

# Digital Transformation & IFIP

TA -View

# Digitization – Digitalization

- *Information digitalization* – a process in which information is transformed from analog to digital, making the information structurable, searchable and accessible through the digital channels.
- *Societal digitalization* – the social and human-revolving process that gradually becomes increasingly difficult to distinguish at all from any part of life. This means that individuals and organizations can communicate and exchange information with other people, organizations and their environment in new ways. Digitalization and the use of ICT-based solutions can help to increase the accessibility and efficiency of both the business and public administration.



# Digitalization – The effects on the labour market

Nearly half of US jobs could be at risk of computerization

Creative and social intelligence skills are required

*“The future of employment: how susceptible are jobs to computerisation?” by Carl Benedikt Frey and Michael A. Osborne, September 17, 2013*

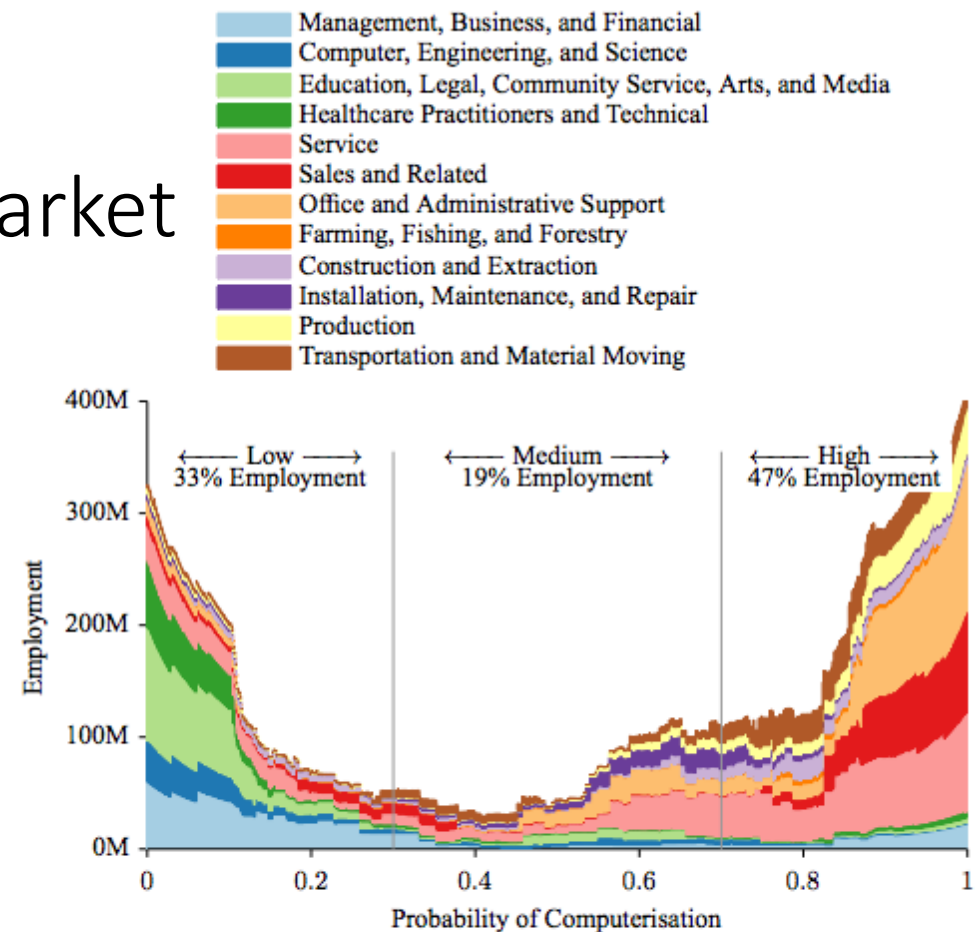


FIGURE III. The distribution of BLS 2010 occupational employment over the probability of computerisation, along with the share in low, medium and high probability categories. Note that the total area under all curves is equal to total US employment.

# IFIP has definitely a role here

- Foundations
- Technology
- Applications
  
- Detached View
- Analysis
- Definition of Standards ... not only technical standards
- ...

# 1. Increasing the amount of ICT practitioners

Example of the European Commission (EU):

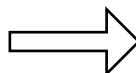
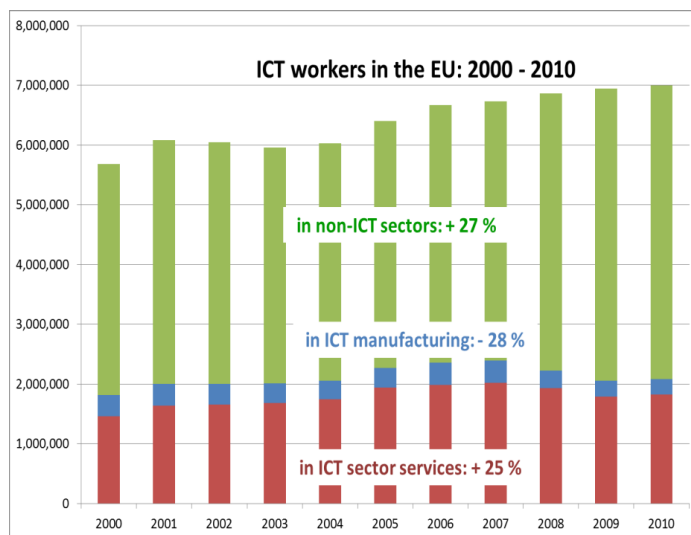
- Currently 4 - 6 million people employed as ICT professionals
- Demand growing 3% a year
- Supply not keeping pace
- Issues: young are not choosing ICT studies, not enough graduates, low female participation, skills mismatches – education and training not fulfilling industry demand
- **Shortages forecast to continue: 900 000 – 1 million vacancies by 2015**





