



Teleworkability and the COVID-19 Crisis: A New Digital Divide?

Cedefop conference: Getting the Future right

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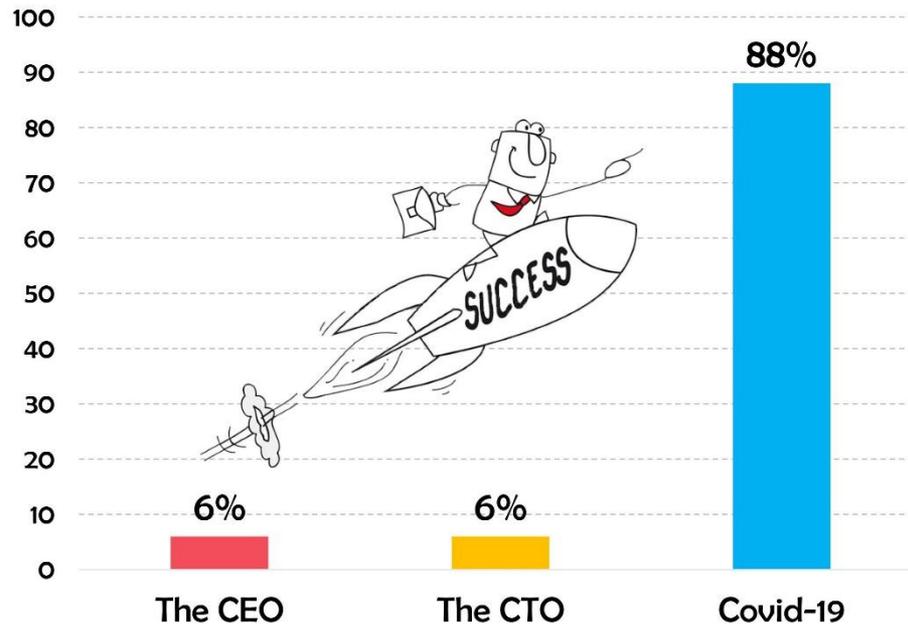
European Commission – Joint Research Centre

20 April 2021

COVID-19 accelerated corporate digitisation (especially telework)

What drove digital transformation in your company?

LinkedIn Poll, 375 participants



Source: LinkedIn, 05.02.2021 - 12.02.2021



Telework in the EU: past, present, and future

- **Questions:**
 - How many people teleworked in the EU before the COVID-19 pandemic hit?
 - How many jobs are *potentially teleworkable*?
 - What does increasing telework imply for inequality (income, gender, education)?
- **Working definition:** *telework* as the remote provision of labour that would otherwise be carried out within the employer's premises.
- **Methodology:** classify occupations based on their tasks profiles and identify technically non-teleworkable ones (with physical interaction).
- **Findings:** We estimate that 37% of dependent employment in EU-27 could *potentially* telework, compare to <15% *actually* teleworked in 2019.

Data and methodology

Classifying occupations as (non-)teleworkable:

- **Technical teleworkability:** jobs are not teleworkable if they require *physical interaction* with tools or people.
 - **Social interaction** (e.g., coordinating, attending, teaching) *complicates* telework, but does not *prevent* it.
- Data on *tasks* of occupations:
 - ICP/O*NET: occupational survey (Italy, 2012)
 - European Working Conditions Survey (2015)
- Project occupation-level indices to EU-27 occupational structure (EU LFS 2019): compute employment numbers and demographics.

Technical teleworkability and social interaction indices for selected occupations

