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# ICT and Work

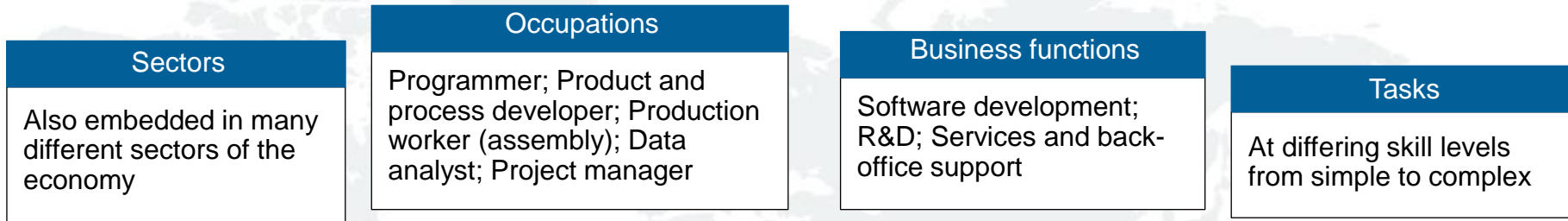
Future opportunities, fresh insecurities

Presentation at the Joint Conference of the Luxembourg Presidency of the Council of the European Union and Eurofound : Changing Working Conditions in Europe: Moving towards better work, First findings from Eurofound's 6th European Working Conditions Survey

