

Media release

The watches of the future: biomedical and sport

Watch-making design leverages CSEM engineering prowess

Neuchâtel / La Chaux-de-Fonds, 27 September, 2013 – CSEM called on the creativity and competencies of young designers in the area of timepieces to enhance the look of its functional prototype wristwatch — a rewarding experience for both parties.

This was a meeting of two highly complementary disciplines: the high-level technology developed by CSEM, and the leading-edge design taught and practiced by the Applied Arts College of Switzerland (EAA) at La Chaux-de-Fonds. Firstly, CSEM developed technologies that can measure the physiological parameters, such as heart rate or temperature, of the body. Its engineers then miniaturized these technologies so they fit into a small volume. Equipped with an innovative electronic system and after several years of intensive development, this type of multifunctional device enables “live” or deferred monitoring of a patient’s progress, or the recording of an athlete’s performance. Intended for the medical and sporting sectors, these applications could be integrated into a piece of fabric or into a wristwatch, and are expected to meet with significant success when they reach the market.

“Because we wanted to offer an attractive setting to go with the technology, we invited young designers to create an external appearance that would inspire our industrial partners with the potential of our solution” explains Patrick Theurillat, project leader at CSEM.

Thus was born the collaboration between CSEM and the EAA. The college has offered, since 2009, the only higher professional education course in the design of watch-making products in the world. The two-year course not only focuses on design, but also on the conception, development, and creation of entire projects, from the initial idea to the finished product, using 3-D, functional prototypes that can be easily industrialized. The director of the EAA, Marc Pfister, is very pleased with the collaboration with CSEM’s engineers: “It’s very stimulating for our students to be able to work on a ‘real’ functional prototype and to find solutions to all the existing constraints.”

Two projects nominated

First-year students attacked the task with enthusiasm, and within two and a half months – working two days a week – created nine functional prototype wristwatches, complete with accompanying portfolios to be presented to a professional jury. After consideration, the jury decided to award equal ratings to the two best projects: that of Nicolas Berthoud for his design of a biomedical watch, and that of Nils Ducommun for his creation of a sporting watch.

This successful collaboration illustrates the synergies that can be achieved between applied arts and science and is a showcase for the Canton of Neuchâtel’s strong points in terms of leading-edge competencies. “The students have taken up the challenge of this exercise de style with a great deal of talent, thanks to their open-mindedness and to their capacity for exchanging competencies and know-how. We are very satisfied to have shared this technological endeavor with them,” concludes Mario El-Khoury, CEO of CSEM. As for the future, CSEM will now be able to present its prototype to different industrial partners who may be attracted by this novel alliance between design and technology.

Public prize-giving ceremony

An official awards ceremony was held today at CSEM in Neuchâtel. All the work carried out by the students is currently on display in the CSEM showroom.

Additional information

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About CSEM

CSEM – a center for innovation

CSEM SA (Swiss Center for Electronics and Microtechnology), founded in 1984, is a private Swiss research and technology organization specializing in microtechnology, nanotechnology, microelectronics, systems engineering, photovoltaics, and communications technologies. It plays a key role in encouraging innovation and technology transfer between science and industry. Having founded several start-ups, it contributes to developing Switzerland as an industrial location. Around 400 highly qualified and specialized employees from various scientific and technical disciplines work for CSEM in Neuchâtel, Alpnach, Landquart, Muttenz, and Zurich.

Additional information is available at www.csem.ch.

About EAA

The Applied Arts College of Switzerland (EAA) – founded in 1873 at the initiative of master engravers – is the leading institution of its kind in Switzerland. Its original purpose was to provide training for watchmakers and decorators in the watch industry.

The EAA forms the artistic branch of the *Centre interrégional de formation des Montagnes neuchâteloises* (CIFOM). It provides initial full-time professional training as well as day-release or block-release classes (company–college partnership). It also provides higher professional training in the main professions relevant to applied arts. The college thus enables its students to receive training in the areas of watch- and jewelry products (jewels, engraved items, and the design of timepieces), fashion (creation of apparel, including N'mod), visual communication (graphic arts and multimedia design), and the decorative arts (3D poly-design and interior design).

Further information is available at www.cifom.ch

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