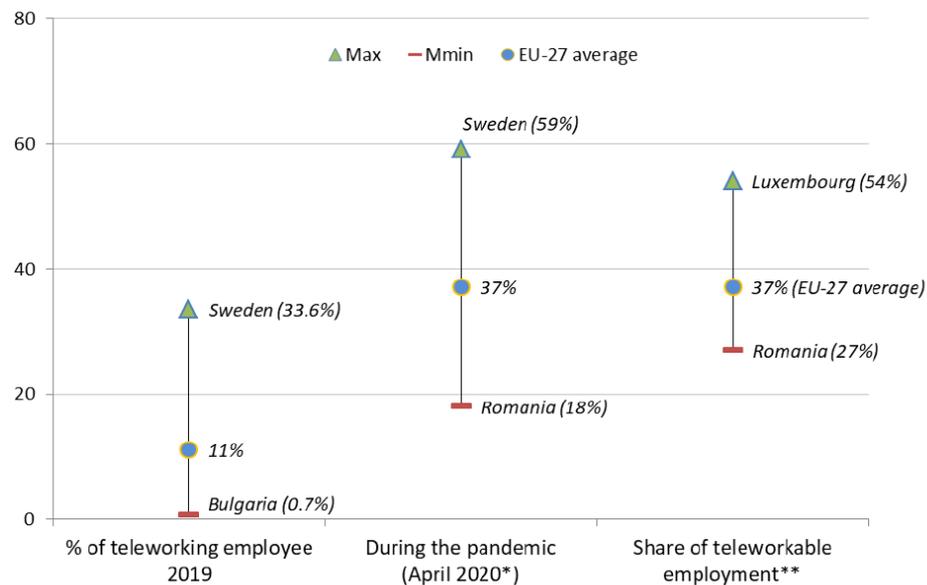
ISCO	Occupation	Technical teleworkability	Social interaction
133	ICT service managers	1.00	0.57
221	Medical doctors	0.39	0.79
233	Secondary edu. teachers	1.00	0.77
412	Secretaries	1.00	0.44
512	Cooks	0.00	0.48
723	Machinery mechanics	0.00	0.33

↓

Classification	Number of ISCO 3-digit occupations	% of EU-27 employment
