

EXOWORKATHLON

October 5 – 6, 2021 in Stuttgart (WearRAcon Europe)

October 26 – 29, 2021 in Düsseldorf (A+A Trade Fair)

Motivation

Industrial exoskeletons are fascinating new devices.

They are developed and used in order to facilitate some work functions and to prevent from musculoskeletal diseases. They may even improve the work output quality in some cases.

EXOWORKATHLON wants to assess, show and discuss this.

EXOWORKATHLON wants to focus on prevention in particular for young workers.

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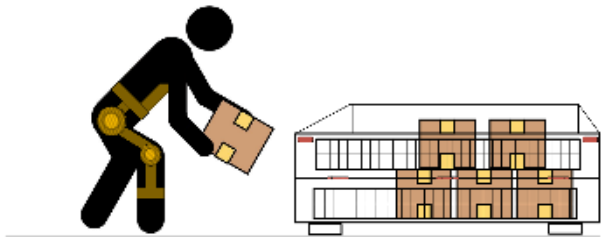


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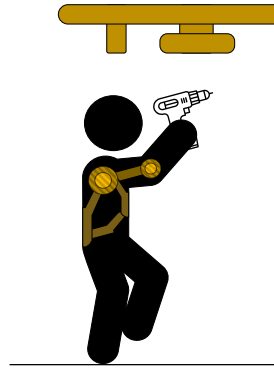
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Overview of the tasks



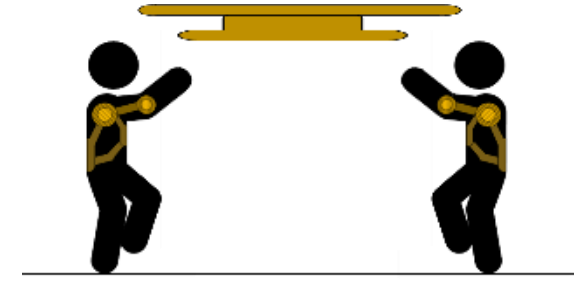
TASK 1
Box handling



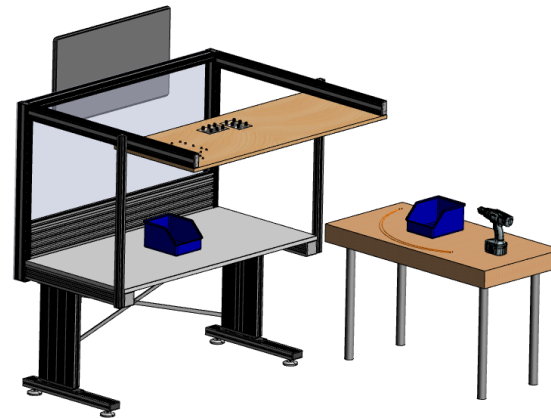
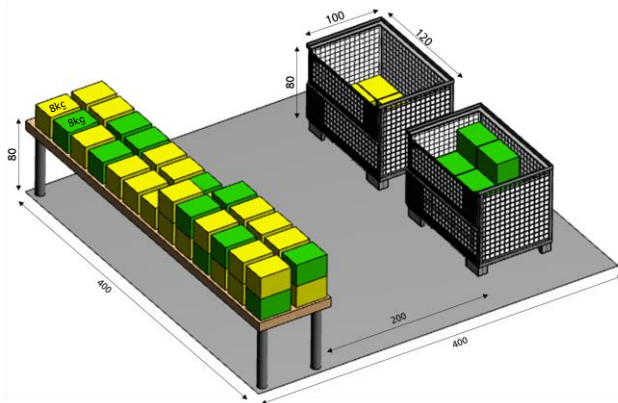
TASK 2
Overhead assembly



TASK 3
Welding



TASK 4
Collaborative assembly



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Overview of the assessment methods

- The tasks are run twice per participant – once with and once without an exoskeleton.
- For an intra-individual anonymous comparison, the following assessment methods are used for the different tasks.



User feedback (T1-T4)

(Questionnaire, Body Discomfort)



Quality (T2, T3)

(duration of the activity, accuracy in task)



Muscle activity (T1, T2)

(EMG of one selected muscle group)



Metabolic (T3)

(Impedance cardiography)



Cardiovascular load (T1-T4)

(GoX Labs Boost)

Supporting companies & individuals

Participating Companies

ottobock.

RB 3D

skelex

German Bionic



laevo
exoskeletons

LEVITATE
TECHNOLOGIES, INC.

ergo
Santé

Event Supporters

GoX
LABS

XSENS

WELDPLUS
AUGMENTED TRAINING & SOLUTIONS

Planning in collaboration with

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Dpt. Biomechatronic Systems (IPA): <https://www.ipa.fraunhofer.de/en/expertise/biomechatronic-systems.html>

Dpt. Mensch-Technik-Interaktion (IFF): <https://www.iff.uni-stuttgart.de/forschung/mensch-technik/>

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