Telecentre-EuropeConference
Zagreb 2014

telecentre europe
digital community networking

TELECENTRE EUROPE
ANNUAL CONFERENCE
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e-skills for the 21st century

Predrag Pale

Laboratory for Systems and Signals

Department for Electronic Systems and Signal Processing

Faculty of Electrical Engineering and Computing

University of Zagreb


900,000
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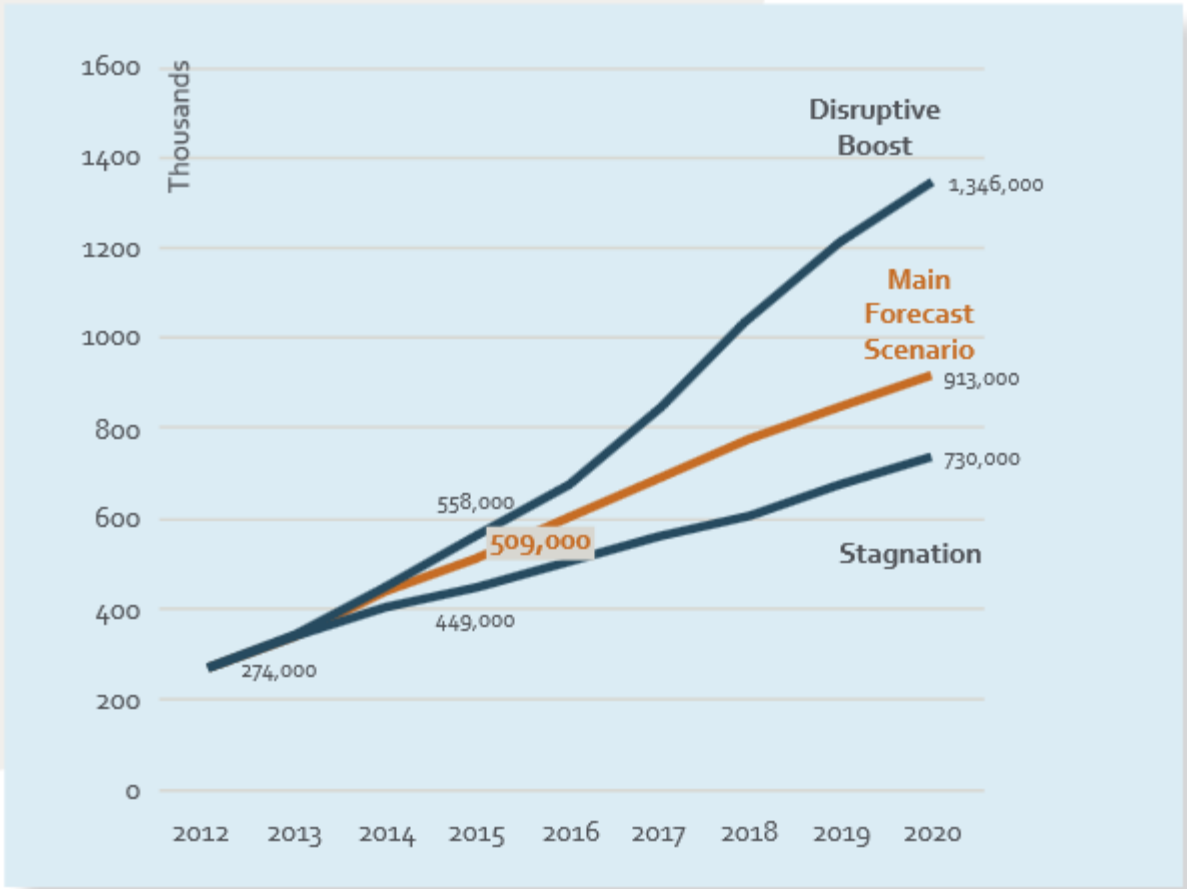
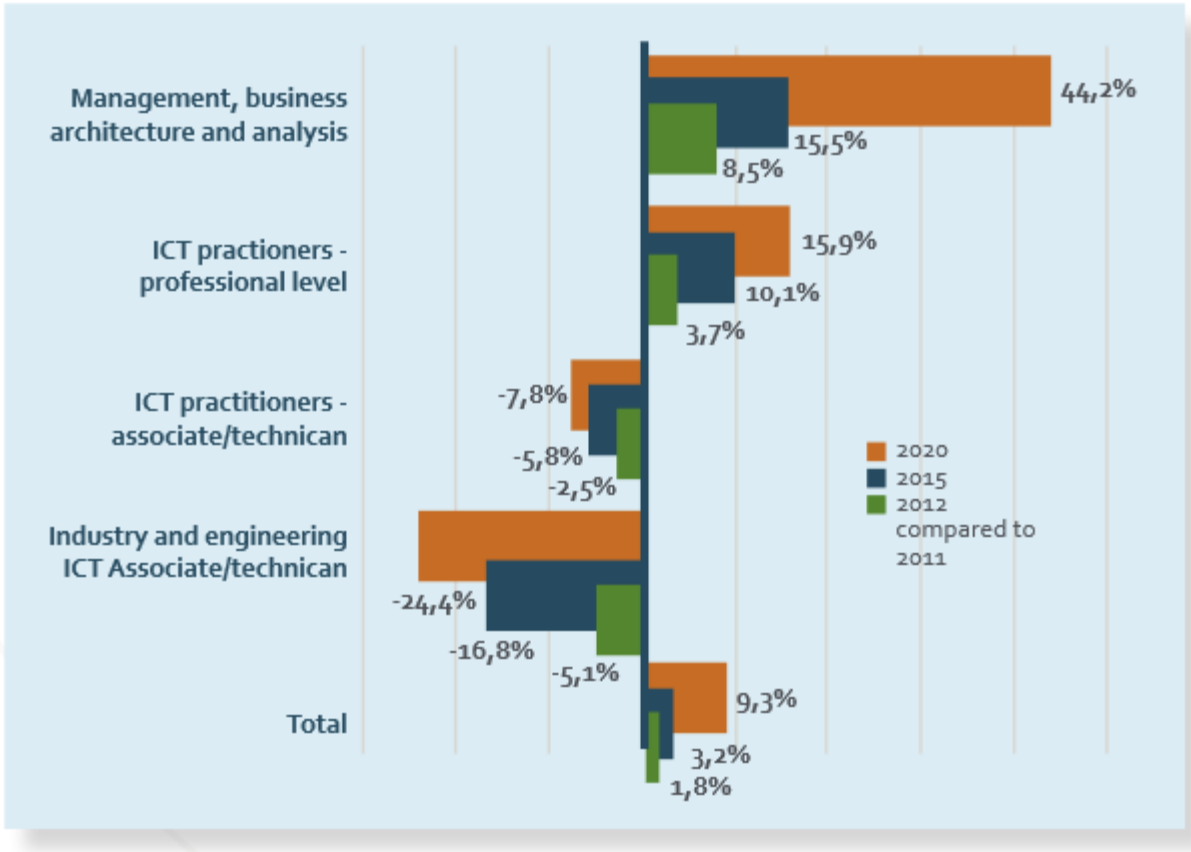