Non-teleworkable	83	65
Teleworkable, extensive social interaction	26	23
Teleworkable, limited social interaction	14	14

During lockdown: all those who could telework did so

Technical teleworkability vs actual telework before and during pandemic across countries (% of employees)



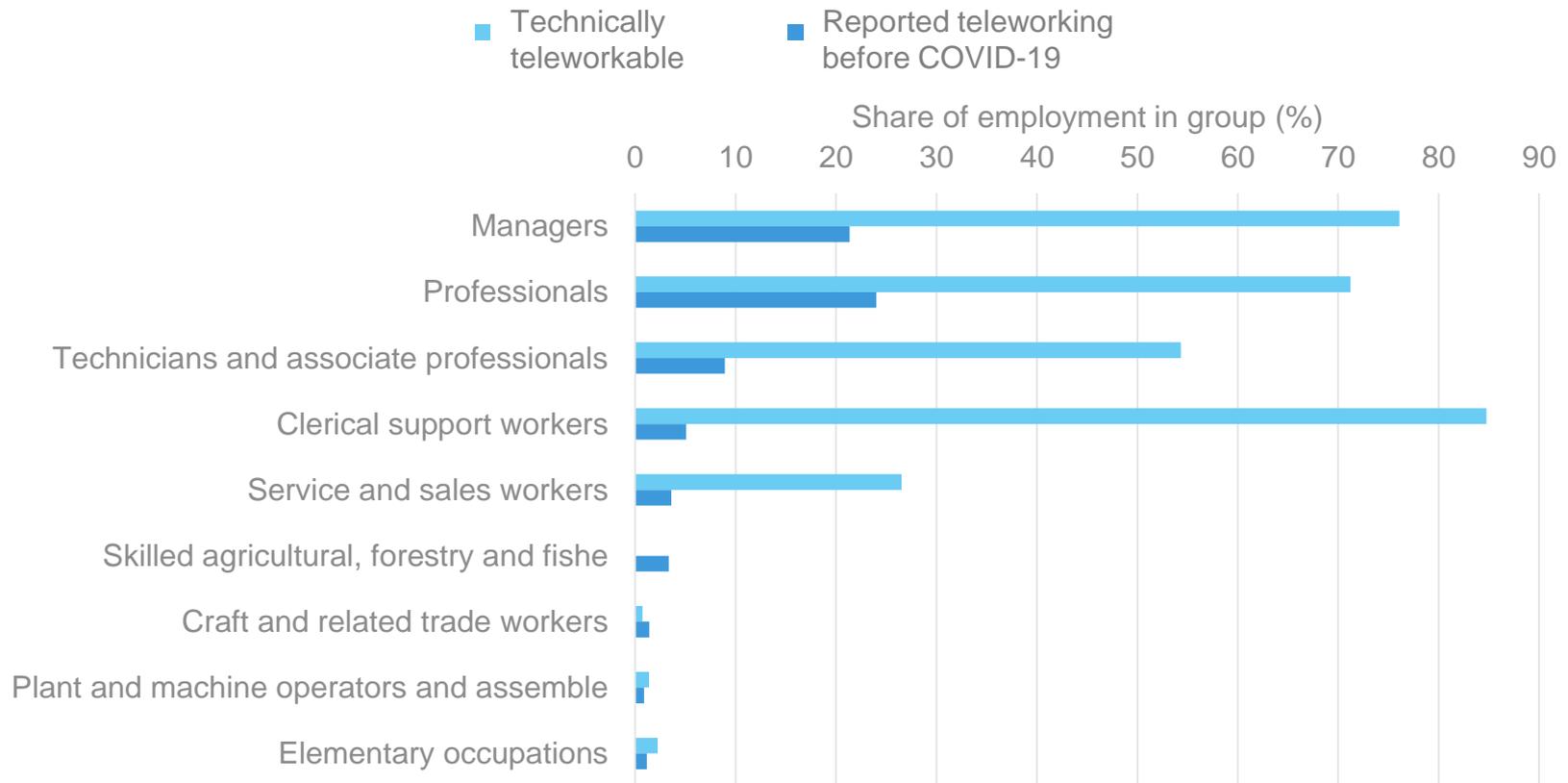
Source: Eurostat LFS data for 2019.