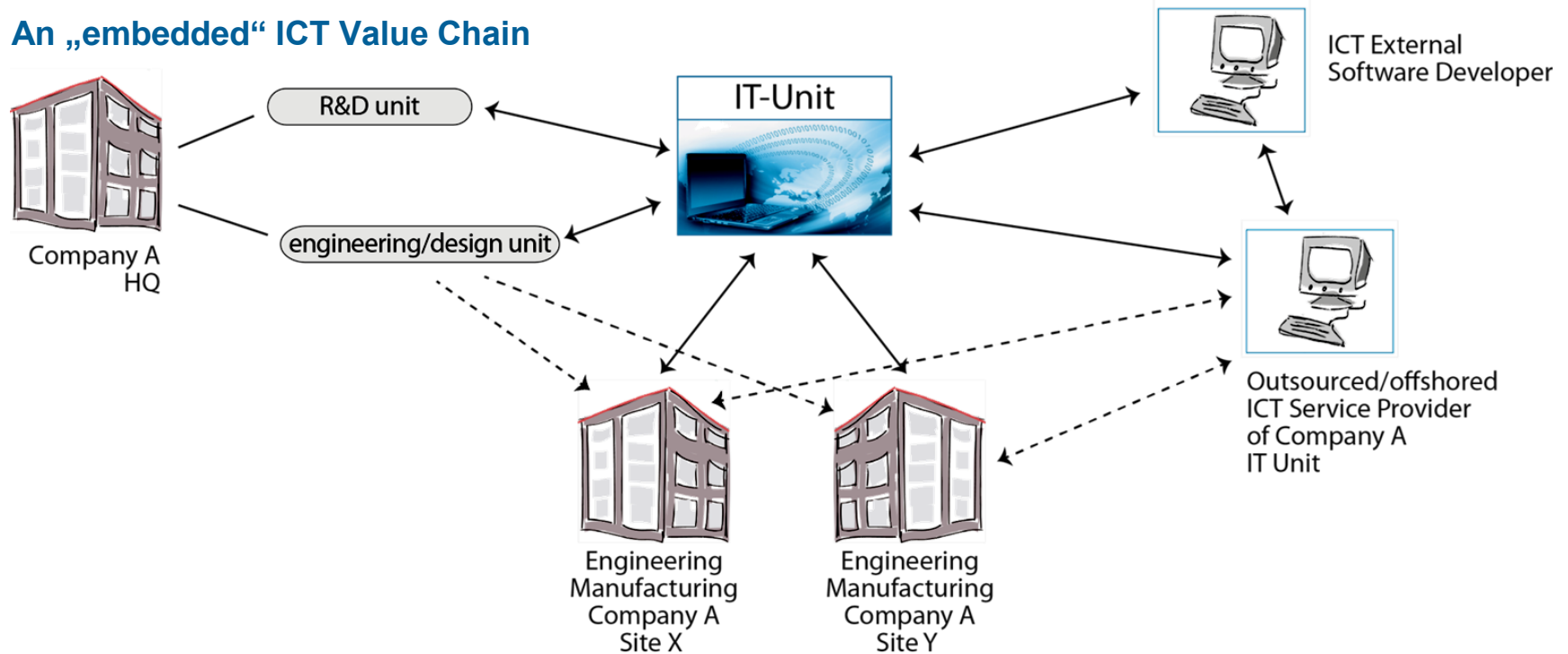
November 24, 2015 Luxembourg

# ICT and work: The challenges of defining ICT

Its diversity has consequences for researching and determining its impact



## An „embedded“ ICT Value Chain



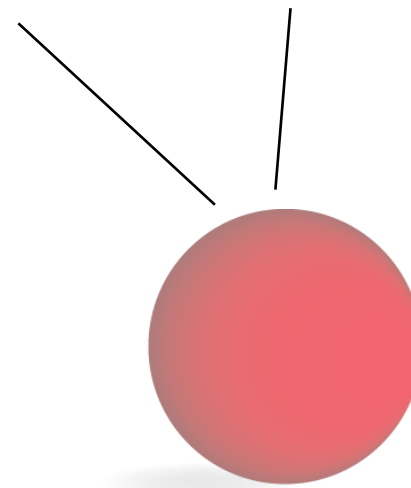
# Past and present developments in ICT sectors and business functions

## Organization of work

- Division of tasks – division of labor: outsourcing, offshoring, externalization
- Core/non-core – downgrading/upgrading – segmentation - fragmentation
- Project-based work – project cycles
- Mix of skill profiles – specialists, managers, routine work
- Mix of contract types
  - Self-employed dependent; self-employed; regular employee
  - Decrease in regular employment relationships – more free-lance, temporary work?

## Shifts in Work content

- Standardization; codification
- Commercialization: for instance, R&D applications and marketing needs
- Monitoring processes: technical scheduling and benchmarking
- Coordination

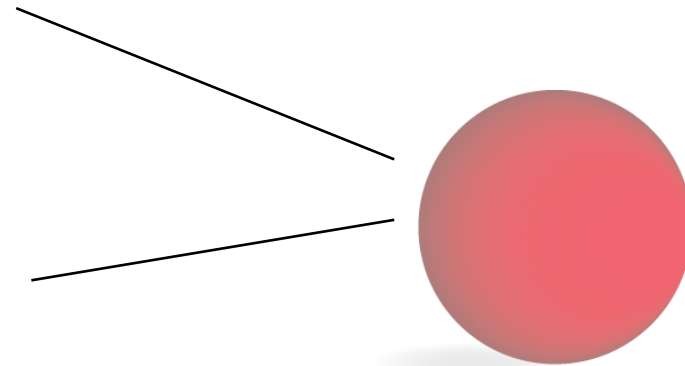


# New developments in ICT and work - Digitalization

- Cyber-physical systems
- Internet of things (Industrie 4.0)
- „Big Data“ – algorithms
- „Pervasive“ computing
- Cloud computing

- New work types (based on ICT links or digital media)
  - Mobile work
  - Collaborative work
  - Crowdsourcing – crowdworking
  - User-generated content
  - Technologically mediated work

*You can't divorce the technology itself from company strategy, existing regulatory frameworks or eventual coordinated policy actions*



## Blurring boundaries

Producer and consumer: Prosumers; produsers

Employee vs. „sharer“ : (Co-creation; peer production)

Employee vs. Freelancer : (Citizen journalist; User innovater)

Company (Employer) vs. Contractor: (Internet pools; Crowdsourcing (microtasks, online freelancing); „liquid“ jobs)

## Diverse Effects: Diverse Perspectives

- Concentration of activities,
- Concentration of companies,
- Worker displacement: polarization or job loss?
- Deprofessionalization,
- Lack of protection for intellectual property

- Innovation,
- Democratization,
- Alternative forms of entry into profession,
- Shared economy with benefits to all
- Highly skilled work remains
- Social production – peer to peer

