

Artificial intelligence can make shift work healthier and safer

A research project prepared recommendations for the design and use of AI solutions in shift work. Successful solutions can improve the planning of working hours as well as shift workers' health-related behaviour and the treatment of insomnia. The improvements can make shift work more suitable for different types of employees.



Researchers from the Finnish Institute of Occupational Health investigated the possibilities of artificial intelligence to improve the health and safety of shift work over the next five years. Representatives from workplaces that utilise shift work, technology companies and occupational health care participated in the project.

There is little previous research data on the subject, as research has often focused on the technical development of AI solutions. It was now discovered that artificial intelligence can be used for ergonomic work shift planning, the treatment of insomnia among shift workers and promoting their health and safety behaviour. This allows reducing the health and safety risks of shift work closer to the level of day work.

“Artificial intelligence can be used to better adapt shift work to the employee’s life situation and support their health and safety behaviour individually,” says Research Manager **Mikael Sallinen**.

Joint development is key

Close collaboration between the workplace, occupational health care and the technology developer is the key to effective use of artificial intelligence. It enables AI solutions to take into account the health and safety challenges related to shift work and offer practical solutions to address them.

"The collaboration is based on a shared will to develop shift work to be healthier and safer than before. Shared understanding of the possibilities and effects of artificial intelligence can also strengthen the collaboration," says Mikael Sallinen.

Joint development helps to ensure that solutions are based on the real needs of the workplace, expert knowledge, functional technology and independent assessment. That is why it would be important to strengthen the collaboration so that the workplace can be monitored and develop the effectiveness of the implemented AI solutions.

Workplace AI solution checklist

1. Take into account the special features of shift work.
2. Ensure the protection of working time, personnel, health and well-being data along with an ethical and transparent approach.
3. Improve the personnel's AI literacy. Provide sufficient training and practical support.
4. Involve personnel and key user groups in planning and piloting.
5. Develop solutions in collaboration with occupational health care, AI solution developers and, when appropriate, researchers.
6. Assess the impacts together with personnel. Develop AI solutions based on feedback.

Read more

Using AI to promote health and safety in shift work project (<https://www.ttl.fi/en/research/projects/using-ai-to-promote-health-and-safety-in-shift-work>).

Recommendations for the use of AI solutions in shift work (in Finnish)

(<https://www.ttl.fi/teemat/tyohyvinvointi-ja-tyokyky/tyoaika/vuorotyö>).

Watch the webinar recording Tekoäly vuorotyössä: ratkaisuja terveellisempään ja turvallisempaan arkeen (Artificial intelligence in shift work: solutions for healthier and safer daily life, in Finnish)

(<https://videot.ttl.fi/fi/ttl/embed/vod/429426905>).

Read the final report of the project (in Finnish) **Tekoälyn hyödyntäminen vuorotyön terveellisyden ja turvallisuuden edistämässä**(<https://urn.fi/URN:ISBN:978-952-391-281-6>)

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