* Eurofound (2020) "Living, working and COVID-19: First findings" – April 2020.

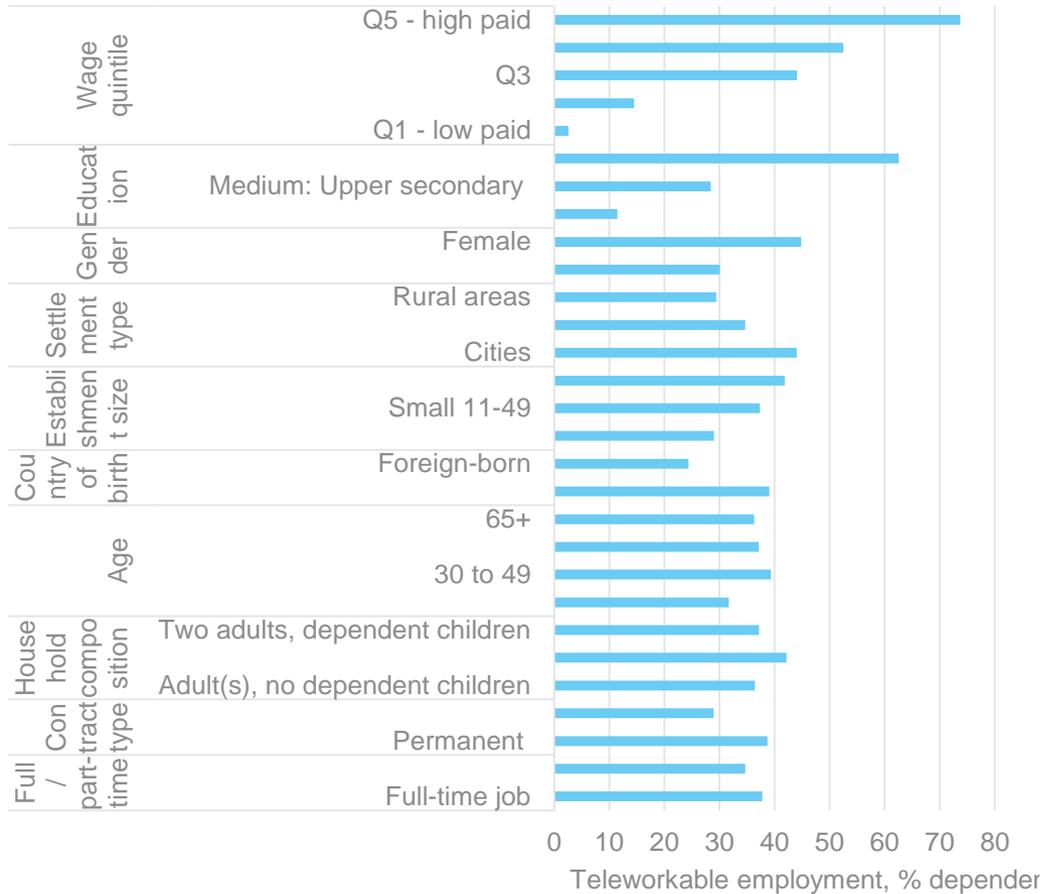
** JRC-Eurofound "Teleworkability and the COVID-19 crisis: a new digital divide?"

