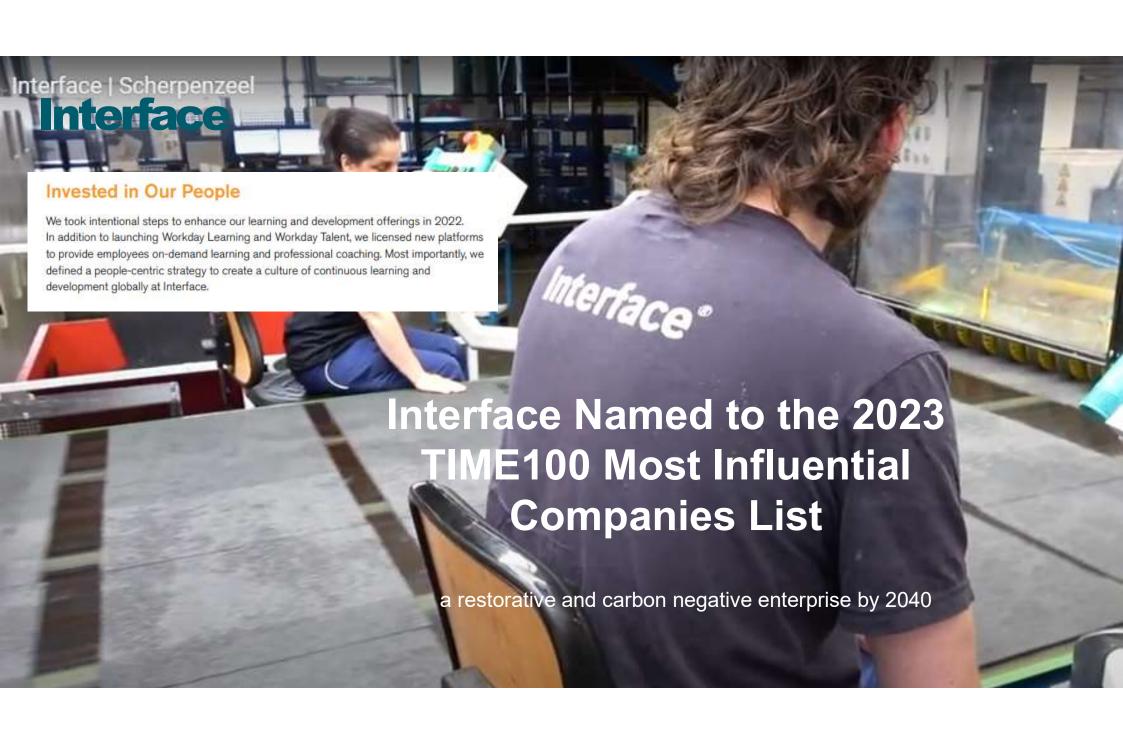


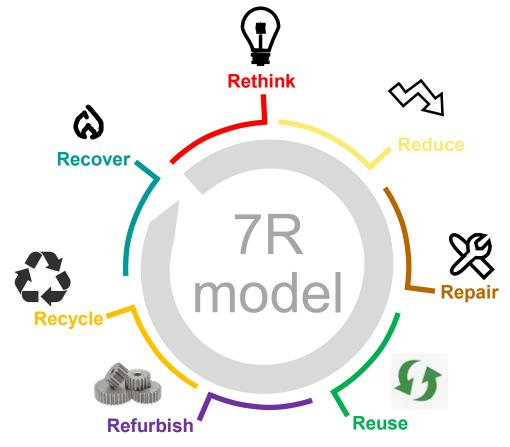
How to digitalise your future? Start with better organising.

Steven Dhondt / TNO, Netherlands





Sustainability is more than recycling. It builds on new 'green skills', but also digital technologies.





Digital technology is seen as a threat to employment.



