



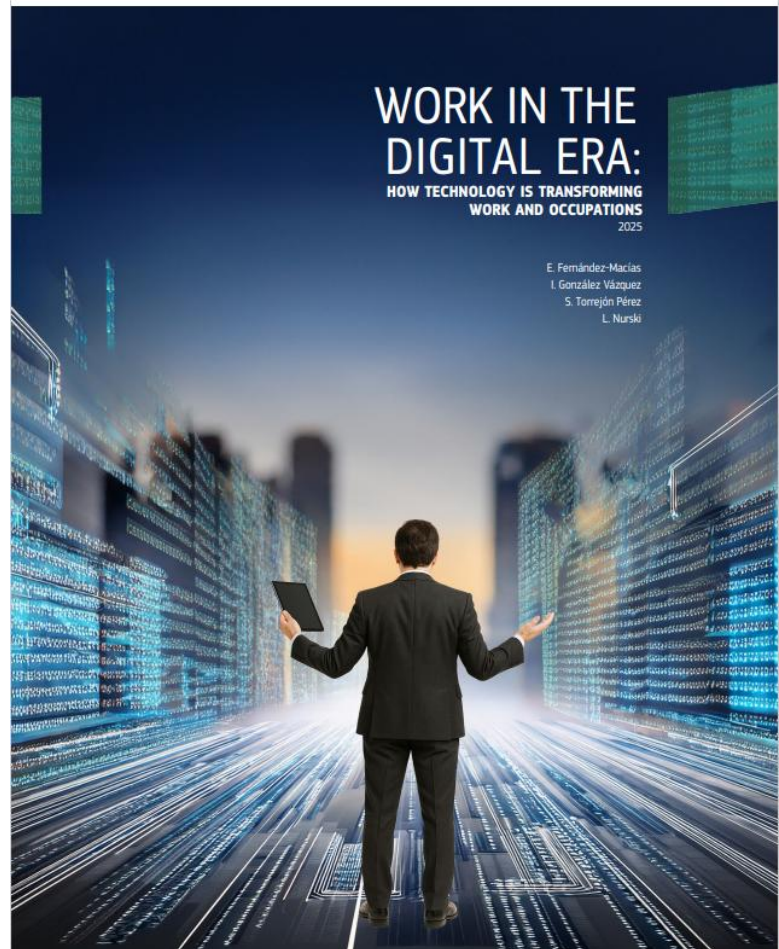
# Digital monitoring, algorithmic management and the platformisation of work in the EU

*Ignacio González-Vázquez, European Commission – Joint Research Centre*

*Healthy Workplaces Summit, Bilbao, 4 December 2025*

# The digital revolution is changing the nature of work in the EU

- New forms of ***digitally-enabled work organisation, coordination and control*** are reshaping EU workplaces.
- ***Platformisation of work***: use of digital platforms and algorithms as mechanisms of coordination in regular workplaces beyond digital labour platforms.
- Pervasive digitisation enables a growing use of data-driven management techniques, such as ***digital monitoring*** and ***algorithmic management***.



# Digitalisation and psychosocial risks in the world of work: JRC – EU-OSHA research

- *Relevant changes in work organisation and working conditions.*
- Platformisation can increase the exposure of workers to *psychosocial risk factors*.
- This includes *higher work intensity, reduced work autonomy, high cognitive overload, isolation* and *work-related stress*.
- These technologies have a strong potential for being used for *intrusive worker monitoring and surveillance*.

Digitalisation and workers wellbeing:  
The impact of digital technologies on work-related  
psychosocial risks

JRC Working Papers Series on  
Labour, Education and Technology  
2024/03

I. González Vázquez, M. Curtarelli,  
I. Anyfantis, E. Brun, A. Starren

LABOUR

EDUCATION

TECHNOLOGY

## The new AIM-WORK survey

- **Large pan-European worker survey**; responses from **70,316 individuals in all EU member states**. Fieldwork in late 2024 – early 2025; CATI methodology.
- **Measurement of platformisation** through three distinct but closely related phenomena:
  - Increasing use of **digital tools at work**, which represents the material base for the development of data-driven managerial practices.
  - **Digital monitoring of work**: use of data collected through digital devices about the work process and workers.
  - **Algorithmic management of work**: automation of certain workforce management and coordination functions.

