

# ModES<sup>t</sup>

## Walker-module for posture-recognition and fall-prevention

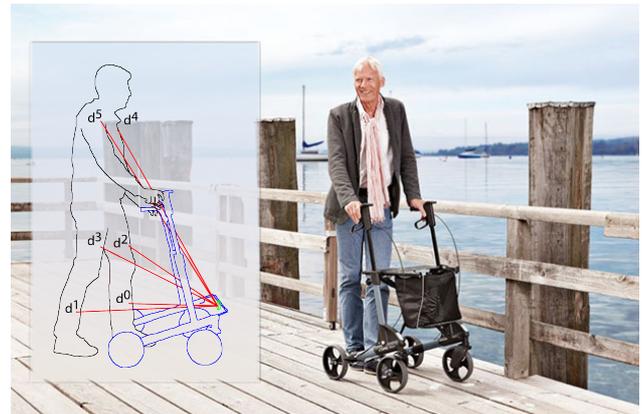
Walkers play an important role in the everyday life of many people. In order to support a durable individual mobility, the correct use of this tool must be properly learned and practiced continuously. Potential dangers in the use of walking assistants arise, in particular, from incorrect use in the form of posture errors. Some people also tend to forget the correct posture due to cognitive impairments. In particular, it is important to effectively prevent latent poor postures and acute dangers of falling.

### Goals and approach

In the "ModES<sup>t</sup>" project (coordinator: Budelmann Elektronik GmbH), distance sensors for position detection are integrated with software-based analysis algorithms for the identification of possible misuse and linked with interface modules for the feedback of corresponding correction notes. The analysis function first checks the positioning of the user in relation to the walker by means of distance measurements of different body regions to the walking assistant. These values are used to assess the posture. By an intuitive, subtle feedback upon the recognition of a poor posture the system helps the user to correct its posture. Poor postures can thus be detected in real time and corrected by subtle sensory feedback signals. This is implemented in a novel electronic box, which is integrated directly into the frame of the walker. In addition, the information recorded under strict data protection criteria makes it possible for physicians to analyse the progress of therapies in order to regain freedom of movement.

### Innovations and perspectives

The electronic box integrated into the rack is a durable and reliable, innovative solution for



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corrections in the use of walkers. Through this compact and cost-effective solution, "ModES<sup>t</sup>" will help to improve the use of such tools in the future and to create a real added value in the mobile everyday life of many people.

### Project duration

01/2017 - 12/2019

### Funded by



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### Partners

**BUDELMANN**  
Elektronik

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