

Information for journalists and media representatives: “Future Work Lab – innovation laboratory for work, people and technology”

The Future Work Lab is a lively and widely visible center of excellence for all stakeholders in society, particularly for companies, employees, associations and trade unions. The laboratory's services are based on three pillars:

- The **Demonstrator World** brings the digitalized future of work to life with over 60 use cases and illustrates which technologies have already made inroads into the real world.
- The **“Fit for Future Work” world of learning** offers mature concepts for skills development, training and qualification for Industrie 4.0.
- The **World of Ideas** is a central platform for scientific dialog and research concerning the future of industrial work.

Further information:

www.futureworklab.de

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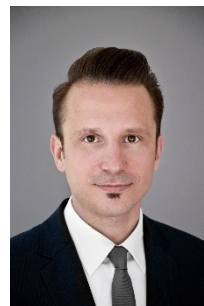


Photo material

The following pictures may be used free of charge as part of reports on the opening of the Future Work Lab. Requests for high-resolution images should be sent to presse@iao.fraunhofer.de. All photos used must be accompanied by the appropriate source reference, and we kindly request a copy of the published material. The photos are to be used exclusively for editorial reporting and under no circumstances in advertising or sales materials. Further circulation, copying, editing or use on websites that is not for the purposes of editorial reporting is not permitted.

Future Work Lab (1): Collaboration with large robot

How can people and robots work together safely at close quarters? Optical, guard-free protective mechanisms and the use of a heavy-duty robot facilitate new kinds of adaptive manufacturing scenarios.



Photo: Rainer Bez © Fraunhofer IPA

Future Work Lab (2): Assisted assembly: a step-by-step guide to the finished workpiece

The personalized assembly workstation guides workers step by step through the entire assembly process. A monitor at eye level and projections directly beside the work surface enable interaction at all times.



Photo: Ludmilla Parsyak © Fraunhofer IAO

Future Work Lab (3a): Mobile workstation: providing information as needed

Whether it's lighting, desk height or the provision of information, the industrial workstation of the future adapts flexibly to the respective work situation and to the individual needs of the employee.



Photo: Ludmilla Parsyak © Fraunhofer IAO

Future Work Lab (3b): Mobile workstation: providing materials as needed

A mobile robot brings workbenches, tools and materials to the employee whenever they are needed. The robot navigates freely through the room and avoids obstacles, or it can be controlled by the employee via a mobile device.



Photo: Ludmilla Parsyak © Fraunhofer IAO

Future Work Lab (4a): Safe manufacturing work: active accident prevention and detection

Optical 3D sensors and state-of-the-art Industrie 4.0 technology enable automatic scene analyses for accident detection. The data is evaluated directly in the sensor box, and an alarm is triggered when an accident has been detected.



Photo: Rainer Bez © Fraunhofer IPA

Future Work Lab (4b): Safe manufacturing work: active accident prevention and detection

New kinds of collaborations between humans and technology make it essential to integrate danger recognition systems into the emergency-off mechanisms of potentially dangerous systems and machines.



Photo: Heike Quosdorf © Fraunhofer IPA

Future Work Lab (5a): Exo Jacket

The Stuttgart Exo Jacket offers workers support during lifting tasks and overhead work, allowing them to stay healthier and work longer – a highly relevant benefit in view of the ageing workforce.



Photo: Ludmilla Parsyak © Fraunhofer IPA

Future Work Lab (5b): Exo Jacket

The exoskeleton follows the movement of the arms and offers power assistance; the additional load is directed to the hips or into the ground.



Photo: Ludmilla Parsyak © Fraunhofer IPA

Future Work Lab (6): Qualification 4.0: “Knowledge nuggets” for complex workflows

Instructional videos will help employees understand complex work processes in the future. Short teaching units in small video sequences – so-called knowledge nuggets – can be called up individually at any time as needed.



Photo: Ludmilla Parsyak © Fraunhofer IAO

Future Work Lab (7): KPI dashboard for forepersons: data in real time

For everyday improvement work in shop floor management, real-time data will be available in the future. This will enable production workers to recognize problems directly and discover the effects of new solutions immediately.



Photo: Ludmilla Parsyak © Fraunhofer IAO

Future Work Lab (8): Virtual and augmented reality: simulation and visualization in real time

Seeing and experiencing today what is possible tomorrow: augmented and virtual reality applications permit cost-effective planning and faster adjustments of the production system to disruptions on the shop floor.



Photo: Ludmilla Parsyak © Fraunhofer IAO

Future Work Lab (9): Intelligent sensor systems: retrofitting with Sense & Act

The Sense & Act solution enables manufacturers to connect any number of old machines and systems via the cloud using smart sensor technology. Certain rule-based actions can then be triggered in the cloud, such as an e-mail about the system status, so that processes can be continuously optimized.



Photo: Rainer Bez © Fraunhofer IPA