

Putting humans and their work at the core of digital warehousing

The Humans in Digital Logistics (HuLog) project reimagines warehousing beyond technological efficiency, as a human-centred and socially sustainable work process. As vital nodes in Europe's economic infrastructure, warehouses have become a testing ground for advanced digital warehouse management systems optimizing operations and various technologies enhancing workers' productivity. While making some tasks physically lighter, these technologies also often increase the work pace, enforcing harsh working conditions onto warehouse workforces mainly composed of vulnerable groups, employed through precarious contracts. Workers' experiences of warehousing largely remain outside dominant accounts of digitalized logistics, which focus on increasing efficiency and performance. HuLog challenges these dominant accounts by repositioning humans – and workers in particular – at the core of technological change. The aim of our research is to generate actionable knowledge to improve work and employment conditions, making digitalized warehousing socially sustainable.

Co-creating research with multiple stakeholders

HuLog rests on a co-creative research process involving multiple stakeholders. While workers and their representatives' voices are essential to set

workers' experiences front and centre, developing socially sustainable uses of digital technologies requires a broader collaborative effort. We have worked with stakeholders in various complementary ways.

First, to ensure broad commitment, we involved a range of non-academic partners – e.g., sectoral trade unions, sectoral employer associations, sheltered workshops employers, companies, regional development agencies, public employment agencies – in the proposal development. Together, they have provided the societal backbone of the HuLog project, supporting access to the fieldwork, validating research findings and enriching their interpretation in multiple interactive workshops, and co-shaping policy outcomes.

Second, to ensure that the project reflected workers' and other actors' experiences and perspectives, we relied on qualitative methodologies to collect extensive data. Qualitative methodologies allow participants to express themselves in their own words. We conducted 280 in-depth interviews, collected documentation and carried out field visits in 12 warehouses located in four logistics hubs in Belgium, Poland, the United Kingdom and Germany. In each, we observed

digitalized work processes and spoke at length with warehouse workers, trade union representatives, shop floor managers, managers, human resource professionals, IT specialists, and in-house temporary work agencies. Then, to contextualize and triangulate the insights from the warehouses, we participated in industry conferences and logistics expos and conducted expert interviews and small focus groups with hub-level actors: such as employers' organizations and local governments.

Finally, our research was conducted in conversation with the academic community working on the future of work in warehousing, logistics and beyond. We have exchanged through our project advisory board meetings, at various conferences and seminars, and numerous online HuLog Circle talks we host for an academic and practitioner audience.

Fostering Social Impact

Entering the last six months, HuLog is co-producing a project report that: 1) reshapes the dominant understanding of warehousing work by centring workers' experiences and 2) develops a framework offering guiding principles for policy actors to negotiate human-centred warehousing.

Again, this has been a dialogical, iterative research process. This multi-level engagement ensures that HuLog knowledge is grounded in operational realities, and can become actionable, through negotiation and advocacy. In the last months, international sectoral trade unions have for instance approached HuLog to build their capacity to identify opportunities and negotiate better digital technologies for workers with employers. Our co-created analysis can also inform European policy:

By putting the human at the centre of digitalized warehousing, it anchors future visions of work in human dignity, sustainability, and shared governance.



Photo by: Hasselt University