Thousands
1600
1400
1200
1000
800
600
400
200
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
Disruptive Boost
1,346,000
Main Forecast Scenario
913,000
730,000
Stagnation
558,000
509,000
449,000
274,000



Source: empirica 2013: forecast based on Eurostat LFS data

The future remains uncertain...

- The **results require prudent interpretation**. The projection of demand potential - a fragile construct - does not mean that huge numbers of vacancies will actually occur. Vacancies that cannot be filled year after year will disappear – projects cannot be realised, tenders not submitted, innovations will simply not be made. Persistent skills shortages are likely to lead to increased outsourcing and off-shoring, with untapped innovation potential, and unwanted or enforced productivity gains accompanied by wage increases and sub-optimal production structures.
- A further **caveat concerns the workarounds** that have existed in IT since the sector came into being. Our approach recognises a limited number of side entries & non-ICT graduates. In the principal scenario, about 1 million side entries and non-ICT graduates over the eight years enter the workforce, compared to 1.4 million graduates. However, CIOs have confirmed the tendency for side entries to occur much less frequently than in the 1990s.
- But our **demand estimate is very conservative**, with a model heavily reliant on ICT workforce growth and GDP/IT spending growth of the 1990s and early 2000's. In fact the workforce has increased significantly more recently, even through the crisis years of 2008-2012

Empirica 2013

How many jobs?

??????????????????

What jobs?

Definition (by e-Skills Forum 2004)

- ICT practitioner skills:
  researching, developing, designing,
- ICT user skills:
  effective application of ICT systems and devices
- e-Leadership skills:
  a range of skills, attributes and attitudes

ICT practitioner skills

- researching, developing, designing, strategic planning, managing, producing, consulting, marketing, selling, integrating, installing, administering, maintaining, supporting and servicing ICT systems

ICT user skills

- effective application of ICT systems and devices
- apply systems as tools in support of their own work
- the use of common software tools and of specialized tools supporting business functions within industry
- they cover "digital literacy":
  confident and critical use of ICT for work, leisure, learning and communication.