Many more occupations could telework!

Technical teleworkability vs previous teleworking among employees in EU-27, by broad occupation group



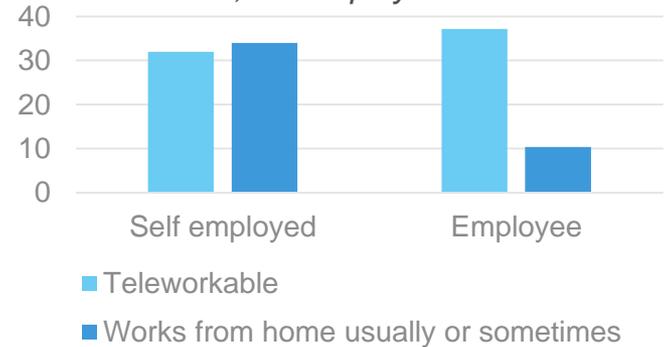
Teleworkability also reflects existing inequality



Teleworkable occupation tend to be:

- Higher-paid
- Higher education
- Higher share of women
- Permanent, full-time
- More urban

Before 2020, all self-employed who could telework did so, but employees did not



Is this a matter of digital skills?

Spoiler: not really

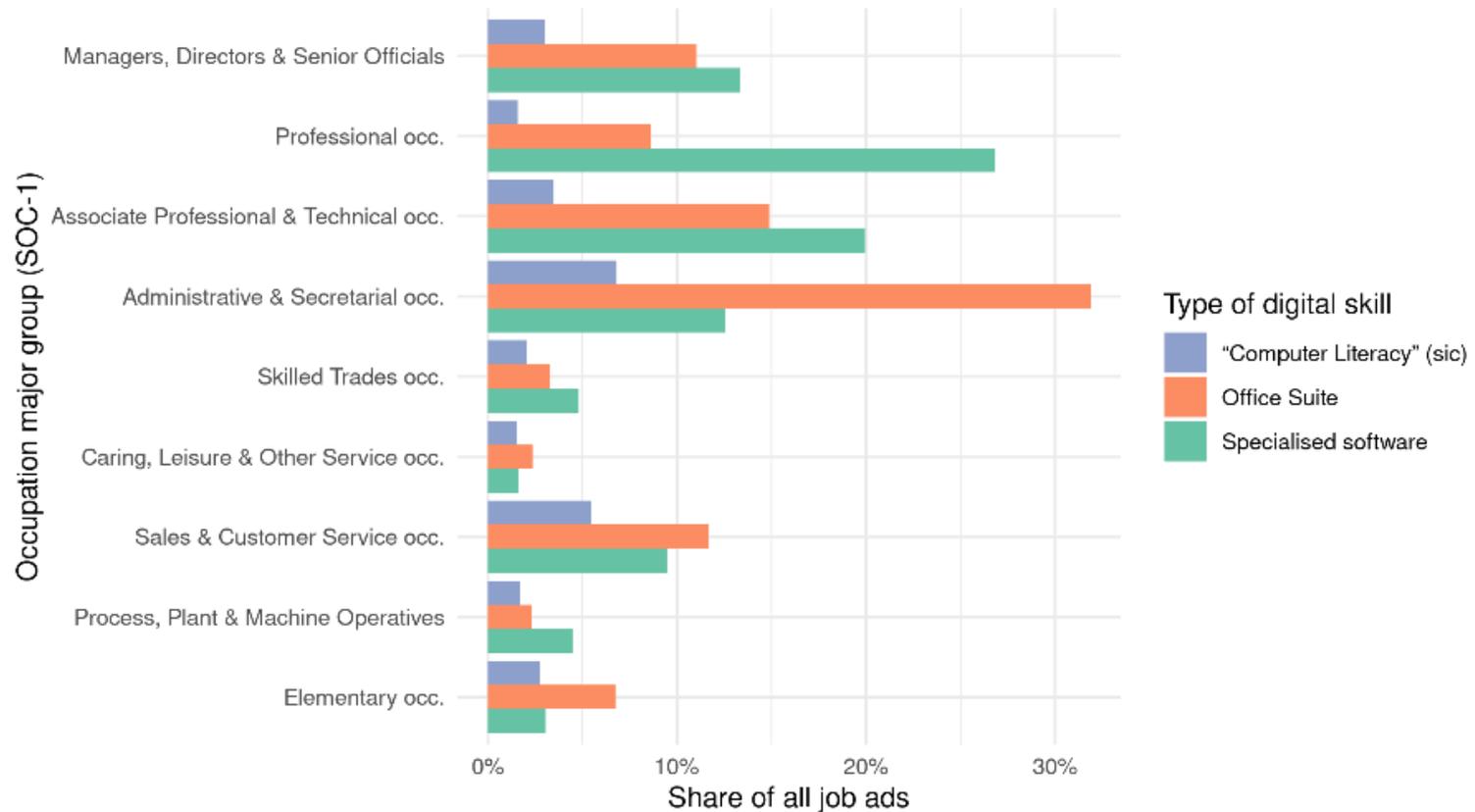
Digital skills in online job advertisements