## Which effects?

The opposing views on the benefits or risks of work in digital spaces

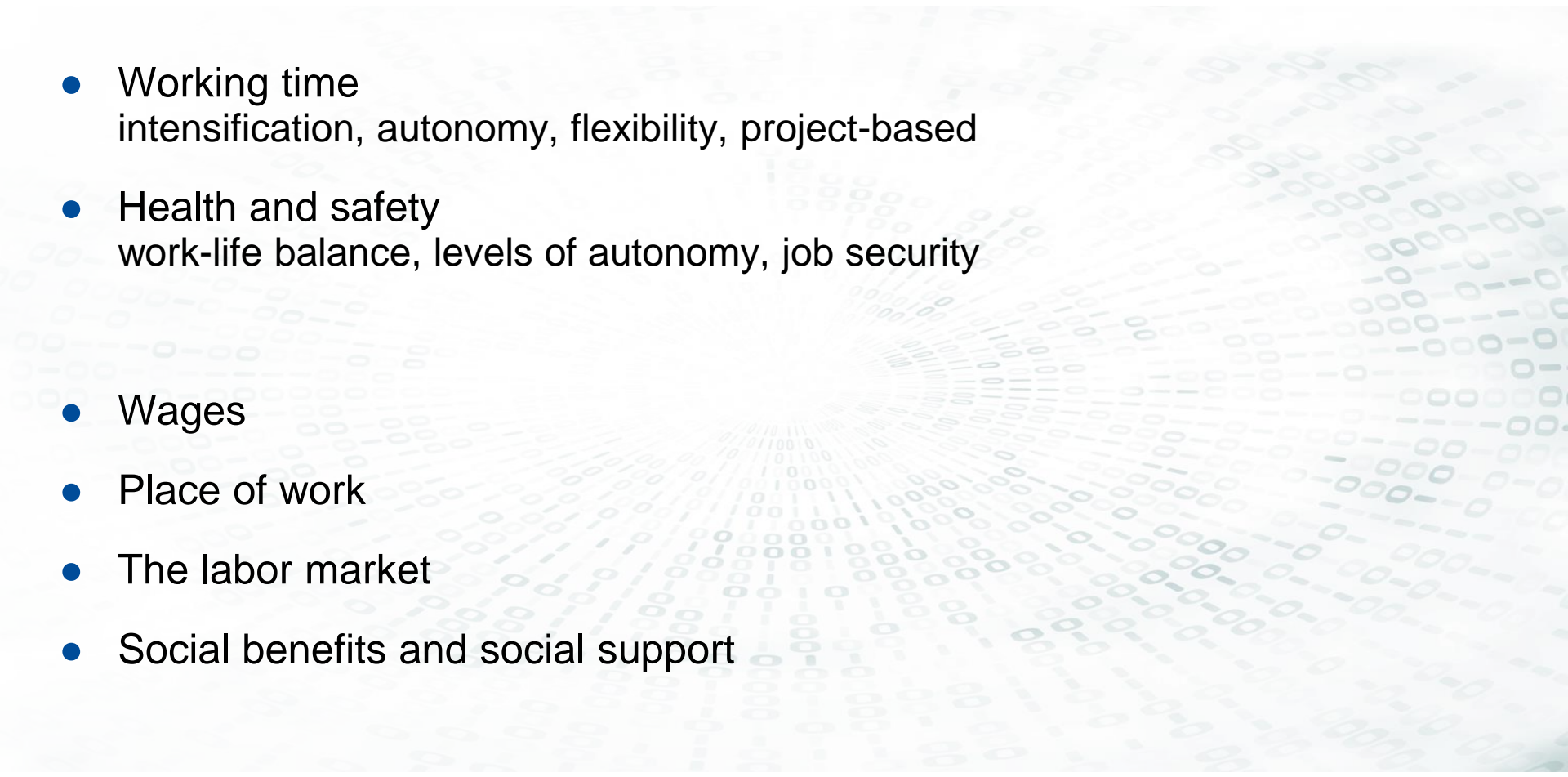
- Free Access
- Promotion of Creativity
- Increased Autonomy
- New Opportunities in employment and as entrepreneur
- Innovation push

- Exploitative
- Unpaid Labor
- Intensification of work
- Increased Surveillance
- Deprofessionalization





## Areas in the conditions of work and the effects of digitalization

- Working time  
intensification, autonomy, flexibility, project-based
  - Health and safety  
work-life balance, levels of autonomy, job security
  - Wages
  - Place of work
  - The labor market
  - Social benefits and social support
- 



