Occupational Health and Safety Social Dialogue in the Metal Industries: INTEGRATING ARTIFICIAL INTELLIGENCE within Occupational Health and Safety

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1

PURPOSE AND SCOPE

- Guidance for managers, employers and employers' organisations, trade unions and workers' representatives in the metal industries.
- Objective: to integrate Artificial Intelligence (AI) into occupational health and safety to enhance health, safety and wellbeing while respecting legal rights and obligations.
- Focus: Human-centred AI deployment grounded in social dialogue, information, consultation and collective bargaining.

2.1 OPPORTUNITIES

- Automation of repetitive or hazardous tasks.
- Predictive maintenance and earlier detection of unsafe conditions, workplace hazards and preventable incidents.
- Decision support for safer operations and repairs.
- Potential reduction of injuries and exposure to occupational hazards.

2.2 RISKS

- Psychosocial strain, loss of autonomy and risks of significant task reconfiguration.
- Intensified monitoring and privacy concerns.
- Bias and discriminatory decision-making.
- Ambiguous accountability and limited contestability.

2

3

SOCIAL DIALOGUE AS GOVERNANCE MECHANISM

- Negotiation, consultation and exchange of information among workers, employers and, where relevant, governments on employment and workplace issues.
- Supports the translation of evidence and risk knowledge into workplace practices and, where applicable through collective bargaining, enforceable rules, assisting coherent action from company level through sectoral level to European level.
- Strengthens trust and prevents safety trade-offs.

AI-BASED WORKER MANAGEMENT

- Systems that gather data, often in real time, on the workspace, workers, the work they do and the digital tools they use, which is then fed into an AI-based model that makes automated or semi-automated decisions or provides information for decision-makers on worker-management questions.
- Influences work allocation, evaluation and safety.
- Outcomes depend on worker involvement and managerial strategy.

4

5

CORE GUIDELINES FOR RESPONSIBLE DEPLOYMENT OF AI

- Embed occupational health and psychosocial risk assessment in digitalisation clauses.
- Ensure transparency, human oversight and the right to request human intervention and contest technology-assisted decisions.
- Conduct ex-ante risk and impact assessments.
- Guarantee accountability, privacy protection and proportional monitoring.
- Strengthen AI literacy among workers and managers and ensure that evaluation is a dynamic process rather than a one-off exercise as systems and their impacts can evolve over time.
- Ensure a clear line of responsibility by naming accountable managers.
- Protect the right to disconnect to prevent over-monitoring and work intensification.
- Require transparency between developers and deploying organisations.

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6

EVIDENCE AND NEGOTIATED SAFEGUARDS

- Examples of negotiated safeguards: Partesa/Heineken (Italy): telematics monitoring restricted to clearly defined purposes, and subject to prior approval from the appropriate trade union or works council before implementation; Hermes (United Kingdom): guarantees minimum wage and prompt payment of bonuses within automated payment systems, empowers trade unions to conduct health and safety assessments in the event of incidents and establishes a clear mechanism for workers to contest technology-assisted decisions.
- Employer examples: video analytics reducing unsafe events; mobile diagnostic support for safer repairs; participatory implementation associated with stronger occupational health and safety and wellbeing outcomes.

OPERATIONAL SAFEGUARDS FOR DEPLOYMENT

- **Requirement (ex-ante): conduct risk and impact assessments and document mitigation measures and residual risk.**
- **Deployment condition: In the absence of transparency and explanation sufficient to allow meaningful understanding and oversight, no AI-based tools should be deployed in the workplace.**
- **Safeguard (remedy): procedures for appeals and human review, including response deadlines and documented outcomes.**
- **Psychosocial safeguard: Psychosocial risk safeguard: Reduction or abolition of geolocation control via mobile phone should be considered as a way of reducing stress, except where it is narrowly necessary for a legitimate and proportionate safety purpose (for example deliveries, commercial aviation or freight).**

7

8

1BUILDING CAPACITY FOR SOCIAL PARTNERS

- **Tools supporting social partners: data-lifecycle mapping, negotiating data rights, co-governing algorithmic systems (a guide of 19 questions aggregated into 7 themes), bargaining-clause repositories and digital impact frameworks.**
- **Co-governance themes: transparency and procurement, responsibility, right of redress on technology-assisted decisions, data protection, harms and benefits, adjustments and skills.**

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