



**Press Release:**

## **Successful bridge to lung transplant with the Hemolung Respiratory Assist System: Patient recovered well and received donor lung**

**The 3<sup>rd</sup> German Hemolung patient – the 5<sup>th</sup> world-wide - recovered well from acute lung exacerbation within six days on the Hemolung Respiratory Assist System and received a double-lung transplant four weeks later.**

**< Essen, Germany - March 22, 2011 >** Today, Heinz-Dieter Hilgers comes only once per month to the Ruhrlandklinik hospital for a routine check-up. Nine months ago, in June 2010, his situation was dramatic: Suffering from chronic obstructive pulmonary disease (COPD) for almost two years, Hilgers, 49 years young, had been listed for lung transplant since April 2009. While waiting for an organ, he became more and more sick, requiring long-term oxygen therapy since February and non-invasive ventilation since May 2010. These treatments however did not really help: “Taking a shower took me one hour”, he says, and adds: “I couldn’t ride my bike. Even dining was an effort”.

On June 25, 2010, Hilgers’ condition further deteriorated and he was transferred to Ruhrlandklinik Essen, a specialized thoracic center in North-Rhine Westphalia. Frank Bonin, MD, head of the intensive care unit, explains: “He had an infection-induced exacerbation. He came to us with an arterial carbon dioxide pressure of 90 mmHg, more than twice the normal value, and developed a pneumothorax.” Antibiotic therapy was started and continuous non-invasive ventilation established. However, this did not improve the clinical situation. Hilgers was significantly fatigued: “I couldn’t remove the ventilation mask for twenty seconds”, he remembers. On June 29, 2010, the decision was made to perform extracorporeal carbon dioxide removal with the Hemolung Respiratory Assist System, a new lung support device developed by ALung Technologies.

Soon after starting treatment with the Hemolung System, Hilgers began to breathe much more easily. His respiratory rate reduced from 35-40 breaths/min down to less than 10 breaths/min. Carbon dioxide removal by the Hemolung System was 110 ml/min at the beginning and reduced by 5-10 ml/min per day as the patient’s CO<sub>2</sub> levels normalized. Dr. Bonin: “The first day, we couldn’t interrupt the mask ventilation. By the third day, we could stop 3-4 times for up to 15 minutes at a time. By the fourth day, we could stop for 30-60 minutes, and on the fifth day, there was a pause of

16 hours.” The next day, Hilgers lung function had almost recovered, with an arterial carbon dioxide less than 50 mmHg, and the Hemolung therapy was stopped.

“I’m very excited about this result”, the physician says: “Using the Hemolung, we had a very quick recovery. The device is as simple as hemodialysis and was easily inserted – just the right choice for such an acute situation”. As the cause of Hilgers acute worsening was an infection, all was done to avoid a prolonged intubation, which is associated with a significant risk of pneumonia. While on Hemolung therapy, the patient was upgraded to “high urgent” status on the transplant list. Four weeks later, sitting with some other patients, nurses and physicians at a McDonald’s restaurant, an organ donor was found. Meanwhile, Hilgers celebrated his 50<sup>th</sup> birthday and is looking forward to starting spring time activities. “Last weekend, I took my bike out of the garage for a first cruise”, he says and laughs.

#### **About ALung Technologies, Inc.**

ALung Technologies, Inc. is the Pittsburgh-based manufacturer of innovative lung assist devices. ALung is commercializing the Hemolung Respiratory Assist System a dialysis-like alternative or supplement to mechanical ventilation originally developed at the University of Pittsburgh. The Hemolung System removes carbon dioxide and delivers oxygen directly to the blood, allowing the patient’s lungs to rest and heal. A simple extracorporeal circuit, small venous catheter, and techniques similar to hemodialysis make the Hemolung System easy to use. A clinical feasibility trial is nearing completion in Germany. The Hemolung System is expected to be available for sale in Europe in the second half of 2011.

For additional information, please visit: <http://www.alung.com>

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This release includes multimedia:



Double lung transplant recipient Mr. Heinz-Dieter Hilgers (left) meets with his physician, Dr. Frank Bonin (head of the intensive care unit), at the Ruhrlandklinik in Essen, Germany. Mr. Hilgers was the 5th patient worldwide to be treated with the Hemolung Respiratory Assist System developed by ALung Technologies.