



## I PROF-09 workshops

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### 1. Introduction

During the working conference five workshops will investigate and discuss a main area of ICT professionalism.

Workshop sessions will be part of every conference day. A workshop will make a report and will prepare some statements or recommendations. A workshop moderator and a reporter will take care of progress and outcomes.

**Purpose and goal** of the workshops is to contribute to next steps in developments of ICT Professionalism.

#### *Workshop topic*

**WS1** ICT certification and credentials

**WS2** Who is an ICT professional?

**WS3** Image of ICT profession, quantities and quality of students needed

**WS4** How to connect education on ICT to business needs for ICT qualified personnel and vice versa?

**WS5** One ICT profession or many?

### 2. Preparation

References made at the end of this paper will be available on the conference memory stick as far as possible. Participants are invited to bring (digital) papers relevant for workshop discussion.

#### 2.1. Definitions

Terms and definitions for reference are provided in IP3 (ref 1) and two glossaries (ref 6, ref 7).

From IP3 (ref 1):

#### **Profession**

profession is a vocation or pursuit, especially one which involves some branch of advanced learning, and the body of people engaged in it.

A profession must:

- be a community controlled by regulation or by a governing body/bodies (most usually professional institutions or associations) which directs the behaviour of members of the community in professional matters
- determine the knowledge, skills, attributes and experience required by professionals
- give leadership to the public it serves in its specific field of activity
- adhere to the general standards of professional communities and define those specific attributes and characteristics that distinguish a specific profession from others
- be valued for its contribution to society



**Professional**

The definition adopted by the British Computer Society Professionalism in IT programme is:

*A fully established professional is a practitioner who has specific skills rooted in a broad base and appropriate qualifications, belongs to a regulated body, undergoes continuous development, operates to a code of conduct and recognises personal accountability.*

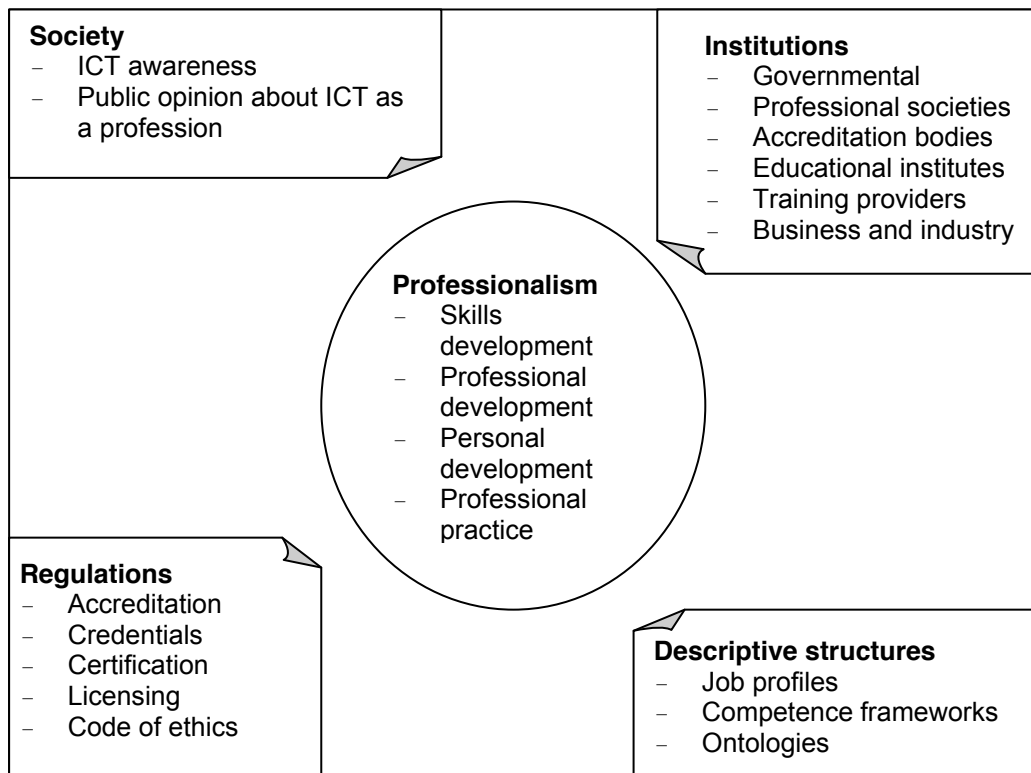
Justice Sandra Day O’Connor, US Supreme Court (ret’d) describes Professionalism as:

*The essence of professionalism is a commitment to develop one’s skills to the fullest and to apply them responsibly to the problems at hand. Professionalism requires adherence to the highest ethical standards of conduct and a willingness to subordinate narrow self-interest in pursuit of the more fundamental goal of public service.*

**2.2. Views on ICT professionalism**

Apart from the ICT professional himself, many parties are involved and influencing the scope and perception of ICT professionalism. One could for instance distinguish between the level of ICT proficiency and ICT implementation. Or one could look at professionalism is by taking into account positions, influences, interactions and responsibilities of parties and organizations involved. Regulations, descriptive structures and perception of professionalism play a role as well.

