Architecture for the Watch
– the New Swatch Head Office

The name stands for fascinating creativity, paired with Swiss technology: Swatch. The watch brand has been setting the pace since 1983 when it comes to unconventional design. Now, Swatch has been given an equally imaginative new head office. Here, architecture and building services are setting new standards.

The Swatch headquarters in Biel, in the French-speaking part of Switzerland, is one of the largest wooden structures in the world. It was designed by the Japanese architect Shigeru Ban. The masterpiece was officially opened in October 2019 by Nayla Hayek, Chair of the Board of Directors of the Swatch Group, Nick Hayek, CEO of the Swatch Group, and the star architect himself.

The shimmering, curved silhouette of the Swatch building extends over a total length of 240 meters and a width of 35 meters. Around 2,800 honeycomb elements, including 442 curved solar elements, form the facade. At its highest point the facade measures 27 meters.

Reflecting the spirit of the brand

The scale-like design breaks with the conventions of classic office building architecture. The curved entity blends harmoniously into the metropolis of the Swiss watch industry. Like a work of art, the interpretation lies in the eye of the beholder. Shigeru Ban convinced the jury with his original yet pragmatic concept and his ability to reflect the creative spirit of the brand in the building.

The vaulted facade rises toward the entrance. It straddles the street and rests its head on the Cité du Temps, home to the museums of the two famous Biel watch brands, Swatch and Omega. This is where the Planet Swatch and the Omega Museum are waiting to welcome design and technology fans from all over the world. Both exterior and interior of the building are interspersed with a variety of leitmotifs, with curved shapes, colors and transparency, as well as with classic materials and building elements.

An ornate grid construction made of Swiss spruce forms the basic structure of the 11,000 m^2 shell. It spans five floors with a total of 25,000 m^2 floor space. The architect chose wood because of its ecological and sustainable qualities. Wood can also be processed flexibly and cut to extremely precise sizes – important properties for a construction where every millimeter is important. 3D technology helped the planners to define the shapes and positions of the approximately 4,600 beams.

Creative electrical planning

The aesthetic goals and architectural dimensions were challenging not only for the civil engineers. The electrical planning also had to find creative ways to cleverly integrate building technology, photovoltaics, bus and data network cabling into the wooden construction.

«Due to the wooden grid construction of the roof, along which we had to discreetly run the cabling, it was impossible to find short, straight cable paths. We had curves and innumerable corner points to take into account.»

Nicolas Schmutz, Project Manager, Etavis Jag Jakob AG

Infrastructure for 10 Gigabit

Anyone combining creative design with perfect watch movements and maintaining a globally outstanding brand moves a lot of data. This is why the project team created all the prerequisites to meet Swatch's requirements in terms of infrastructure.

In the background, a fiber optic backbone connects the individual floors with the central IT, enabling a speed of 10 Gigabits. The horizontal level of the data and communication infrastructure in the new head office comprises shielded Cat. 7_A cables. For the telecommunications outlets, the project team opted for the shielded Cat. 6_A EL modules from R&M. The fact that they are simple to handle facilitated the installation work. Thanks to the cabling, a connection speed of up to 10 Gigabits can be achieved at the workstation if necessary.

A KNX bus infrastructure networks the building automation. This integrates the heating and cooling system, shading automation via LON bus, lighting, security and fire protection system. The energy concept is based on solar technology and the use of groundwater. It allows ventilation, cooling, heating and basic lighting to be operated autonomously for both the main building and the Cité du Temps.

From Velospot bicycle sharing and charging stations to intelligent blackouts and glazing, from LED lighting and highly efficient ventilation systems to thermal component activation and paperless offices: Thanks to state-of-the-art technology and extensive know-how, the new Swatch building demonstrates that modern construction and modern ways of working can be in harmony with nature.

Project manager Roland Hochstrasser from HKG Engineering AG talks of the task with respect: «The demands of the architect on the design were enormous in all areas.»

Experts from several countries and cultures cooperated to complete the work of art on the technical side. They brought in different standards and concepts, all of which had to be harmonized. The coordination between the various trades had to be continuously adapted. Design, functionality and layout also had to be agreed individually. For example, the positioning of all appliances and elements such as outlets, lighting, access roads, smoke alarms and loudspeakers had to be discussed in detail.

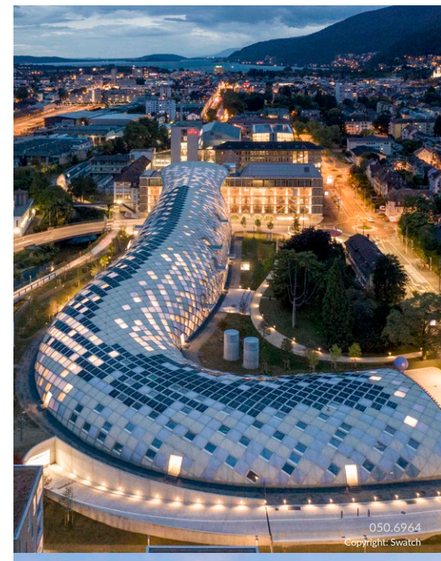
«The coordination of access and the positioning of the appliances in the facade area was also a very challenging task. We certainly didn't want the cabling to be in evidence. The wooden construction could only be crossed at predefined points,» explains Roland Hochstrasser.

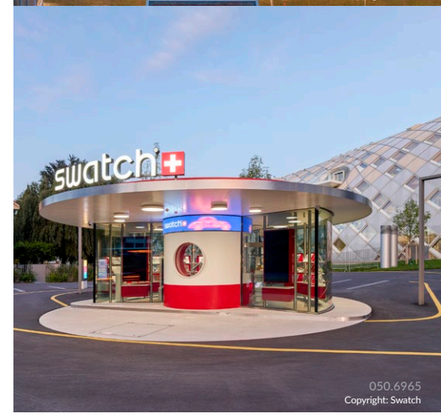
Discreet cabling

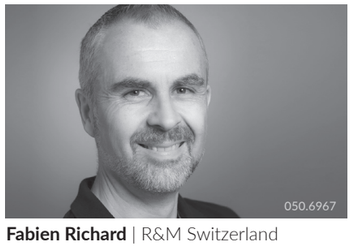
Etavis Jag Jakob AG was tasked with providing power, bus, communication and LAN cabling. «The installations were not easy to plan due to the special structure of the building,» reports project manager Nicolas Schmutz. He confirms what Roland Hochstrasser says of the project: «Due to the wooden grid construction of the roof, along which we had to discreetly run the cabling, it was impossible to find short, straight cable paths. We had curves and innumerable corner points to take into account. This could only be achieved after detailed on-site inspections.»

Along with the constructional requirements, the electrical contractor was also confronted with design tasks. Nicolas Schmutz: «All fixtures, such as outlets, smoke alarms, temperature sensors and lots more, had to correspond to the architect's color concept.»

Sources: Swatch, HKG Engineering, Elektrotechnik (specialist magazine)







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