PRESS RELEASE

Fraunhofer researchers on SmartHome, Lifestyle and Industry 4.0: "Potential of activity recognition is far from being exhausted"

Fraunhofer researchers are working on taking activity recognition to another level. The digital change will open up opportunities at home as well as at the workplace.

(Rostock/Darmstadt/ Graz) It seems like a vision of the future, but it has already found a place in our everyday lives at home and at work. Acceleration sensors in smartphones, smartwatches and in clothes are making the unobtrusive recognition of physical activity possible. In sports, they help digital trainers correct exercises. Intelligent living environments recognize falls and call for help. A hand movement can dim the light, lower venetian blinds or turn on the TV.

Such technologies are developed at Fraunhofer IGD. Technologies recognizing a person's activity, thus allowing us to control applications and machines. For instance, they will measure your pulse, body movements or blood pressure. These data help physicians and therapists better evaluate the state of health and future development of a patient. At the workplace, an unhealthy body posture, excessive physical strain or dangerous noise levels can be detected. In the process, the Fraunhofer researchers attach great importance to the security of the collected data.

According to Professor Bodo Urban of Fraunhofer IGD in Rostock, we can expect exciting developments in the industry in the years to come: "Activity recognition is taking man-machine interaction to the next level." Machines and robots recognize human activities and respond to these. Production plans can be intuitively controlled by gestures via a smartwatch. For instance, lifting up your hands in the case of a malfunction will trigger the emergency switch. Machines will register where the operator is at which time and ensure that the required materials and tools will be available in

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the right place at the right time. "The potential of activity recognition is far from being exhausted", says Urban.

For more information:

Activity recognition in everyday life:
http://www.igd.fraunhofer.de/en/Institut/Abteilungen/IDE/Projekte/DiaTrace-Trace-your-Day
http://www.igd.fraunhofer.de/en/Institut/Abteilungen/IDE/Projekte/HIS-Home-Interaction-Service

TakeCare – Competence network on activity and vital data assistance:
https://www.igd.fraunhofer.de/en/Institut/Abteilungen/IDE/Projekte/TakeCare-Competence-Network-Activity-and-Vital-Data-Assistance

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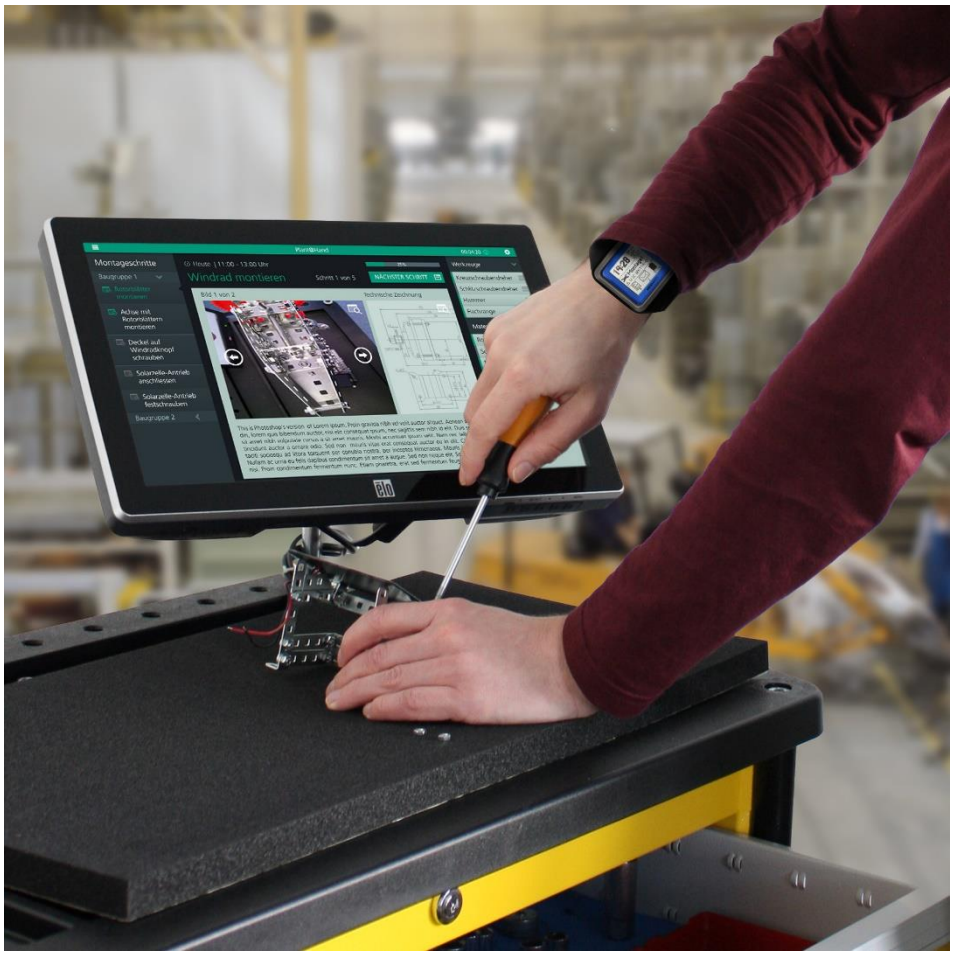

Image: [M] Smartwatches are excellently suited for activity recognition. According to Fraunhofer researcher Bodo Urban, the technology's potential is not yet exploited although it is inexpensive. In particular for Industry 4.0, he is expecting exciting developments in the years to come. (© Fraunhofer IGD)

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Profile

Fraunhofer IGD is the world's leading institute for applied research in Visual Computing. Visual Computing is image- and model-based information technology and includes computer graphics and computer vision, as well as virtual and augmented reality.

In simple terms, the Fraunhofer researchers in Darmstadt, Rostock, Graz, and Singapore are turning images into information and extracting information from images. In cooperation with its partners, technical solutions and market-relevant products are created.

Prototypes and integrated solutions are developed in accordance with customized requirements. In doing so, Fraunhofer IGD places users at the forefront, providing them with technical solutions to facilitate computer work and make it more efficient.

Owing to its numerous innovations, Fraunhofer IGD raises man-machine interaction to a new level. Man is able to work in a more result-oriented and effective way by means of the computer and visual-computing developments. Fraunhofer IGD has more than 200 employees and budget amounts over 19 million euros.

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