



WORKINGAGE

Smart Working Environments for All Ages

The WorkingAge team has been working hard in recent months to complete the development of the **WorkingAge Of Well-being (WAOW) Tool**. The **WAOW Tool** aims at improving the health and well-being of people at work by supervising their working conditions and providing different types of advice through personalised technologies and friendly & intelligent human interfaces.

During the second half of 2020, the **In-Lab experimental phase** of the WorkingAge project has been completed. The In-lab studies aim to assess and evaluate the WAOW system through a proof-of-concept pilot test, centred on the users' expectations and usability features. The objective is to test the hardware and software to assess its acceptability, feasibility, usability and validity.

The laboratory tests, therefore, consist of different parts:

1. Survey of user acceptance of the hardware
2. Survey of the usability of the software
3. Survey on the implementation and structure of the interventions and suggestions given to a user
4. Validation of the sensors
 - 4.1. Posture recognition
 - 4.2. Gesture recognition
 - 4.3. Eye-Tracking
 - 4.4. Facial Affect Analysis
 - 4.5. Neurometrics
 - 4.6. Voice Analysis
 - 4.7. Location service
 - 4.8. E112 service
 - 4.9. Environmental Sensor

The aim of the in-lab tests is to adapt the whole WAOW Tool to the user and the context of use in the best possible way with regard to usability and acceptance in accordance with user-centred development. Furthermore, the studies aim to verify that the various modules are able to recognise and correctly assess the individual status of the users with regard to physical and psychological load, in order to be able to propose suitable recommendations based on this. For this purpose, various representative tasks were used to test the subsystems of software and hardware in the laboratory environment with the involvement of real users.

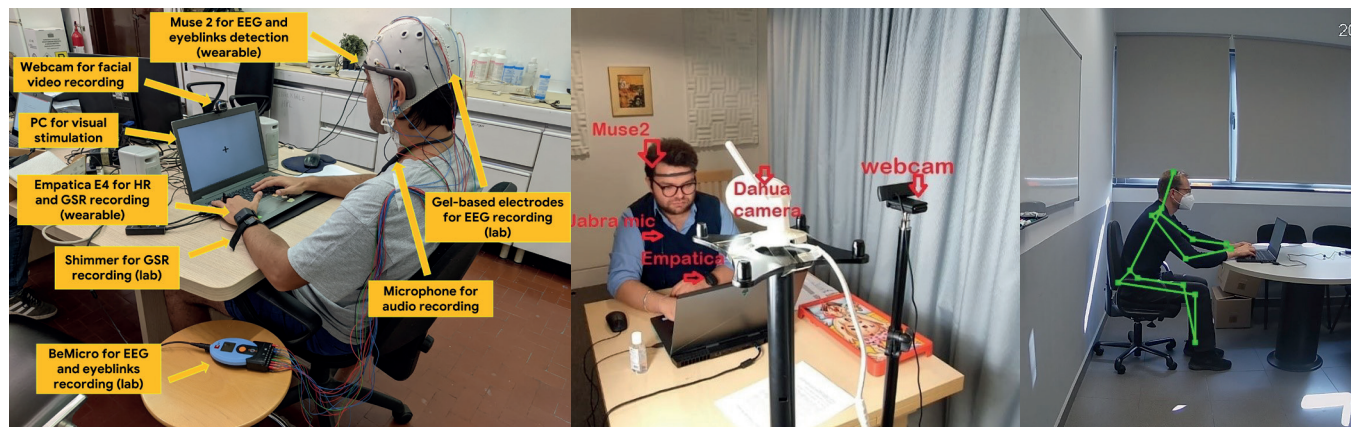
Such experiments were conducted in several European countries, corresponding to the partner's premises, challenging the difficulty of running experimental protocols during the COVID-19 pandemic. All the experiments were run in compliance with all the social distancing practices and hygiene standards stated by the *World Health Organization (WHO)*.