### Digital Monitoring, Algorithmic Management and the Platformisation of Work in Europe

Gonzalez Vazquez, I., Fernandez Macias, E., Wright, S., Villani, D.  
2025

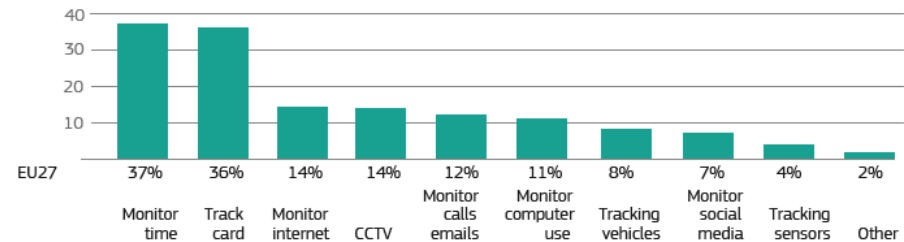


## Use of digital tools at work in the EU

- More than **90%** of workers currently use some digital tool for work-related purposes.
- Northern and Central European countries showing higher adoption rates.
- While nearly all highly educated workers use digital tools at work, half of those with low education do not use any.
- **30%** of workers have used **AI-powered tools** for work at least once in the last 12 months. Country variation not very high.

	Computer	Mobile	Office software	Communic platform	AI
Austria	88.3%	82.7%	77.1%	69.8%	36.6%
Germany	86.1%	83.5%	72.1%	67.9%	33.7%
Poland	85.5%	75.9%	73.8%	61.8%	27.8%
Slovenia	85.5%	75.5%	77.3%	64.9%	33.3%
Sweden	85.1%	82.2%	74.2%	78.1%	27.7%
Czechia	84.9%	76.9%	70.6%	57.2%	33.7%
Netherlands	83.9%	87.3%	72.1%	68.3%	40.1%
Denmark	83.7%	87.3%	76.1%	77.4%	45.1%
Finland	83.4%	90.3%	73.0%	78.4%	38.0%
Slovakia	82.1%	72.2%	70.5%	57.8%	29.8%
Cyprus	81.5%	63.7%	69.4%	60.2%	26.8%
Luxembourg	81.4%	65.3%	58.5%	61.2%	34.5%
France	81.3%	62.8%	71.5%	68.7%	25.2%
Estonia	80.9%	76.6%	67.9%	61.0%	29.0%
Belgium	79.8%	77.2%	63.7%	67.8%	42.9%
Croatia	79.4%	76.7%	70.2%	54.4%	24.6%
Italy	78.8%	76.3%	71.4%	65.6%	27.7%
Hungary	78.0%	85.2%	75.9%	62.6%	31.4%
Lithuania	76.4%	77.1%	63.4%	61.6%	28.5%
Latvia	75.1%	75.8%	66.2%	60.5%	25.8%
Malta	75.1%	59.8%	64.9%	62.6%	29.4%
Ireland	74.5%	78.1%	63.6%	64.1%	27.7%
Portugal	71.6%	76.2%	70.2%	68.9%	31.5%
Greece	69.9%	46.1%	65.8%	41.1%	13.7%
Bulgaria	69.6%	63.9%	56.4	46.6%	19.3%
Spain	69.0%	73.8%	68.0%	65.0%	29.1%
Romania	68.4%	65.2%	53.4%	44.6%	17.1%
EU average	80.2%	75.7%	70.4%	65.0%	29.9%