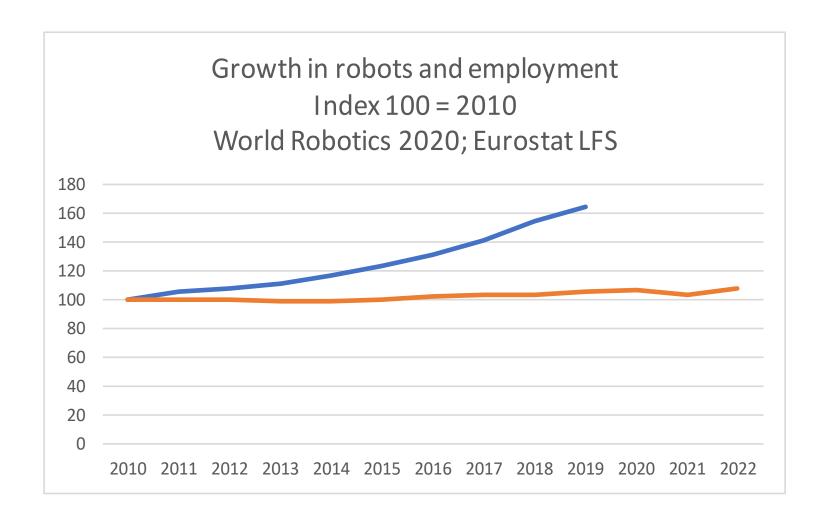
The issue is that we see too little technology in organisations. Or that existing technology is only "so-so".

"so-so automation" or "so-so technology" (Acemoglu and Restrepo, 2019)

"In particular, when some tasks that used to be performed by labor are automated but the cost reductions (productivity increases) are limited, this technological change generates significant worker displacement but little in the way of a productivity bandwagon." (p.467)

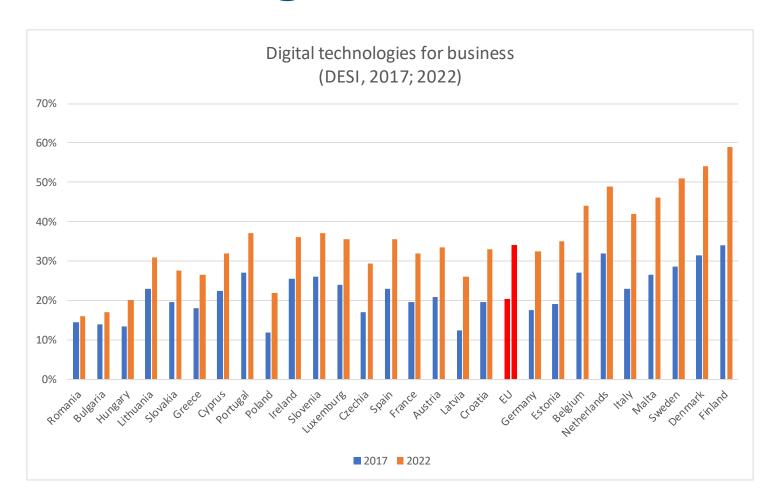


Too little technology?





Use of digital technologies is growing, but digital divide seems strong ...



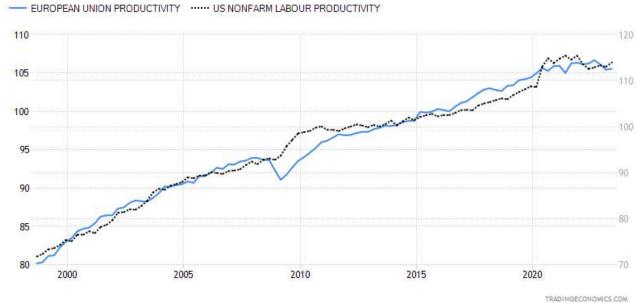


Too much employees?

Employment has grown from

182 million employed in 2010 to 196 million employed in 2022. This is the total employment of Belgium and The Netherlands combined.

More problematic: our productivity is not really increasing by much. Wages are not really rising.



There are several approaches to make better use of technologies.

- ... more education.
- ... redistributing gains.
- ... augmentation of the worker.



They are not sufficient.

The use of technology depends on the way the organisation is shaped. As Acemoglu says: "technology can be directed".



So, how to bring in the organisational perspective?

Some background.