e-Leadership skills

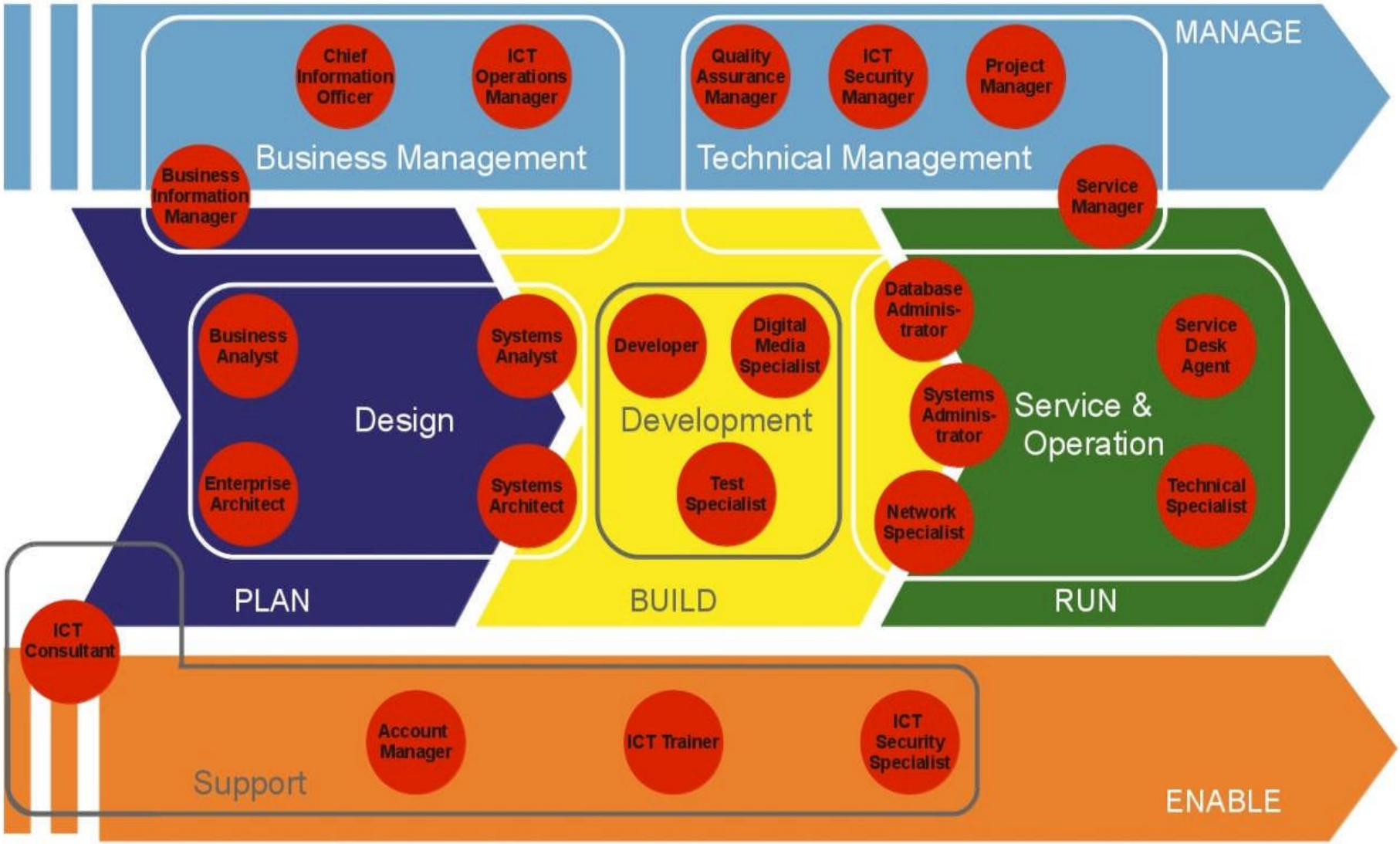
- a range of skills, attributes and attitudes related to:
- knowledge of the capabilities and limitations of software systems and information systems in use;
- ability to quickly assess new capabilities of existing systems and the relevance of offers of software and web services emerging on the market;
- ability to describe prototype solutions;
- understanding of the fundamentals of alignment of business and IT functions in an organization.

