



## Prevention of Psychosocial Risks under Algorithmic Management (PRisAM)

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**Cooperation Partners:**

- University Duisburg-Essen – Prof. Dr. Andreas Müller
- Federal Institute for Occupational Safety and Health (BAuA) – Dr. Ulrike Rösler, Dipl.-Soz. Michael Ertel
- Ulm University Hospital – Prof. Dr. Harald Gündel

**Initial situation and problem definition:** Work tasks and processes are increasingly being digitalised and coordinated without direct human involvement. The term Algorithmic Management (AM) has become established for such digitalised forms of work organisation. In particular, AM assumes typical responsibilities of middle management, such as job allocation, working time scheduling, monitoring and performance evaluation. At present, AM is primarily used in platform-based work (e.g. delivery services or click workers), but it is also increasingly being introduced into company-based sectors such as logistics.

In addition to the expected gains in efficiency, initial studies suggest that AM may also give rise to health risks for employees. It is assumed that these risks may be attributable, among other things, to negative effects of AM on psychosocial risk factors (e.g. reduced autonomy combined with increased time pressure, and diminished social support). Furthermore, there may be limitations in the implementation of occupational health and safety measures such as risk assessment, as well as a weakening of the prevention culture. Against this background, there is an urgent need to systematically examine the new challenges posed by AM for occupational health and safety.

## Research objectives:

(1) Refining the definition of the concept of “Algorithmic Management” (AM) and integrate it into existing prevention and occupational health and safety concepts and terminologies. (2) Identification of task-specific effects of AM on psychosocial demands. (3) Identification of task-specific effects of AM on organisational prevention culture. (4) Identification of facilitating and hindering conditions for conducting risk assessments under conditions of AM. (5) Integration of existing European regulatory approaches, as well as occupational health and safety experiences, in the field of AM. (6) Development of context-dependent measures to strengthen social relationships within organisations.

## Methodology:

- Qualitative task observations
- Qualitative interviews with employees, managers, employee representatives, occupational physicians, and occupational health and safety specialists
- Standardised online survey of employees working with AM
- Expert discussions with various stakeholders to validate and contextualise the initial findings
- Development of action recommendations

## Publications:

Röttgen, C., Dzaack, H., Herbig, B., Weinmann, T., & Müller, A. (2025). Algorithmic management: psychological measurement and associations with work design and mental strain. *BMC Psychol*, 13(1), 1327. <https://doi.org/10.1186/s40359-025-03680-2>

Röttgen, C., Herbig, B., Weinmann, T., & Muller, A. (2024). Algorithmic management and human-centered task design: a conceptual synthesis from the perspective of action regulation and sociomaterial systems theory. *Front Artif Intell*, 7(1441497), 1441497. <https://doi.org/10.3389/frai.2024.1441497>