In order to enlarge the experimental sample and reach a greater robustness of the experimental outcomes some in-lab studies related to the testing of the validity of the sensors were conducted using a joint test protocols.

The shared experimental protocol included three different tasks representative for the three different use cases within the WorkingAge project. Such tasks were selected to modulate the mental workload, stress, and emotional state of the participants, and to simulate the daily working activities whose will be carried out by the workers during the next experimental phases (In-Company tests) in realistic working environments.

New progress on the WAOW Tool and main conclusions of the In-Lab tests

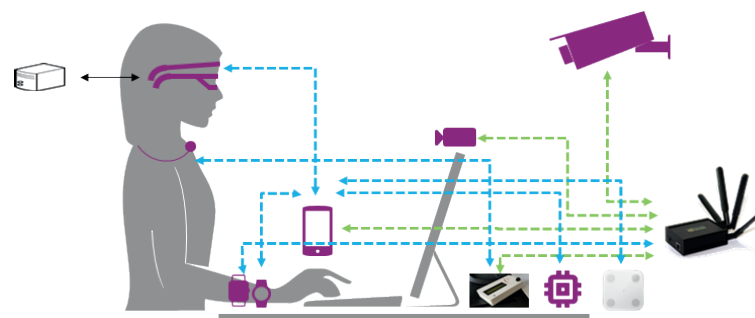
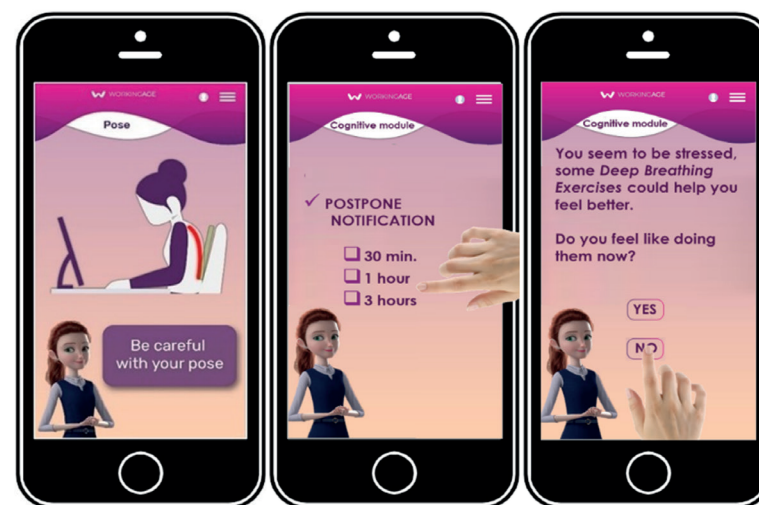
FACT SHEET #2



The results of the **acceptance test** were positive. Overall users stated that they enjoyed the idea of the WAOW Tool being implemented into their future work life and understand the importance of the tool. However, users articulated concerns about data protection and express concern about the possible disclosure of data to unauthorised persons. Data security is of course already an important aspect of the WAOW Tool whereby data is only processed after consent based on the General Data Protection Regulation. However, the results show that this has not been understood by the users, which is why an important component is now also the adequate and precise communication of the data protection regulations complied with in order to dispel concerns regarding data security.

The results of the **usability tests** regarding the App delivers mostly acceptable values, which underline that the basic concept of the app is accepted by the users and rated as usable. Since the concept was changed to an online survey, both younger and older people could be interviewed in different countries whereby good results were achieved for both age groups as well as for the different countries.

The **validity tests** could only be carried out to a limited extent due to the corona pandemic. However, we were able to carry out the validity tests and achieve important results for the further development of the tool through joint test protocols, as described above, and through additional literature researches to address missing aspects. Despite the difficult conditions, all in-lab tests could be carried out and the results used for further development of the WAOW Tool.



The **conclusions of the WorkingAge In-Lab tests** carried out helps to adapt the WAOW tool in the best possible way to user requirements within the framework of user-centred development.



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