Non-exhaustive listings of issues are shown in Figure 1.



**Figure 1: ICT Professionalism related areas**



### 3. Workshop activities

The workshop is asked:

- to discuss a generic topic, the same for all workshops. However the focus on the topic should be in line with the workshop theme.
- to discuss and elaborate on a theme indicated by (non exhaustive) questions or statements.

Next to that, a workshop may add whatever it thinks to be relevant.

As a conclusion the workshop formulates statements (maximum 4) to be presented in the last conference day and to be commented by the forum.

The workshop report will be published in the conference proceedings.

The report should contain:

- the main points discussed and its conclusions
- the workshop statements with a short explanation.

### 4. Workshop themes, questions and statements for discussion and comment

<b>All workshops</b>	<p><b>Skills shortage</b></p> <p>What is skills shortage? Qualitative, quantitative, and at what levels? Which levels to refer to (EQF, e-CF, SFIA, other)?</p>
<b>WS1</b>	<p><b>Certification and credentials</b></p> <p>How to deal with the abundance of certificates? How to distinguish levels, validity, usefulness etc.?</p> <p>Acknowledgement of certificates. Who decides which certificates will guarantee the desired level of proficiency in a job?</p> <p>Preferences for vendor dependent or vendor independent certificates.</p> <p>What about a hallmark or mark of quality for certificates? What organization could be entitled to assign hallmarks?</p> <p>What do employers demand, a (university) degree and / or certificates? Which parties do stick to university degrees, who don't and who are just looking for a capable employee?</p> <p>Public recognition of degrees versus certificates and practical experience.</p> <p>The (indirect) role of governments in use of certifications for job placement and promotions.</p>



**WS2                      Who is an ICT professional?**

A mature profession distinguishes between professionals acting on different levels, with different tasks.

Compare medicine with care for patients by nursing, revalidation of patients by physiotherapist, maintenance of health by pharmacy, doctors and specialist for medical treatment. etc.

How to look at the domain of ICT operations? What has to be done, following any grouping of operations?

What kind of ICT professional can be dedicated to performance and operation of groups of ICT tasks?

This may include that the ICT profession is not restricted to academic or comparable level.

Address the lack of ICT knowledge in high level decision making in organizations. The impact of decisions concerning implementation of ICT is underestimated.

**WS3                      Image of the ICT profession, quantities and quality of students needed**

The image of ICT is a perception of the external public about the domain. What are the components, ingredients, where is the public opinion based upon? What is hidden for the public in the opinion of ICT professionals and ICT practitioners?

Apart from all kind of large campaigns, how can educational institutes, employers, organizations, contribute to improve the image? What do they have to show to the public? How to work on a new image, from a common view on the ICT profession, made visible in daily working?

The public is used to all kind of electronic services and has no idea of what is behind it or who is responsible for it. What should the public get to know about ICT, other than technical knowledge or user perspectives, to get some understanding of professional skill, expertise, workmanship behind it?

How does the public opinion or the image of ICT influences youngsters when making their choices for higher or vocational education?

Why are only a few youngsters interested in ICT? What could be the role of youngsters in changing the image of ICT and / or to get more young people involved in ICT studies and ICT jobs?

Is the image of ICT the only cause of the lack of interest of youngsters?

How to offer students education that prepares them for future work in ICT? This is concerning ICT topics, working in an international environment, how to cope with outsourcing, how to keep knowledge and skills up to date?

What about quantities of students needed? How to get to know how many are needed in a diversity of ICT domains and other domains relying on ICT?



**WS4**

**How to connect education to business and vice versa?**

In business and industry, in many cases HR management is moving from job orientation to competence orientation.

In education movements from knowledge oriented to competence oriented approaches can be observed.

Do these developments interact, influence each other or are they independent?

Does the change in educational approaches diminish complaints of employers about performance and skills of starting employees?

What about the responsibility of educational institutes, to educate people that can keep up with new developments, who know about basics and principle of a domain? In what way is education self-supporting or could it follow business and industry suggestions and impulses?

What about the responsibility of employers to watch day to day productivity and to assure personnel to be equipped for tasks on the longer run?

What are the components of fruitful interaction between educational institutes and advisory boards from business and industry?

**WS5**

**One ICT profession or many?**

Is it about just one ICT profession, fulfilled in a range of different environments, by people with a diversity of skills and knowledge, on different levels?

