

Human- Machine Interaction in Industry 4.0: Ergonomics, Security, and Regulatory Challenges

The new Industry integrates AI, robotics, and autonomous systems into industrial processes, creating new complexities in human-machine interfaces. This session focuses on cognitive ergonomics, security, and regulatory challenges to ensure safe, secure, and efficient collaboration between humans and machines. In particular, we invite exploring these aspects:

- 1) **Cognitive Ergonomics and Psychological Impact** and challenges and psychological effects, such as stress and cognitive load, associated with interacting with intelligent and autonomous machines.
- 2) **Security and Safety Considerations** in environments where humans and intelligent machines collaborate, analyse safety concerns related to autonomous decision-making and unpredictable behaviours and discuss cybersecurity threats within the context of human-intelligent machine interaction.
- 3) **Regulatory Challenges** regarding the proposed Regulation on machinery products and its implications for ensuring safe and secure human-machine interactions, and evaluate regulatory frameworks that address the physical and psychological safety in Industry 4.0 settings also from a new Ergonomics point of view

Call for Contributions: Submissions are invited from researchers, industry experts, and policymakers on topics such as cognitive ergonomics in human-intelligent machine interaction, security challenges and mitigation approaches, psychological impacts of autonomous machines, analyses of regulatory measures, and innovations in ergonomic design for intelligent systems.

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