# Digital monitoring of work in the EU



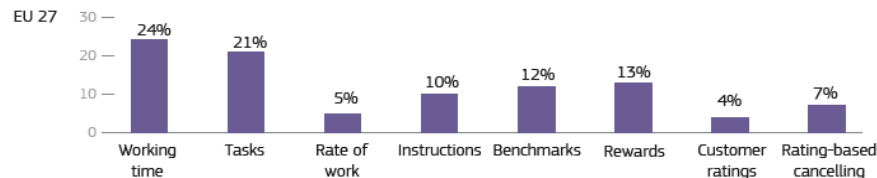
	Monitor time	Track card	Monitor internet	CCTV	Monitor calls emails	Monitor computer use	Tracking vehicles	Monitor social media	Tracking sensors	Other
Malta	40%	37%	22%	49%	25%	20%	8%	12%	12%	5%
Slovakia	48%	57%	20%	30%	14%	14%	21%	5%	12%	6%
Czechia	43%	57%	24%	25%	17%	13%	24%	6%	9%	7%
Poland	37%	41%	23%	39%	19%	10%	18%	8%	14%	13%
Romania	35%	29%	22%	50%	14%	16%	19%	7%	11%	4%
Bulgaria	24%	32%	19%	47%	18%	13%	18%	9%	14%	4%
Cyprus	33%	43%	19%	32%	18%	16%	13%	11%	8%	3%
Slovenia	57%	54%	12%	15%	13%	10%	11%	9%	7%	4%
Latvia	25%	32%	15%	34%	13%	7%	20%	10%	12%	5%
Luxembourg	42%	41%	22%	5%	14%	20%	6%	12%	2%	0%
Spain	54%	42%	17%	12%	11%	12%	4%	10%	2%	0%
Croatia	25%	36%	13%	28%	14%	8%	16%	9%	11%	3%
Lithuania	25%	30%	13%	29%	12%	7%	16%	11%	10%	4%
Ireland	38%	38%	18%	13%	15%	13%	4%	7%	4%	0%
Portugal	45%	39%	15%	8%	15%	10%	5%	9%	2%	0%
Estonia	21%	32%	9%	25%	9%	9%	16%	8%	10%	5%
France	33%	37%	18%	10%	11%	16%	4%	7%	2%	0%
Belgium	33%	36%	11%	6%	11%	15%	6%	8%	2%	0%
Italy	35%	38%	9%	6%	12%	10%	6%	9%	1%	0%
Finland	38%	43%	10%	7%	6%	7%	5%	5%	3%	1%
Hungary	26%	35%	14%	7%	10%	4%	6%	8%	3%	1%
Austria	38%	31%	12%	5%	9%	10%	5%	5%	1%	0%
Germany	41%	30%	9%	5%	11%	8%	4%	3%	1%	0%
Denmark	21%	29%	14%	7%	9%	10%	9%	6%	3%	0%
Netherlands	27%	29%	5%	6%	7%	14%	8%	6%	1%	1%
Sweden	24%	23%	11%	5%	6%	9%	7%	8%	3%	2%
Greece	18%	19%	10%	14%	7%	7%	3%	8%	1%	0%

- Use of digital tools to systematically collect data about work and workers.
- Three main types:
  - **Time monitoring:** use of digital systems to monitor working time as well as workers' entry, exit and/or movement.
  - **Physical monitoring:** tracking the physical location of workers.
  - **Activity monitoring:** monitoring of activities carried out with digital tools, typical of office settings.
- Most common type of digital monitoring in the EU is the **tracking of working time**.
- Other forms of digital monitoring are **less common, but more intrusive**.



# Algorithmic management in the EU

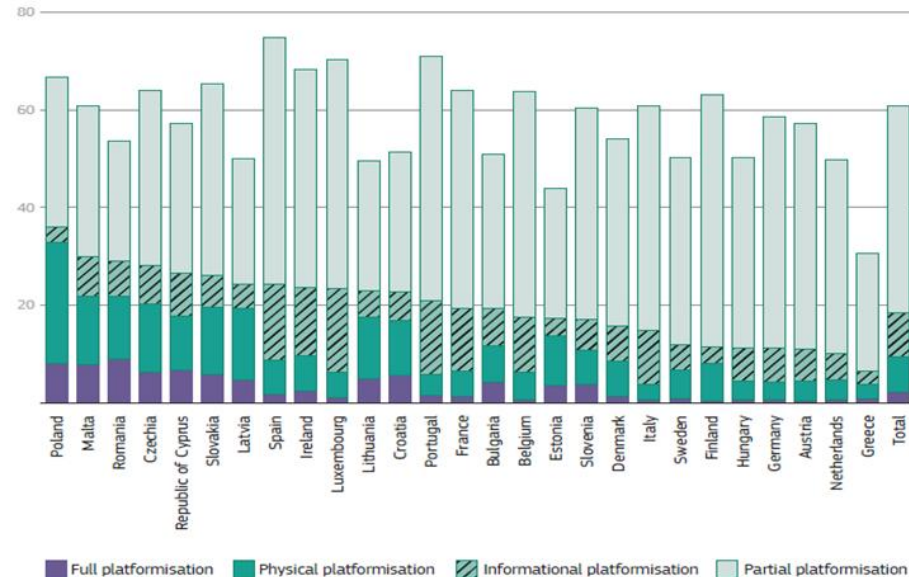
- Use of digital technologies to automate workforce management and coordination functions.
- Two main types :
  - **Algorithmic direction**: use of automated systems to allocate working time and instructions to workers.
  - **Algorithmic evaluation**: systems for automatic rewarding and benchmarking of workers.
- **Algorithmic management less common than digital monitoring**, although not marginal.
- **Automated allocation of work** is the most widespread form of algorithmic management, particularly shifts or rosters, followed by the automated allocation of **activities/tasks**.
- **Algorithmic evaluation** less prevalent, but not insignificant.



