



Care robots

The combination of global demographic change and the increasing shortage of skilled workers poses a particular challenge to the health care system. The number of people in need of care in Germany is expected to double by 2030. Forecasts predict more than 3.4 million people who will be dependent on external help in everyday life.

In order to ensure that care can continue to be provided for older people or people with severe health problems, the health system sees opportunities in the use of care robots. They can by no means replace a human caregiver, but they can relieve the burden of daily routine, care and service tasks. They can also contribute to personal autonomy when used at home.

New generation care robots: What's behind them?

The care robot Lio from F&P Robotics is able to move independently within the premises of a facility. In order to make this possible, sensors are installed on the mobile platform that cause it to swerve and stop quickly and safely. During the initial introduction, the robot is guided through the premises to memorise where it is allowed to stay and where its loading station will be.

Integrated cameras provide additional support in recognising and assigning persons and objects. As soon as the mobile assistant has been introduced to its patients and the specialist staff, it is able to recognise the persons, address them by name and interact with them.

It is also equipped with special touch sensors on its sensitive surface. The nursing robot is primarily characterised by a movable, functional arm with which it can precisely perform many different activities in everyday nursing care. In addition, it has an interactive display as well as a microphone and loudspeaker that enable smooth and fluid communication with Lio.

The specially developed software allows the nursing robot to recognise situations and enables deep learning. The robot can be programmed to the institution-specific needs and continuously learn.

Although nursing robots such as Lio are already technologically advanced, they still need further development stages in order to support nursing staff in the future in activities such as washing and dressing patients, transferring them to another bed and other sensitive and physically demanding tasks.

INNOVATIVE TECHNOLOGICAL APPROACHES

- ◇ **Company:**
F&P Robotics AG
- ◇ **Product:**
Lio care robot
- ◇ **Areas of application:**
Nursing and retirement centres, rehabilitation centres, private at home
- ◇ **Field of activity:**
Offer drinks regularly / Perceive and respond to touch / Pick up and pass objects / Opening doors and cupboard / Remind and accompany of upcoming appointments / Motivate and guide to exercise / Talking to, entertaining & informing people
- ◇ **Website:**
<https://www.fp-robotics.com/de/>

Advantages of care robots:

- ◇ Support of the nursing staff in daily patient contact
- ◇ Gives patients back a bit more autonomy and independence
- ◇ 24-hour availability as a contact person and for the recognition of emergency situations
- ◇ Interacting with patients to avoid loneliness and increase well-being and exercise activities

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