

Press Release

1.3 Million Investment in Nightly Nasal Aerosol Therapy

Thora Tech and Activoris to team-up with University Clinics Marburg and Löwenstein Medical Technology for the development of a system for nightly aerosol therapy for patients with chronic lung diseases.

Giessen, Marburg and Gemünden, November 14, 2017 – chronic obstructive pulmonary disease (COPD), is one of the widespread common diseases. More than 4.5 million patients in Germany suffer from COPD. Total costs are estimated between five and six billion Euro per year. A major challenge with inhalation treatment is suboptimal adherence of the patients who struggle to integrate therapy times into their daily routine. This is what made a group of researchers to think about alternative ways and to develop a therapy concept for the night.

Germany based Thora Tech GmbH and Activoris Medizintechnik GmbH today announced that this nightly inhalation therapy will be developed to a medical device platform. Both companies cooperate with Philipps University Marburg. One of Germany's market leaders for lung ventilators, Löwenstein Medical Technology in Hamburg, acts as associated partner and is already interested in marketing the device. The Federal Ministry of Education and Research (BMBF) supports this project with a grant of 930,000 Euro.

The project goal is to develop a demonstrator that nebulizes a saline solution in combination with a ventilator for the sleeping patient. The device will then be clinically evaluated in a pilot study at the Medical Sleep Center in Marburg. Thora Tech will take responsibility for the device development and the clinical study while Activoris will conduct human factor studies and will design a concept for the further usage of the system for drug applications within partnerships with pharma and biotech companies. Löwenstein Medical Technologies will provide the CPAP devices and makes sure that all component software will communicate properly.

Dr. Andreas Weißflog, CEO of Thora Tech GmbH at Application Center for Medical Technology in Giessen: "Results of previous projects showed us a strong indication that aerosols may be applied to the lung via the nasal cavity. Thus, the consequent next step is to take this innovation to a further level and to develop a device platform. Also, we are very happy that we could attract other famous companies and researchers with a proven track record for this project."

"Recent scientific data clearly show that COPD patients have problems in the early morning hours. They sleep restless because of breathing problems" added Prof. Dr. Ulrich Köhler, head of the Medical Sleep Center at University Hospital Marburg. "It is also known that airway humidification helps COPD patients with expectoration of sticky mucus. We believe that our inhalation concept „low dose – long time“ has an enormous potential. For us, it is always key to explore new paths to find better therapies for our patients."

Axel Fischer, CEO of Activoris Medizintechnik GmbH added: „Not only are night time inhalations a new option for airway humidification with saline, in future this application route may represent a new way to deliver drugs to the lungs. For drug makers, this opens the chance to establish a new delivery route for generic drugs and also new chemical entities. Furthermore, other patient groups beyond COPD can

benefit from nightly aerosol delivery. Long daily therapy times and adherence challenges may be addressed with this disruptive concept."

About Thora Tech GmbH

Thora Tech GmbH specializes in research, development and manufacturing of innovative technologies and products for respiratory, cardio-vascular diagnosis and therapy as well as telemedicine. Under the mission „Physiology meets Engineering“, Thora Tech has established a comprehensive service portfolio for regulatory compliant developments and manufacturing of medical devices at the Application Center for Medical Technology of the University of Applied Sciences in Giessen. Thora Tech's quality management system is certified according to DIN EN ISO 13485 for the development, manufacturing and service of medical devices.

Contact: Dr. Andreas Weißflog
Anwenderzentrum Medizintechnik
Gutfleischstrasse 3-5
35390 Gießen, Germany
Phone +49 (0) 641 309 2680
Fax +49 (0) 641 309 2657
weissflog@thoratech.de

About Activoris

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.

Contact: Activoris Medizintechnik GmbH
Axel Fischer
Wohraer Str. 37, 35285 Gemünden, Germany
Phone +49 (0) 6691.97990.0
Fax +49 (0) 6691.97990.25
axel.fischer@activoris.com

About the Sleep Therapy Center at the University Hospital of Philipps University Marburg

Since 30 years the Sleep Therapy Center at the Marburg University Hospital provides a comprehensive portfolio of diagnostic and therapeutic methods to treat patients with sleep disorders and disorders with sleep-wake-rhythm. About 2,000 inpatient and 2,600 outpatient treatments are conducted. The sleep therapy center has a long tradition of collaborations with innovative companies and co-operates tightly with University of Applied Sciences in Giessen to develop new methods for the diagnosis and therapy of sleep and breathing disorders.

Contact: Universitätsklinikum Gießen und Marburg GmbH, Standort Marburg
Klinik für Innere Medizin, Schwerpunkt Pneumologie
Schlafmedizinisches Zentrum
Prof. Dr. Ulrich Koehler
Baldingerstraße 1
35033 Marburg
Phone +49 (0) 6421 5862717
Fax +49 (0) 6421 5865405