ICT practitioner skills

- researching, developing, designing, strategic planning, managing, producing, consulting, marketing, selling, integrating, installing, administering, maintaining, supporting and servicing ICT systems

- researching, developing, designing,
- strategic planning, managing, producing,
- consulting, marketing, selling,
- integrating,
- installing,
- administering, maintaining, supporting and servicing ICT systems

Types of jobs and skills



ISCO

Management, architecture and analysis positions	
1330	Information and communications technology service managers
2421	Management and organization analysts [12]
2511	**Systems analysts**

ICT Practitioners	
ICT practitioners, professional level	**ICT practitioners, technician or associate level**
2152 Electronics engineers	**3511 Information and communications technology operations technicians**
2153 Telecommunications engineers	**3512 Information and communications technology user support technicians**
2356 Information technology trainers	**3513 Computer network and systems technicians**
2434 Information and communications technology sales professionals	**3514 Web technicians**
2512 Software developers	3114 Electronics engineering technicians
2513 Web and multimedia developers	3139 Process control technicians not elsewhere classified
2514 Applications programmers	3155 Air traffic safety electronics technicians
2519 Software and applications developers and analysts not elsewhere classified	3211 Medical imaging and therapeutic equipment technicians
2521 Database designers and administrators	3252 Medical records and health information technicians
2522 Systems administrators	3521 Broadcasting and audio-visual technicians
2523 Computer network professionals	3522 Telecommunications engineering technicians
2529 Database and network professionals not elsewhere classified	

***Source**: empirica. Occupations in **bold font** are part of the "narrow definition" of ICT workforce used for time series analysis.*

Source: http://ec.europa.eu/digital-agenda/en/grand-coalition-digital-jobs-o

What about **completey new** jobs?

- application developer
- cloud specialist
- big data specialist

- search engine optimization
- blogger
- video journalists

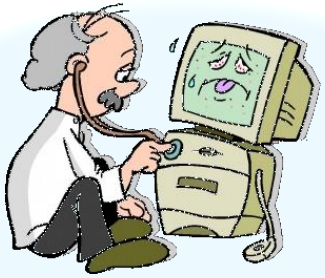
- social media manager
- community manager
- market research data miner
- virtual concierges

- distance learning coordinators
- home-school liaisons
- school diagnosticians

- user experience manager
- user experience designer
- chief listening officer
- millennial generational expert

Another angle …

- ICT creators and producers



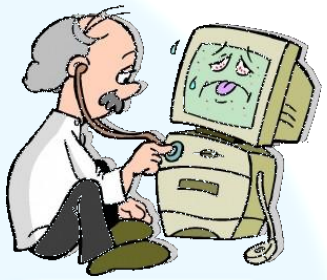
- ICT implementers and supporters

- ICT applicators

- ICT users

ICT creators and producers

- requires in depth technical background
- complex lab equipment
- practical experiece



- => best to be left for universities

ICT implementers and supporters

- implementers
  - need to understand environment
    - either knowledge of the environment
    - or specialized ICT designer/architect
  - both need university education

- supporters
  - education on the level of lower technician
  - can be done in courses
  - may need specialized servers communication equipment
  - clients may require certificate
  - best left for professional trainings

ICT applicators

- inventing new ways of doing old things
- inventing completely new things

- requires some other (non-ICT) knowledge and skills
- creativity
- some ICT competence
  - sometimes basic
  - sometime extensive

- education could be provided by a Telecentre
- but the trainer needs to have the domain expertise

ICT users

- use (of) ICT as a tool
- while performing other tasks

- basic and advanced knowledge of the tools
- the goal: become fluent user
  - = reach out to use ICT in solving your routine
  - without even thinking about it

- can be taught by Telecentre

Key principles (Grand coalition)

1. Training and matching for digital jobs – to offer training packages co-designed with the ICT industry so that the skills people get are the skills business needs;
2. Certification - to improve recognition of qualifications across countries by stimulating take-up of the European e-Competence Framework;
3. Innovative learning and teaching – to offer more aligned degrees and curricula at vocational and university level education so that students get the skills for success;
4. Mobility – to help those with the right skills get to the place where they are needed, to avoid shortages and surpluses in different geographical areas;
5. Awareness raising – to attract young people to ICT, which offers rewarding and enjoyable careers to both women and men.

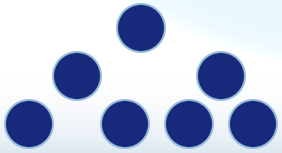
Awareness

- outreach:
  - K-12
  - unemployed
  - retired

  - those seeking additional income
  - traditionalists who might have the need to “convert”

- the need and “first step” oriented approach
  - “how can I …”
  - “what can I …”

- training the trainers



Training

- competence based learning
  - "what do I need (to do)"

- learning in context
  - and implementation support

- building communities of practice

Partners

- academia
  - some trainers
  - training the (telecentre's) trainers
  - supporting trainers
  - developing syllabus, curricula and educational materials
- schools
  - space
  - equipment
  - some trainers
  - contact with local community
- companies (local)
  - space
  - equipment (specialized)
  - some trainers (specialists)
  - jobs and skills descriptions

www.LSS.hr

Predrag.Pale@FER.hr

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