

Shoe with inner life

Smart shoe comfort

The aim of the ISC project with the working title "Smart Shoe Comfort", funded by the German Federation of Industrial Research Associations (AIF), was to develop innovative inner shoe parts whose properties can be modified by the wearer. The wearer should be able to adapt the inner sole parts to his comfort requirements and the respective wearing situation by adjusting them hard or soft as well as stiff or flexible. In this way, a noticeably higher wearing comfort is to be achieved in different wearing situations. The wearer should be able to make the modifications at any time without having to remove the inner sole parts from the shoes. The plan was to use a smartphone app, for example, to control the system.



Smart inner sole parts for comfort adjustment are an innovation in the shoe sector and represent progress in the "Wearables / Smart Clothing" product segment.



The project demonstrated the feasibility of both functional models and test shoes and could be divided into two phases:

1. investigation of the general conditions and the adjustment parameters for the adaptability of inner sole parts including remote control as well as laboratory tests with a measuring shoe;
2. implementation of the technical developments on the "real" shoe, system integration and evaluation.

The project created the prerequisites for the implementation of novel, universally applicable

products for the shoe industry, the stationary shoe trade, orthopaedic shoe technology and the supplier industry. The individual adaptability of the inner sole to the situational needs of the customer represents a clear competitive advantage for manufacturers and suppliers. The companies represented on the project advisory board worked closely with the project team throughout the project.

The ISC took over the project management in this project and carried it out in cooperation with two other research institutes, the PFI and the University of Kaiserslautern (Department of Informatics and Microsystems Technology). The project has the AiF funding number 18466 N.

It started on 1 December 2014 and ended on 30 November 2017.

Further information:

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