Research rises to meet the challenges of the watchmaking industry

Developing new high-tech materials and conducting research in cutting edge micro- and nanotechnologies for the flourishing watchmaking industry: this is the goal of the new Patek Philippe Chair. Created in collaboration with EPFL, the Chair will be associated with the Institute of Microengineering (IMT) and based in Neuchâtel.

One of Switzerland’s leading watchmaking societies is joining forces with one of the principal academic and educational institutions in the country. Patek Philippe and EPFL (Ecole Polytechnique Fédérale de Lausanne) are announcing today the creation of a new chair, the Patek Philippe Chair, dedicated to the application of new micro- and nanotechnologies to watchmaking.

Patek Philippe’s contribution will be to fund the position of a professor and his or her research team, and EPFL will essentially provide infrastructure. The new Chair will be part of the Neuchâtel-based Institute of Microengineering (IMT). This entity, which has been part of EPFL since 2009, is growing rapidly and is becoming a center of excellence, thanks to the creation of several new research teams and a network that brings together all the major players in the Swiss microengineering industry. Neuchâtel is an advantageous location, since the Jura region is the historical seat of many watchmaking and high-tech companies. This Chair will build a bridge between the private sector and academic research.

“This agreement is in line with the strong growth that the watchmaking industry is currently experiencing, and for which new technologies and materials have become essential,” emphasizes Nico de Rooij, IMT Director and Vice President of CSEM SA. The horologic industry provided more than 50,000 jobs and some 16 billion Swiss francs in exports in 2010.
Many avenues to explore

To maintain this position and its competitiveness, the industry must continually innovate. “There is much progress to be made, particularly in increasing the energy efficiency of the movements in order to be able to make ever smaller mechanisms and components, and in increasing reliability and the power reserve,” explains Jean-Pierre Musy, technical director at Patek Philippe.

The research touches on all production phases: from manufacturing processes to escapement mechanisms to components such as the train and the balance-spring that must be made more efficient, uniform, robust and easy to assemble. A particularly important area of exploration will be developing new high-tech materials, in the continuing quest for properties that will reduce friction, add to esthetics, and improve wear resistance – much like single-crystal silicon, which has revolutionized the industry over the past several years thanks to its elastic properties which have permitted the creation of carefully crafted geometries that allow improved watch movements.

The person nominated to this Chair will thus have as his or her objective to investigate a number of research avenues, to assemble a team and to train researchers and scientists to become experts in the field so that they can continue to improve and promote these innovations.

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