



**Press release PR\_EU\_DE-CH\_Innovation\_Contest  
(approx. 4000 characters, without captions)**

Hinwil/Switzerland, February 2017

**Award ceremony for the "Innovation Contest"**

## **Focal point of research: Tightness of zone valves**

*Belimo, the global market leader in heating, ventilation and air-conditioning technology is awarding the prizes for the "Innovation Contest" in cooperation with the event organisers of the Lucerne University of Applied Sciences and Arts in Hinwil/Switzerland. Scientists were invited to develop a new method to detect and measure internal leakages on short stroke globe and paddle zone valves. The aim is to develop a measuring device which can detect possible energy losses in existing buildings.*

As sponsor of this science competition, Belimo is highlighting their consistent orientation towards market requirements and innovative products. In 2015, the company reinvested around 7% of net sales into research and development. Part of this flows into internal and external research projects – among others to further optimise the tightness of control valves which are used in room and zone solutions for cooling and heating. Zone valves are usually closed if no heating or cooling is actually required. The short stroke globe or paddle zone valves often used in zone solutions are not without problems in this position. Due to their construction, poor water quality or if the differential pressure is too high, these valve types are often leaky in this position. This means that undesirable flow rates of hot or cold water reach the heat exchangers in the rooms and result in unnecessary energy transfer there. Over their lifetime such leakages also become increasingly problematic. This results in reduced comfort and avoidable high energy costs for building operators.

The energy savings potential is therefore huge if you consider that zone valves are installed millions of times every year all around the world. This means that zone valves which close air bubble-tight can make a significant contribution to the energy balance of buildings – in particular as a replacement for leaky short stroke globe or paddle valves.

The problem posed in the competition was solved most effectively by a team of researchers from Milan Polytechnic. The two up and coming energy engineers Shanin Mirzazadeh and Ali Adim from Iran as well as the German physicist Manuel Hollfelder developed, described and simulated an active method to measure heat transfers. By externally heating a metal pipe, they were able to prove that, with a leaky zone valve, its temperature profile changes significantly even with extremely small flow rates of 1 – 100 ml/min. After an entertaining presentation of their work which was awarded a monetary prize of CHF 10,000, the young researchers were congratulated on winning first place. The Jury was made up of the scientists Dr. Olivier Steiger (Lecturer in Building

Technology/Lucerne University of Applied Sciences and Arts), Prof. Dr. Markus Friedl (Lecturer in Thermo and Fluid Dynamics/University of Applied Sciences Rapperswil), Prof. Dr. Ernesto Casartelli (Lecturer in Mechanical Engineering at Lucerne University of Applied Sciences and Arts) as well as Dr. Marc Thuillard (Head of Research/BELIMO Automation AG).

Second place was shared ex aequo by three researchers with contributions on a similar subject. They were each working on different aspects of a passive method to measure leaks. Due to this constellation, a third place was not awarded.

Lars van der Haegen, CEO of BELIMO Automation AG, regards this as being a confirmation of the characterised control valve technology developed in-house which has been consistently advanced since its introduction to the market in 1998. Since then, Belimo control valves have been installed on millions of occasions which has made a contribution to improving comfort and energy efficiency around the world: "The valves from our own product family Belimo ZoneTight™ offer a significant competitive advantage with regards to energy efficiency: In comparison to short stroke globe valves, the valves from Belimo already close air bubble-tight thanks to their sophisticated ball technology. And this in addition to other benefits, such as improved quality of control."

More information: [www.belimo.eu](http://www.belimo.eu)

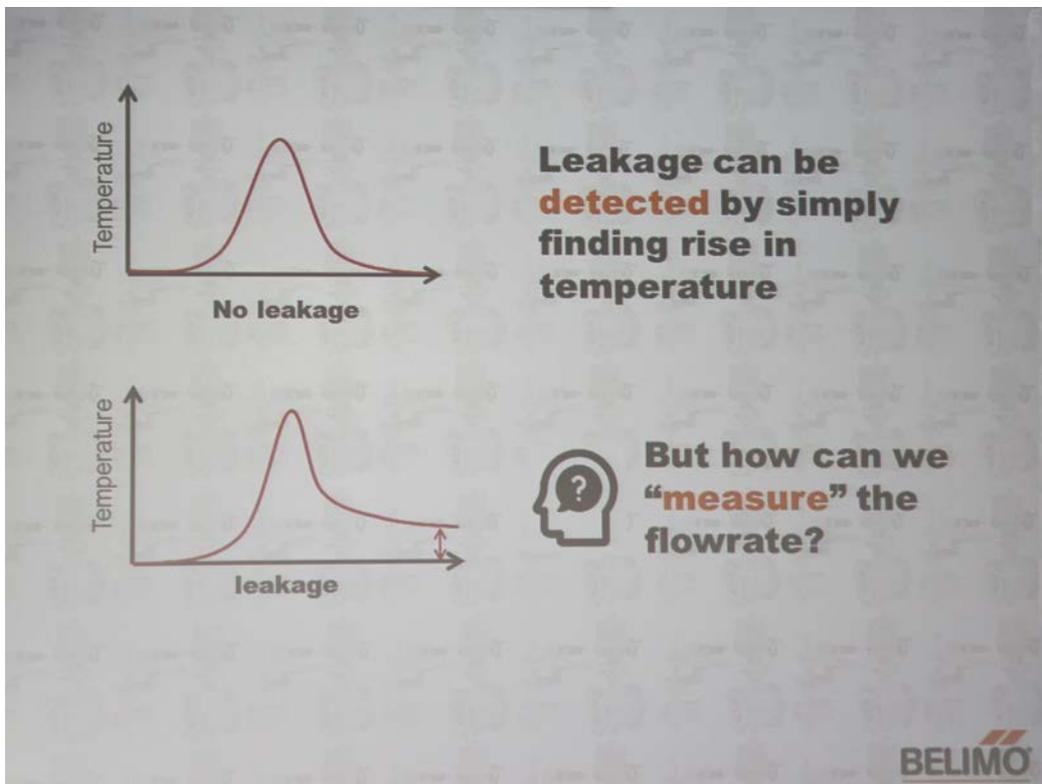
Head office:  
BELIMO Automation AG  
Brunnenbachstrasse 1  
CH-8340 Hinwil/Switzerland  
Tel. +41 (0) 43 862 61 11

*The Belimo Group is a leading global manufacturer of innovative electrical actuator and valve solutions as well as sensors for heating, ventilation and air conditioning technology. The company achieved sales of CHF 534 million in 2016 and employs around 1500 people. For information on the company and its products, visit [www.belimo.com/investorrelations](http://www.belimo.com/investorrelations).*

*The shares of BELIMO Holding AG have been traded on the SIX Swiss Exchange since 1995 (BEAN).*



From left to right: The winning trio Shanin Mirzazadeh, Ali Adim, Manuel Hollfelder enjoying of congratulations from Lars van der Haegen, CEO of BELIMO Automation AG



The temperature profile of an externally heated pipe changes depending on the rate of leakage of the zone valve installed