higher education IT bachelor programme.

The programme is taught by prominent Croatian experts for server platforms, application and database development, business intelligence, information security, project management and information infrastructure management. In addition to established Algebra trainers, a special contribution to the programme was given by Croatian IT industry experts in the fields of strategic planning of IT systems and the economic aspects of IT use.

A total of 19 participants took part in the pilot programme. The candidates came from industry and the higher education sector, as well as from IT training centres. To ensure a high quality of programme delivery and testing, CITS introduced a requirement for an accredited Croatian EUCIP centre to have at least two of its employees trained during the pilot programme. This step was taken to increase their familiarity with the programme and to enable them to better understand potential challenges candidates may face during the programme.

### **2 EUCIP Test and Education Centre Network**

The EUCIP network is expected to consist of 7 centres in 2008 (see Figure 1).

EUCIP tests were conducted after each of the three modules – "Plan", "Build" and "Operate", and between 70% – 90% of candidates (depending of the module) passed the test at the first attempt. General feedback from the pilot group of participants shows satisfaction of the programme, with some constructive comments on the need for further improvements of the official EUCIP Core educational materials in the future.

The pilot project ended on June 13th., 2008 and the applications for the EUCIP Professional level certification for the first group began shortly afterwards.

From September 2008, most of new EUCIP Centres will start to promote the programme in their educational and business environments and, helped by the CITS, will start organising EUCIP Core educational and testing sessions.

### **3 EUCIP Professional: The Next Step**

During 2008 and the first part of 2009, it is expected that 7 EUCIP Professional profile certifications will be organizationally supported by the CITS, including:

- Software Developer.
- Database Manager.
- Network Manager.
- X-Systems Engineer.
- Information Systems Manager.
- Information Systems Project Manager.
- Information Systems Analyst.

These particular profiles were chosen as a result of an analysis of the current market structure of Croatian IT professionals.

In all current EUCIP-related activities, CITS is continuously supported by the ECDL Foundation and AICA (the Italian EUCIP Operator, who are involved in sharing expe-

riences and supporting new operators), and is thankful for this help, without which a programme of such importance and impact for the entire profession could not had been undertaken.