Organisations are 'filled' with tasks

Controlling tasks

- Decision making
- Direction
- Assessing

Supporting tasks

- Quality control
- Financing
- Cleaning



Preparation tasks

- Planning
- Purchase

Executing, production

- Servicing
- Technical tasks
- Customer focused



Controlling tasks

- **Decision making**
- Direction
- Assessing

Preparation tasks

- **Planning**
- Purchase

Supporting tasks

- Quality control
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- Technical tasks
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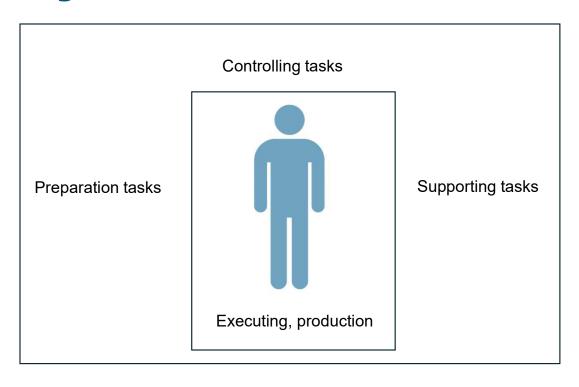


These tasks can be identified

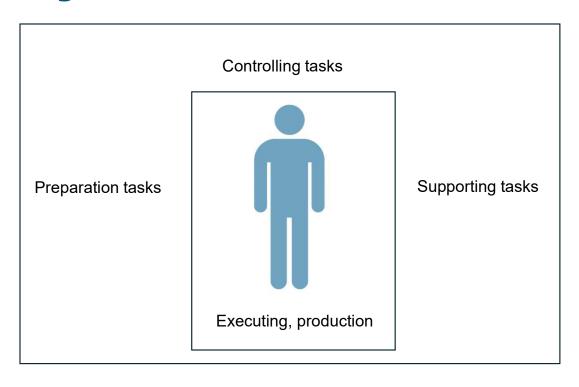
At the organisational level

- At the job/occupation level











Controlling tasks

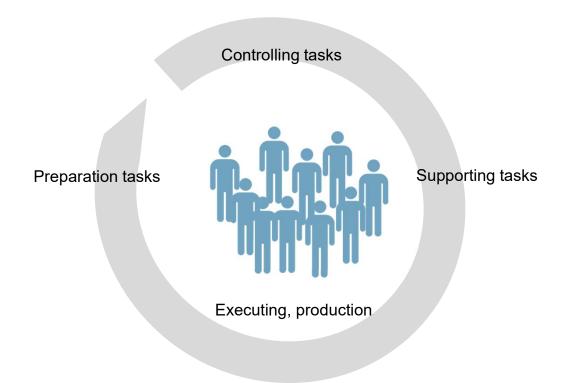
Preparation tasks



Supporting tasks

Executing, production





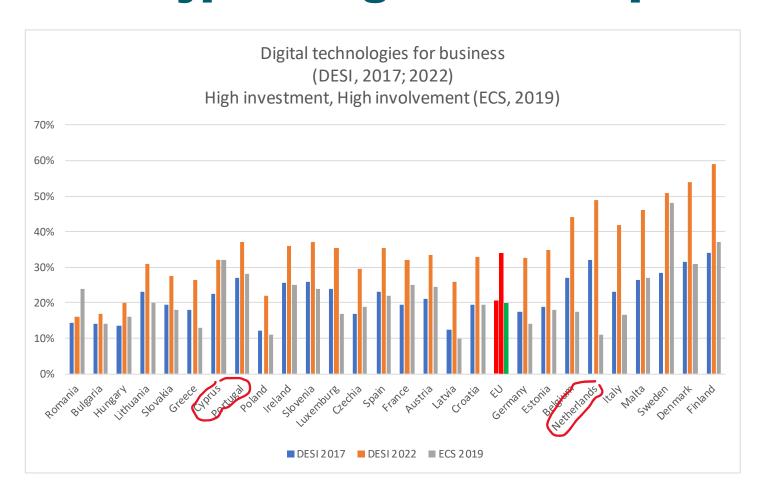


This means that skill demands will be quite different from the organisational model chosen.

(See Dhondt, Bal & Kraan, 2022)

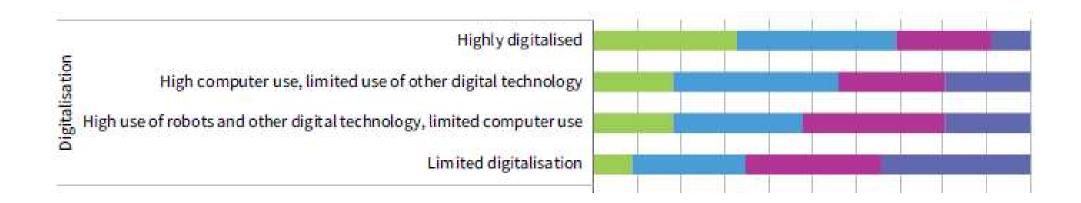


The spread of digital technology seems correlated to type of organisational practices



