

Press Release

Artificial intelligence in the "smart" patch for premature babies

1.2 million euros in federal funding for research consortium to develop an intelligent patch for gentle respiratory support

Gemünden, 20 August 2020 - about one in ten newborns in Germany is a premature baby, i.e. it is born with less than 37 instead of the usual 40 weeks of pregnancy. Two-thirds of these 78,000 premature babies born each year require support by a ventilator, which is a particular challenge for doctors and nurses. Studies have shown that ventilators that adapt to the newborn's own breathing lead to better long-term results. However, the sensor systems available on the market for respiration detection and control of ventilators are often inadequate, as they only detect breathing inadequately under certain conditions.

The smartNIV project aims to develop an intelligent sensor plaster that helps to control ventilators more reliably. Optimum adaption of ventilators to the natural breathing of premature babies requires the individual breathing phases to be recorded with millisecond precision. The smartNIV patch, in combination with a ventilator, thus represents an intelligent system for premature infants and is intended to enable gentler ventilation. The physicians in the project hope to be able to support the breathing efforts of newborns with such an intelligent, elastic and cost-effective patch even during non-invasive ventilation, whereas this was previously only possible with invasive ventilation.

Participating in the project are the Institute for Microtechnology at the TU Braunschweig, the University Medical Center Göttingen, the software company msg DAVID, the medical technology companies Löwenstein Medical and Activoris Medizintechnik as consortium leader and later legal manufacturer of the system.

Axel Fischer, CEO of Activoris Medical Technology, said: "The global market for critical care ventilation equipment for premature infants is estimated at over EUR 1.2 billion, with a projected growth rate of 5% per year. There is a continuing huge medical need for innovation in this area of premature infant care. We are delighted to be working with top-class industrial and academic partners in this project, for the first time as consortium leader".

The research project is funded by the German Federal Ministry of Education and Research (BMBF) within the framework of the program "Small Patients, Big Needs - Medical Technology Solutions for Child-Friendly Health Care" with more than 1.2 million euros for 2.5 years (funding code: 13GW0446A).

About Activoris Medizintechnik GmbH

Activoris is the German medical device specialist, building up on decades of management experience in the medtech and pharma industry. Activoris supports its clients with contract manufacturing, device developments, regulatory and business consulting as well as administration support.

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