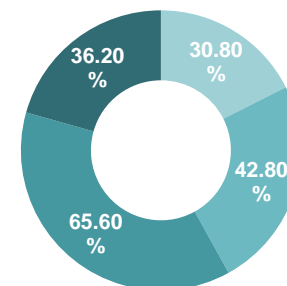
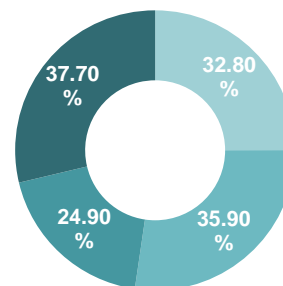
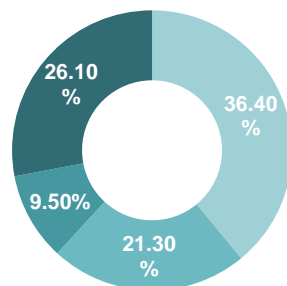
# Example 1: Wages and remuneration

**Income tertiles based on the distribution of income across Europe**  
 (distinguishing EU27 and non-EU) *inc\_3\_eu27*

Employment status	Low	Medium	High
Economically dependent worker	36.4 %	32.8 %	30.8 %
Real self-employed without employees	21.3 %	35.9 %	42.8 %
Self-employed with employees	9.5 %	24.9 %	65.6 %
Employed	26.1 %	37.7 %	36.2 %

Source: Eurofound 2015

- Economically dependent worker
- Real self-employed without employees
- Self-employed with employees
- Employed



Ipeirotis' (2010) analysis of average wage rates for Amazon Mechanical Turk calculates an effective hourly wage of \$4.80

## Example 2: Labor Market and Place of work

- **What forms the basis for the labor market?**
  - A unique „unbounded“ labor market
  - How are credentials, occupation identity, professionalism, qualifications determined, measured, defined?

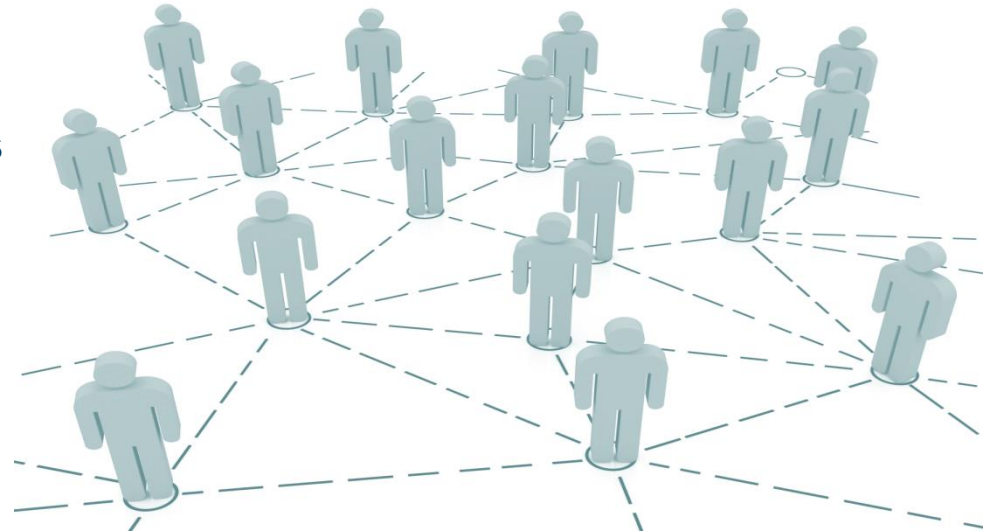
*Where does the responsibility for training lie?*

- **The amorphous place of work has consequences for social ties and social networks linked to physical work spaces**

- **Where is the labor market?**

- Open space
- Digital space
- Institutional space
- Regulated space

- **There is an absence of internal labor markets in digital spaces**



## Example 3: Social systems and regulated frameworks

- If decrease in normal (contract-based) employment relationship, then **how should social support** (health benefits, pensions, unemployment compensation, etc. ) **be organized?**
- With increasing self-employment and employment across boundaries, **how should taxation, other obligatory payments be organized?**
- With atypical employment relationships **how does the regulation of work and employment** (and protections) **function?**
- **How should institutions respond?**
- **Level playing fields for analog and digital business models?**
- Beyond existing regulatory or institutional frameworks or practices – **which new forms are necessary?**