Cooperation Profile

Nalecz Institute of Biocybernetics and Biomedical Engineering Polish Academy of Sciences

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Technology area:	Biomedical engineering / pulmonary intensive care
Technology title:	**VENTIL – independent lung ventilation system**
Brief description	In most clinical cases artificial ventilation of lungs is performed with the use of one respirator and only total ventilation of lungs is controlled. However, there are some clinical cases when mechanical properties of each lung of a patient differ so much, that is necessary to ventilate them separately to control ventilation of each lung. VENTIL device allows for independent, fully automated synchronous ventilation of lungs with use of only one respirator (US and EPO patent app.). In the shortage of respirators (ex. terrorist attack, natural disasters) device allows also to ventilate in classical system two patients using single respirator.
Advantages and innovations	The Institute had constructed working prototypes of the device, that have been used in clinical practice. Prof. Andrzej Nestorowicz (Department of Anesthesiology and Intensive Therapy, Medical University of Lublin) and his team have been treated of over 200 patients, approved by the Ethical Committee. Usefulness of the device in clinical practice have been indicated (i.e. improved blood oxygenation, decrease of the ventilator pressures, improvement in the radiological image of lungs, rapid improvement of gas exchange, reduction of air leak). **The great benefit is a reduced number of complications and shortened hospitalization time.** Currently, the team is working on the new Ventil applications: ➢ the ability to collect data from the device for supporting clinical decisions, ➢ the use of the device with the possibility of automated differential delivery of inhaled drugs.
TRL:	VII
Type of cooperation sought:	Venture Funds, Business Angels, Life sciences SME's, Hospitals, Intensive Care Units