

Where, when and how people work is undergoing far-reaching transformation in the Internet Age.

Digitalisation of information has altered labour processes out of all recognition whilst telecommunications have enabled jobs to be relocated globally. Entirely new types of 'digital' or 'virtual' labour, both paid and unpaid have been created. These trends affect private life as well as transforming the nature of work. Their impacts are experienced differently depending on gender, age, location and occupation and have profound social implications.

Some challenging trends

- Disappearance or relocation of jobs
- Emergence of new jobs
- New contractual models of employment
- Changing skill requirements
- Need for ICT literacy for all
- Requirements to be available 24/7
- Standardisation of processes
- Contested ownership of intellectual property of creative workers
- Blurred home/work boundaries
- New forms of surveillance and monitoring
- Explosive growth of crowd work
- Changes in value chain organisation
- New kinds of unpaid work
- New business models

Towards a Policy Research Agenda

Funded by the COST Association, and based at the University of Hertfordshire in the UK, the Dynamics of Virtual Work research network brought together leading experts from 30 European countries and many associated institutes in other parts of the world from 2012 to 2016.

Over the four year life of the Action, in a series of conferences, workshops and training schools, experts from diverse fields including economics, industrial replations, labour sociology, communications studies, geography, management, gender studies, political economy, law, psychology, innovation, technology assessment and development studies pooled their knowledge to gain a comprehensive overview of developments relating to labour and digitalisation.

European policy stakeholders were involved in this dialogue every step of the way, participating in all conferences and seminars as well as attending three specialist workshops held in Brussels:

- User-generated content impacts on work and labour: Policy implications for EU stakeholders, Brussels, February 24-25, 2015
- Expert workshop on the *Measurement of Digital Work*, Brussels, February 18, 2016
- *Policy Implications of Virtual Work*, Brussels, June 9, 2016.

International participants included representatives from Eurofound, EU-OSHA, IPTS-JRC, DG Research, DG Employment, DG Grow, DG Connect, Eurostat, OECD, ILO as well as international trade union confederations, social partners and NGOs.

This document summarises the key policyrelated research questions that emerged from this intensive interactive dialogue between scientific and policy experts.





An international interdisciplinary research network on the transformation of work in the Internet Age

Research questions

Overall impact on jobs

Which jobs are at risk of disappearing because of automation?

What new jobs are emerging and what are their characteristics?

Which jobs are at risk of relocation?

Are new forms of job polarisation emerging and, if so, what are their characteristics?

Where disruptive technologies have already had an impact, are there good practices we can learn from?

Quality of working life

What is the quality of the new jobs created in terms of security, pay and working conditions?

What are the impacts on wellbeing of new forms of surveillance and monitoring?

What psycho-social risks are created by new forms of labour market precariousness?

Can digitalisation be used to improve work-family balance?

How can working hours be managed when work is carried out outside traditional spatial and temporal boundaries?

Skills

What new competencies and skills are necessary to meet the demands of digitalisation?

How does the existing education system prepare young people for a future in which they may need to hold multiple jobs?

Does skill polarisation take place as a result of digitalisation and might middle-level jobs disappear?

How can the need for skills at different life stages be determined?

Are individuals increasingly responsible for their own skill development and, if so, how can this be supported at the societal level?

Innovation

What kinds of innovation are taking place in workplaces using the potentialities of digitalisation and is it possible to identify good practice models?

Can the collaborative economy create social benefits using unpaid labour for social good and if so how can this be stimulated?

What contributions can be made to job creation and social innovation by workers' co-operatives, NGOs and municipalities?

What kinds of support and protection can be offered to self-employed entrepreneurs?



Employment status

What kinds of employment contracts are currently used for digital workers and how well do they correspond to the actualities of power and autonomy in new employment relationships?

When work is carried out on online platforms, should the employer's responsibilities be vested in the employer, the client or the worker, and how can these be exercised in practice?

How can new forms of self-employment and quasi-self-employment be researched quantitatively and qualitatively?

What rights do self-employed workers have to free assembly and collective bargaining?

Online platforms

How many online platforms are there, in which sectors and countries do they operate, and how are they classified in terms of legal status?

How many people work for them and how do they see their responsibilities towards this workforce, as employers or intermediaries?

How do they manage the workers on their books and the relationships between these workers and their clients?