Or can many ICT professions be distinguished? In that case how to distinguish between ICT professions? Examples could be ICT in medicine, ICT in business, ICT as a technology supporting production etc.

Looking at descriptive structures available, often called framework, job profile etc, one could ask whether a descriptive structure and its accompanying methodology should be appropriate to describe as many (ICT) professions as occur.

Or do different ICT professions and different approaches of ICT jobs, tasks, require specific methods to develop and maintain descriptive structures?

What is behind a descriptive structure? Should it mention explicitly what it has been based upon: a body of knowledge, the set of definitions, the model used, methodologies applied, specific properties?

Why do many descriptive structures available not meet (all) these criteria?

What approaches are appropriate in order to develop descriptive structures that represent the ICT working environment they are dedicated to and standardized in such a way that comparison between (parts of) structures will be easier.



## 5. References

1. Application and Assessment Guidelines, A Scheme for the Recognition of IT Professionals, IP3, IFIP 2008.
2. Common Principles for Quality Assurance in Higher Education and Vocational Education and Training in the context of the European Qualifications Framework, Annex III, Official Journal of the European Union, 6-5-08
3. Denning, Peter J., et all, Computing as a Discipline, Full report, ACM Education Board, Communications of the ACM, January 1989 volume 32 number 1
4. European e-Competence Framework 1.0, A common European framework for ICT Professionals in all industry sectors, CEN, CWA15893-1, 2008
5. European e-Competence Framework 1.0, Executive overview, CEN, 2008
6. Glossary, EU Knowledge System For Lifelong Learning, E -KSLL Glossary, Cedefop
7. Glossary, In: Implementing Competence Orientation and Learning Outcomes in Higher Education, Edited by Eva Cendon, et all, Krems, 2008
8. IEEE 1484.20.1/Draft 8 1 Draft Standard for Learning Technology— 2 Data Model for Reusable Competency Definitions, 06 August 2007
9. IFIP Declaration on the Decline in Computing Graduates: An International Threat to the Knowledge Society and the Global Economy, IFIP Technical Committee on Education 6th September 2008.
10. Introduction (EQF), In: Implementing Competence Orientation and Learning Outcomes in Higher Education, Edited by Eva Cendon, et all, Krems, 2008
11. International Professional Practice Partnership (IP3) - Overview By Charles Hughes. In E-Government, ICT Professionalism and Competences, Service Science pp159-164, Proceedings of IFIP World Computer Congress, 2008, Milan. Springer, 2008
12. Linking the worlds of work and education through Tempus, European Commission, , Directorate-General Education and Culture, Office for Official Publications of the European Communities, Luxembourg, 2007
13. Policy Declaration 2008, E-Skills Competences Actions Towards Sustainability, Recommendations to European Institutions, Governments, Industry, and other Stakeholders Concerned, E-Skills Industry Leadership Board (E-Skills ILB)
14. Rychen, D.S. and L.H. Salganik (eds.)The definition and selection of key competencies, Executive Summary, OECD's Definition and Selection of Competencies (DeSeCo) Project, 2001
15. Schmidt, Andreas, Christine Kunzmann, Sustainable Competency-Oriented Human Resource Development with Ontology-Based Competency Catalogs, in Cunningham & Cunningham (ed) eChallenges 07, Den Haag, 2007
16. The European Qualifications Framework for Lifelong Learning (EQF), Brochure
17. Thinking Ahead On e-Skills For The ICT Industry In Europe, Harnessing our Strengths and Diversity for the World Stage, Council of European Professional Informatics Societies, December 2006
18. Thinking Ahead On e-Skills For The ICT Industry In Europe, Harnessing our Strengths and Diversity for the World Stage, Annexes, Council of European Professional Informatics Societies, December 2006
19. Transparent Competences in Europe, ePort folios, Ontologies and TRACE, a discussion paper, University of Reading and SkillsNET, 2005
20. User guidelines for the application of the European e-Competence Framework, CEN, CWA15893-2, 2008
21. UPGRADE , ICT Certifications for Informatics Professionals, the European Journal for the Informatics Professional, Vol VIII, No 3, June 2007

### Websites

- [http://ec.europa.eu/dgs/education\\_culture](http://ec.europa.eu/dgs/education_culture)
- [http://ec.europa.eu/education/lifelong-learning-policy/doc44\\_en.htm](http://ec.europa.eu/education/lifelong-learning-policy/doc44_en.htm)
- <http://ec.europa.eu/enterprise/ict>
- <http://www.cepis.org>
- <http://www.ecompetences.eu>
- <http://www.eun.org>
- <http://www.ifip.org>
- <http://www.ip3>
- <http://www.ipa.go.jp/>
- <http://www.sfia.org.uk>
- <http://www.skillsnet.net>
- <http://www.upgrade-cepis.org>