	Working time	Tasks	Rate of work	Instruc-tions	Bench-marks	Rewards	Customer ratings	Rating-based cancelling
Spain	32%	30%	7%	13%	12%	21%	6%	16%
Poland	27%	40%	12%	18%	12%	10%	6%	5%
Ireland	30%	26%	6%	11%	13%	17%	4%	10%
Romania	23%	20%	8%	16%	15%	20%	7%	5%
Portugal	23%	26%	4%	9%	18%	19%	5%	9%
Czechia	21%	22%	6%	12%	16%	17%	5%	5%
Republic of Cyprus	21%	18%	7%	11%	12%	17%	11%	5%
Malta	19%	23%	9%	12%	8%	16%	7%	5%
Slovakia	21%	21%	7%	12%	10%	9%	5%	13%
Luxembourg	27%	26%	3%	7%	11%	12%	2%	11%
Croatia	14%	21%	5%	14%	11%	14%	5%	10%
France	27%	13%	6%	9%	12%	13%	4%	11%
Lithuania	18%	16%	6%	13%	12%	18%	4%	6%
Belgium	28%	19%	4%	7%	10%	11%	2%	11%
Latvia	14%	17%	7%	17%	11%	14%	7%	4%
Sweden	30%	23%	2%	8%	10%	8%	2%	5%
Finland	28%	35%	2%	4%	7%	8%	2%	1%
Germany	23%	22%	4%	7%	11%	12%	3%	3%
Slovenia	15%	16%	6%	13%	12%	17%	3%	3%
Denmark	24%	23%	3%	9%	10%	8%	1%	5%
Italy	20%	15%	1%	8%	13%	16%	3%	5%
Austria	25%	23%	1%	3%	13%	6%	2%	2%
Estonia	11%	13%	6%	13%	9%	10%	6%	3%
Netherlands	21%	13%	3%	6%	7%	9%	2%	8%
Hungary	18%	15%	3%	5%	9%	10%	3%	6%
Bulgaria	10%	7%	4%	8%	9%	13%	8%	8%
Greece	10%	7%	2%	4%	4%	7%	3%	2%

# The platformisation of work: a possible taxonomy of workers

- **6%** of EU workers *do not use digital tools*.
- **33%** of workers *use digital tools but are not platformised*.
- **42%** fall under **partial platformisation**: they are exposed to at least one form of digital monitoring and one form of algorithmic management.
- **9%** of workers experience **informational platformisation**, combining activity monitoring and algorithmic evaluation. Typical of office work: most frequent in clerks and in finance and professional services.
- **7%** face **physical platformisation**, combining physical monitoring and algorithmic direction. Typical of manual work activities: common for operators and in sectors such as mining, transportation and logistics.
- **2%** of EU workers are **fully platformised**. This means that they are simultaneously subject to all forms of digital monitoring and algorithmic management.





# Platformisation of work in the EU: impact on working conditions

- *Full and physical platformisation are associated with:*
  - *increased stress*
  - *diminished autonomy and flexibility.*
- Partial platformisation and “informational platformisation” do not seem to have significantly negative consequences for workers, to the extent covered by AIM-WORK.
- *Impacts are context-specific: they differ significantly across sectors, countries and institutional settings.*
- Central-Eastern EU Member States consistently display negative associations between some forms of platformisation and job quality...
- ...but this is generally not the case in Western-Northern European Member States.



Source: Mariscal de Gante et al., forthcoming. Work in progress.

***The impact of platformisation can and should be shaped by labour market institutions. Qualitative evidence indicates that industrial relations and co-determination can play a key role.***



**Occupational change**



**Job tasks, work organisation  
and the EU Tasks Database**



**Automation and robots**



**Digitisation of work**



**Remote work and teleworkability**



**Platform work**



**Algorithmic management and  
digital monitoring of work**



**Skills intelligence from online  
job advertisements**



**Outsourcing, working conditions  
and inequality**



[europa.eu/!WfCpGH](https://europa.eu/!WfCpGH)

[Ignacio.GONZALEZ-VAZQUEZ@ec.europa.eu](mailto:Ignacio.GONZALEZ-VAZQUEZ@ec.europa.eu)