- Try to identify **prevalence of digital skills** in occupations, from online job advertisements (OJA), Burning Glass NOVA UK data (2012-2020)
- Consider three categories:
 - **Computer Literacy**: as it appears in the BGT data. Most likely the result of re-naming or standardisation by BGT, but likely not written verbatim in the original ad.
 - **Office suite**: our re-classification, including office software like Microsoft Office and its apps, iWorks, OpenOffice, etc.
 - **Specialised software**: all other software skills.
- BGT indexes *software* skills especially well: over 1,200 keywords

Digital skills in online job advertisements (UK)

Prevalence of digital skills across occupations

Share of job ads requiring different digital skills, by occupation major group (SOC-1) in 2019

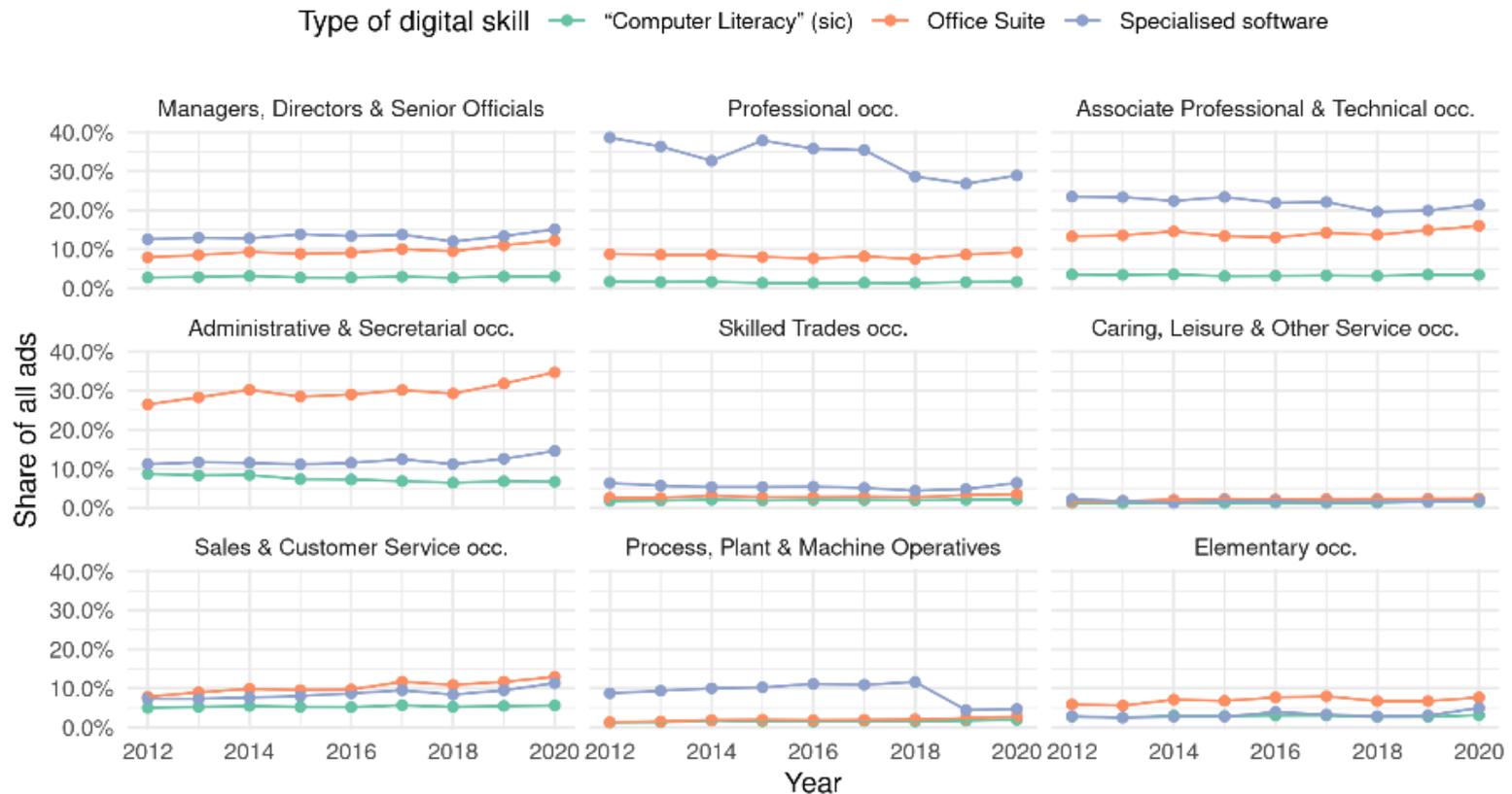


Source: own elaboration from Burning Glass Nova UK data

Digital skills in online job advertisements (UK)

Trends in digital skills by occupation

Trends in share of ads mentioning different digital skills, by occupation major group (SOC-1)



Source: own elaboration from Burning Glass Nova UK data

Telework, digitisation, digital skills

- OJA data suggest that basic digital skills are either not very important or can be safely assumed by employers in many occupations.
- Skill requirements in OJA add information “at the margin”: identifying digital skills works better for specialised skills, rather than basic ones.
- OJA represent “aspirational” skill requirements by employers...
- Upshot: digitisation (including telework) is more about **organisations’ processes**, than **individual’s digital skills**
- Changes in organisation routines to enable digitisation:
 - Work organisation
 - Effective communication
 - Management, supervision, teaching

Implications for telework post-COVID

- Telework pre-COVID seemed driven as much by **work organization** (autonomy, latitude, coordination, status) as by **technical feasibility** and **technology**.
- Previous labour market trends towards (high-skilled) service occupations and ICT use point to increase availability of telework.
 - Pros and cons for working conditions, and work-life balance
 - May encourage routinisation and offshoring of some tasks
- Telework is not feasible for many low- and mid-skilled occupations:
→ a new divide between “teleworkers” and “essentials”?
- Increase telework may change geography of employment.

References

- Technical report [“Teleworkability and the COVID-19 crisis:a new digital divide?”](#)
- Science for policy brief: [“Who can telework today? The teleworkability of occupations in the EU”](#)
- [JRC Working paper series on labour, education and technology](#)