Attitudes toward Cooperative Robots in Industrial Work Environments

The use of modern robot technology in the manufacturing industry is constantly increasing. Robot is defined as an automated, moving machine that performs tasks for example in factories (industrial robots). International studies show that factory workers have different attitudes toward this development. There are both, positive and critical voices regarding the use of new robots in companies.

This questionnaire is intended to assess attitudes toward new robots that are planned to be implemented in industrial workplaces. The figure below shows an example of such a robot.

Imagine that your employer is **planning to implement a new robot**. As in the figure, this is an automated vehicle with a robot arm (manipulator) that allows the robot to perform tasks such as bin picking or assembly work. For example, it can pick up and transport individual products or assembly parts from the warehouse or assist with assembly tasks. Furthermore, this robot can move independently through the work area and is able to communicate and cooperate with humans.

Data for Statistical Analysis

Gender

☐ Female

☐ Male

☐ Third gender / non-binary

☐ Other

Age

(in years): _____

Current Job Title

(e.g. soldier, physician, nurse, assembly worker, university student, sales manager…)

_____

Is the company you are currently working for active in the manufacturing industry?

☐ Yes

☐ No

Main working area

☐ Office

☐ Assembly area

☐ Manufacturing area

☐ warehouse work (e.g. order picking)

☐ None of the above areas apply

Are robots currently used at your workplace?

(Robot is defined as an automated, moving machine that performs tasks for example in factories. Common tools like drills or lifting platforms are not robots).

☐ Yes

☐ No

In which country is your main residence?

_____

English language skills

☐ Native language

☐ Fluently

☐ Good skill level

☐ Basic knowledge

Attitudes toward robots

Imagine a new robot is planned to be implemented at your workplace. What would you think about the implementation of such a robot? In the following you will find statements about robots and their effects on your work. In each line you will find two opposing statements at the respective ends. Please indicate for each line which of the two statements you rather agree with by putting a cross between the statements. The more you agree with a statement, the closer your cross should be to that statement. We are interested in YOUR personal opinion. There are no right or wrong answers. So please answer honestly!

I generally find the implementation of new robots bad.	☐	☐	☐	☐	☐	I generally find the implementation of new robots good.
I'm afraid of losing my job because of new robots.	☐	☐	☐	☐	☐	New robots will secure my job for the long term.
New robots make my work increasingly meaningless.	☐	☐	☐	☐	☐	New robots make my work more meaningful.
With new robots I lose value as a worker.	☐	☐	☐	☐	☐	With new robots I gain in value as a worker.
Because of new robots I will be less in contact with my colleagues.	☐	☐	☐	☐	☐	Because of new robots I will be more in contact with my colleagues.
New robots make work processes more opaque.	☐	☐	☐	☐	☐	New robots make the work processes clearer.
New robots will make my work situation worse.	☐	☐	☐	☐	☐	New robots will improve my work situation.
New robots will lead to worse work results in our company.	☐	☐	☐	☐	☐	New robots will lead to better work results in our company.
New robots are a new hazard in my workplace.	☐	☐	☐	☐	☐	New robots offer potential for more safety at my workplace.
New robots will mess up a lot at work.	☐	☐	☐	☐	☐	New robots will lead to more organized work.
I do not want to have to change my work for a new robot.	☐	☐	☐	☐	☐	I would change for a new robot at work.
I have an uneasy feeling about a new	☐	☐	☐	☐	☐	I am confident about a new robot.

robot.