How do they ascertain that workers are appropriately qualified, what quality assurance do they offer to customers, and what protections to workers?

Crowd work

How many people are working for online platforms and what are their demographic characteristics?

To what extent does crowd work provide their main source of income?

How do their working conditions, pay and access to employment rights compare with workers in traditional employment relationships?

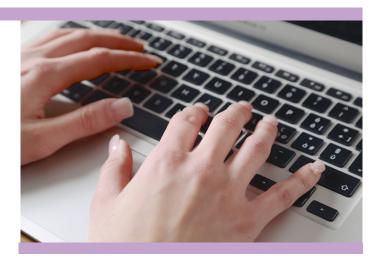
Surveillance and control

What kinds of digitalised data are employers collecting on workers, how and where is it stored and who has access to it?

What role is played by the use of standardised data in determining workers' reputations, chances of gaining work or promotion and reward levels?

How can workers challenge biased ratings and transfer reputations from one employer to another?





Regulation and rights

What rights do public authorities have to inspect and regulate online platforms and the working conditions of their workers?

Where crowd workers are delivering services to the general public, or working in public spaces, are potential hazards regarded as issues of public safety, consumer protection or occupational safety?

How are existing Europen Directives (e.g. on working hours, part-time working, equal treatment or agency working) applied in the case of new forms of work such as crowd work, umbrella contracts or zero-hour contracts?

How are national regulations applied to digital workers?

What rights do creative workers have in their intellectual property when this is digitalised and made available online, and how can these be enforced?

Sustainability

Can virtual work provide the basis for the development of stable new professions?

To what extent do new forms of work provide the basis for sustainable careers throughout the lifecourse?

How can new forms of digital work create the basis for career breaks and changes, compatible with work-life balance and family development?

Can new forms of work provide levels of wellbeing to enable physical and psychological health over the long term?

What pension rights are available to virtual workers?



For further information visit our website at: http://dynamicsofvirtualwork.com/

Broader societal questions

In the context of global free trade, and the increasingly transnational character of employers of digital labour, what kinds of tax and regulatory systems are appropriate?

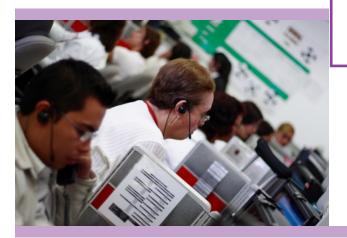
Is there a need to re-examine traditional concepts of 'employment' and 'unemployment' in Europe in a situation where growing numbers of workers do not know from one day, or even hour, to the next if, when and where they will be working?

What kinds of social protection system can provide security and protection from destitution for just-in-time workers?

How can the livelihoods of creative and knowledge workers be safeguarded to ensure a future for Europe's cultural industries and an independent intelligentsia?

How can the positive potentialities of digital technologies be harnessed for social benefit and inclusion?

In the era of big data, how can the privacy of consumers and workers be protected in ways that are compatible with the broader public good?



Dynamics of Virtual Work Palgrave/Springer book series

In association with its scientific work, the Dynamics of Virtual Work COST Action is publishing an ambitious book series with Palgrave Macmillan/Springer. The series editors are Ursula Huws, Professor of Labour and Globalisation at the University of Hertfordshire, and Rosalind Gill, Professor of Social and Cultural Analysis at City University in the UK

Titles published so far:

- Digital Labour and Prosumer Capitalism, O'Neil, M. (Ed), Frayssé, O. (Ed) (2015)
- Reconsidering Value and Labour in the Digital Age, Fuchs, C. (Ed), Fisher, E. (Ed) (2015)
- Virtual Workers and the Global Labour Market, Webster, J. (Ed), Randle, K. (Ed) (2016)

Coming soon:

- Aesthetic Labour, Elias, A. S. (Ed), Gill, R. (Ed), Scharff, C. (Ed) (2016)
- Space, Place and Global Digital Work, Flecker, J. (Ed) (2016)
- Reinventing Work in Europe, Méda, D., Vendramin, P. (2017)
- Language put to work: the Making of the Global Call Centre Workforce, Brophy, E. (2017)
- Policy Implications of Virtual Work, Meil, P. (Ed), Kirov, V. (Ed) (2017)

There are six further titles in the pipeline. *Visit: https://www.palgrave.com/us/series/14954*

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