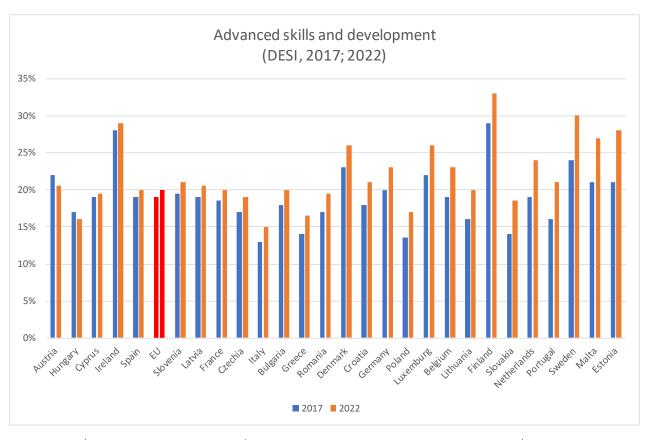


... that may seem spurious, but the ECS shows stronger associations at level of company practices.





Digitalisation requires digital skills.





1b Advanced skills and development	1b1 ICT specialists	
	1b2 Female ICT specialists	
	1b3 Enterprises providing ICT training	
	1b4 ICT graduates	

The strategy of the European Commission is to stress the importance of Industry 5.0.

Human centricity, sustainability, resilience.

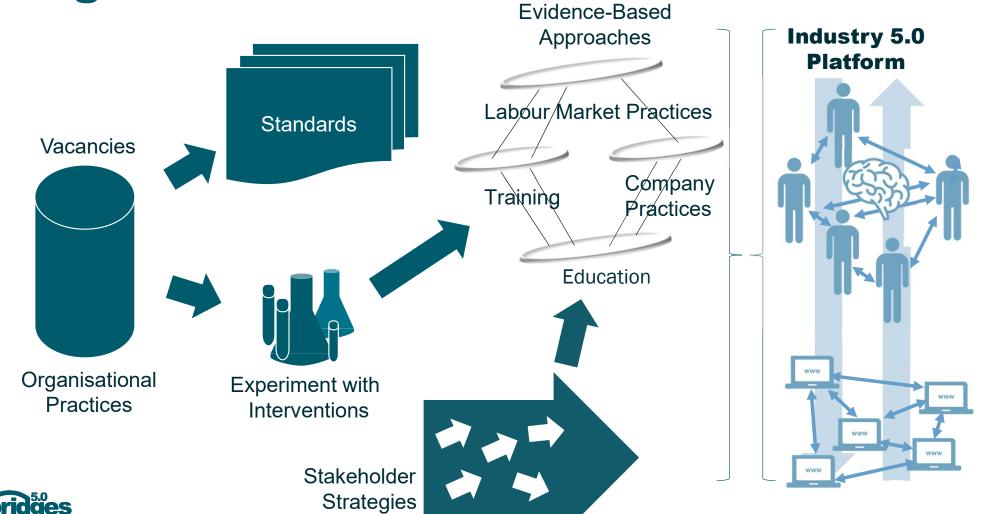


What does the Bridges 5.0 want? Bridges 5.0 has five goals

- 1. We will develop and deliver solutions, tools and recommendations to **build skills for Industry 5.0**, targeting management, workers, future talent and job seekers.
- 2. For each target group, we will examine their specific role in making the industrial transformation more 'socio-centric' and 'human-centric'.
- 3. We will translate these skill requirements into **new standards for knowledge**, monitoring continuous changes and ultimately reducing existing skills gaps.
- 4. From this skills transformation perspective, we will develop **evidence-based approaches to change** in education, the labour market and companies.
- 5. Outcomes will be **co-created** with several large industrial companies and SME networks, resulting in a digitally supported platform for Industry 5.0 stakeholders.



Bridges 5.0 - Outcomes



"A new, more inclusive vision of technology can emerge only if the basis of social power changes. This requires, as in the nineteenth century, the rise of counterarguments and organizations that can stand up to the conventional wisdom. Confronting the prevailing vision and wresting the direction of technology away from the control of a narrow elite may even be more difficult today than it was in nineteenth-century Britain and America. But it is no less essential."



Cody O'Loughlin



