

MaxiMMI Research Project

(Multimodale, aufgabenorientierte Bediensysteme zur flexiblen und nutzerzentrierten Mensch-Maschine-Interaktion an Produktionsmaschinen [Multimodal, task-oriented operating systems for flexible, user-centric human-machine user interaction on production machines])

VDI|VDE|IT



Funding code (FKZ): 16SV6225 Approval period: 6/1/2014 to 5/31/2017

Partners:

- Siemens Aktiengesellschaft (Erlangen), Coordinator
- Machine Tool Laboratory (WZL) at RWTH Aachen University (Aachen)
- Institute of Industrial Science (IAW) at RWTH Aachen University
- INDEX-Werke GmbH & Co. KG Hahn & Tessky (Esslingen)
- ProCom GmbH (Aachen)
- Chiron-Werke GmbH & Co. KG (Tuttlingen)
- Fecken-Kirfel GmbH & Co. KG (Aachen)

Title of the ProCom GmbH subproject:

Multimodal, task-oriented operating systems for flexible interaction with production machinery in the field of cutting technologies

Project objectives:

If the handling of production machinery is to become easier, more ergonomic and more intuitive despite increasing functional complexity, variability and extensive configurability, the design of the human-machine interface will have to incorporate innovative operating concepts and the use of modern control tools. At the same time, since the demographic shift means that there will be an increasing deployment of older workers and employees without specialized training or years of experience, simple and comprehensible user guidance is also needed in these aspects.

The MaxiMMI project is investigating how operating and control concepts have to be designed to fulfill the above conditions. The focus when selecting control devices is on target-group-oriented, multimodal screen operating concepts, as well as voice control and recognition of spatial gestures and multi-finger gestures. In this respect, it is advantageous that the touch operation of mobile devices in the communications sector, such as smartphones and tablets, is generally familiar and requires no special training. The result of MaxiMMI is intended to show how the use of such effects, combined with a clear, consistent and unambiguous specification of control instructions, increases productivity and simultaneously can significantly reduce error rates.

Objectives of ProCom GmbH

As a manufacturer of its own controls for machine tools, ProCom GmbH is contributing its many years of experience with conventional control functions to the project. Its aim is to derive the market potential of advanced—and particularly mobile—HMI technology from the results of surveys of

customer requirements, and to obtain and implement user requirements for workplace ergonomics as part of the project.