# Companies can't find ICT specialists

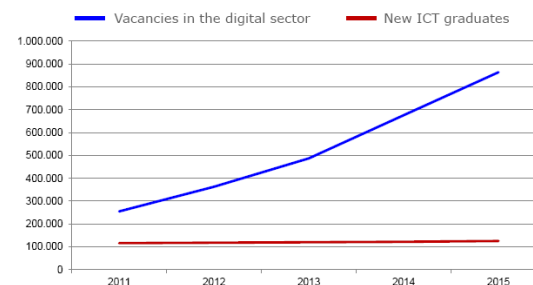
## Young people can't find jobs



### The example of the ICT sector

#### Digital jobs: vacancies and graduates\*

(numbers)



Presentation of J.M. Barroso to the European Council, 14-15 March 2013

\* Surveys and forecasts assuming moderate growth in GDP and ICT investment. Only ICT graduates are considered here. Source: Empirica

## 2. Improving Digital skills among ICT users

Example of the European Commission (EU):

- 18.5% of the work force is ICT intensive
- 90% require some degree of skills
- Demand depends on each profession
- ICT skills often transferable across jobs
- **But, only 53 % of the workforce confident in ICT skills if they were to look for/change jobs in the next 12 months**
- And user skills are to a large extent missing/not adequate...



## So what could IFIP do?

- Making Digital transformation a priority for the work to come
- Making Digital transformation a key theme of the next WCC
- Prioritize digital competence and skills development – the importance of ICT in education and lifelong learning
- Use the position IFIP has as an organization to clearly mark the importance of Digital transformation
- Changing the way we work and behave to reflect the rapid changes in society

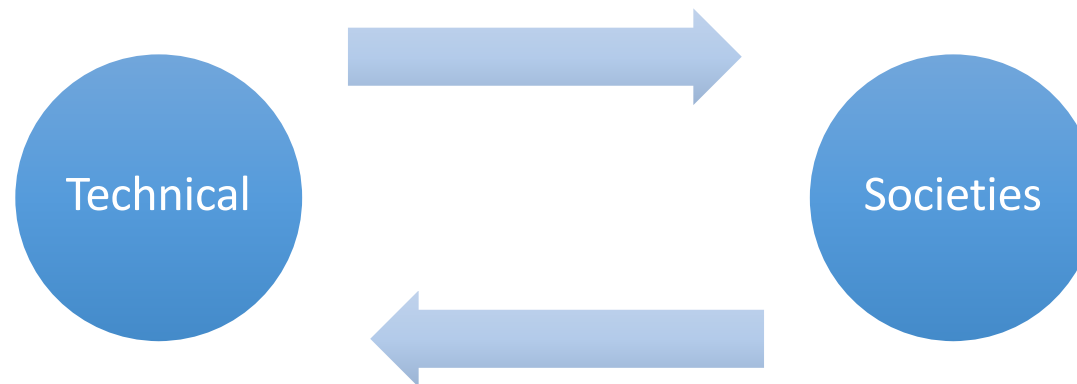


# Sources of Expertise and Connections

- IFIP rests on two pillars

**WGs organized in TC** and the (assembly of) **National Computer Science Societies**

- TCs (and DCs) collect and focus on the technical / foundational work
- From National Societies views and connections are provided



# Networking

- Connection to national Societies & Associations
  - Various Views, different emphasis, various context & goals
- International Liaisons
  - Standardization bodies
  - Neighbour Institutions / Associations
  - ...
- Overall goal: informed (political) decisions

# Proactive better than only be in an observing position

- Avoid errors of the past
  - Which technology has created serious concern? What can we learn from this?
- We have to be serious about the concerns people have
  - Digital transformation is ubiquitous and embracing
- Make as simple as possible but not simpler
  - There is an inherent complexity

# Possible Agenda ...

- TA
- Societies
- White Papers
- Grand Challenges & Competitions
- Focus (Schools & Universities at all levels, ...)
- International Liaison
- Domain Committee
- ...

## Just some examples ...

- Grand challenges (c.f. German GI, Brazilian Computer Society,...)
- TC 3 Report *Advancing and Understanding of the Roles of Computer Science / Informatics in the Curriculum*
- Digital Champions of the EU
- AI 100 years project
- ...

... BUT ...

- make Digital Transformation THE common theme for the WWC2018@Poznan
- get TCs and WGs involved
- Digital Transformation should be the next big thing after UN sustainability goals
- IFIP itself needs to be agile

# Teaching environments – 800 years of development

– Do you see the development?



Thanks for your attention