

## Students from the University of Trieste Announced as the Winners of the ESTECO | illycaffè® Design Competition

*The project, which may lead to an innovative low noise / high efficiency pump for an automated espresso coffee machine, will be presented at the Award Ceremony to be held on June 15<sup>th</sup> at Expo 2015 in Milan*

*Trieste, 24<sup>th</sup> April 2015* – ESTECO today announced the winners of **the ESTECO | Illycaffè Design Competition**. Of the 15 competing teams from universities around the world, the design project submitted by Simone Colavitto, Andrea Piller and Francesco Saracino from the **University of Trieste** was deemed the most promising. **The official Award Ceremony will be held on June 15<sup>th</sup> at the EXPO 2015 in Milan.**

The challenge, launched by ESTECO in partnership with illycaffè and open to undergraduate and graduate students from international universities attending the faculties of Engineering, Physics and Chemistry, consisted **in the design of an innovative water pressurization system** capable of guaranteeing the **optimal performance of illy Iperespresso capsules** while maximizing sustainability in terms of energy consumption.

The team dedicated the design effort to the optimization of an **asynchronous electric motor** where the iron core rotor also serves as the rotor of the hydraulic pump. The optimal design was obtained by coupling **modeFRONTIER** optimization platform and **FEMM**, a finite element solver for electro-magnetic applications. According to the jury, “although further studies are needed, the innovation presented could lead to the

construction of a **low noise / high efficiency pump** and possibly provide a better solution than the traditional membrane pumps currently being used” .

The winning team can look forward to a trip to EXPO 2015 in Milan, a 1-year modeFRONTIER license (up to three per team) and an illy IPERESPRESSO X7.1 espresso machine.

**For further information please visit [www.esteco.com/illycompetition](http://www.esteco.com/illycompetition)**

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### **About ESTECO SpA**

ESTECO is a pioneer in numerical optimization solutions, specialized in the research and development of engineering software for all stages of the simulation-driven design process. Perfecting engineering and reducing complexity in the design process is our vision. Founded in 1999, the company is headquartered in Area Science Park in Trieste (Italy) and currently employs a variety of highly qualified professionals and serves more than 250 international clients including BMW, Daimler, Ferrari, FIAT, Ford Motor Company, Honda, Mazda, Toyota. modeFRONTIER, the company' s key product, is a multidisciplinary and multiobjective optimization platform capable of streamlining the engineering process through innovative algorithms and integration with leading simulation software. In numerous industries, modeFRONTIER has become essential to increasing the understanding of cost/performance factors and reducing product development time.

[www.esteco.com](http://www.esteco.com)

### **The ESTECO Academy Program**

ESTECO Academy promotes a variety of initiatives dedicated to students, professors and researchers involved in the development of optimization-based design. The membership program provides access to software, dedicated online and offline training sessions and materials, certification exams and complementary seminars and events. [www.esteco.com/academy](http://www.esteco.com/academy)