

Press release

Photovoltaic building facade for CSEM

Exclusive, power generating architecture in Neuchâtel

Neuchâtel, 3 September 2015—Today, in the center of Neuchâtel, the municipality, Viteos, and CSEM inaugurated a photovoltaic (PV) façade that catches the eye with its ultra-modern design and combines innovative technologies. This robust, energy-efficient, and highly attractive facade marks a turning point in the architectural integration of PV panels in Neuchâtel, paving the way for modern and attractive solar architecture.

Built with new solar panels developed and manufactured entirely in Switzerland, the new south facade of the building located at Rue de la Maladière 83 is the result of the decisive support received from several of CSEM's partners committed to renewable energies. Besides the technological and energy benefits, the construction stands out because of its architectural integration. The photovoltaic screen—semi-transparent to lend it an airy and elegant look—was designed by the Neuchâtel-based architectures GD Architectes, jointly with CSEM's PV-center, which selected the technologies used.

Sustainable urban development and commitment to renewable energy

Above all else, it was the commitment of Viteos and the City of Neuchâtel that resulted in the facade being built. As the leader in renewable energies in the Neuchâtel region, Viteos has confirmed its ongoing commitment to the sector through its adoption of an investment program that will see it spend EUR 24 million over 10 years on photovoltaics. The Neuchâtel-based firm is particularly proud of having employed these innovative technologies for a building frontage. *"Photovoltaic systems have become a fully fledged component of buildings and the use of solar panels for enhancing building aesthetics is making this renewable energy source a familiar feature in the construction field"*, Josette Frésard, Viteos's Managing Director, points out. For his part, Olivier Arni, Neuchâtel City Councilor, emphasizes that that this exemplary construction is part of the urban development of the Maladière/Jaquet-Droz area. *"This construction is perfectly in line with our policy for sustainable urban development. It will showcase the excellent competencies we have here in Neuchâtel and establish the city as one geared toward innovation and the integration of renewable energies."*

Successful transfer of innovation to an industrial partner

The photovoltaic modules used are composed of high-efficiency bifacial solar cells, also known as solar cells based on heterojunction technology (HJT), a forward-looking technology developed entirely in Neuchâtel by EPFL's PV Lab and CSEM's PV-center. This advanced technology was transferred to the Meyer Burger Group, which currently produces systems for manufacturing both bifacial cells and bifacial modules, combining heterojunction technologies with solar cell interconnection technology (SmartWire Connection Technology). *"Switzerland has to play its part in the race to produce powerful renewable energy systems. The potential these technologies offer is extremely high not only for solar parks but also in the built environment, combining both aesthetics and maximum power generation"*, explains Christophe Ballif, Director of the PV-center at CSEM.

Combination of innovative technologies

The technologies chosen for this construction are aimed at optimal light harvesting and make it possible to generate cheaper electricity. With bifacial cells, light can be absorbed on both the front and rear of the solar cell. Here, the bifacial feature is used to its fullest given that the modules used are semi-transparent and that the screen on which the panels are mounted is detached from the building's facade. The possible effects of light penetration and reflection in a given construction open up new architectural paths to explore and make possible the creation of novel aesthetics, enhanced by the spacing between the cells. Moreover, SmartWire Connection Technology is a discrete interconnection technology that requires less silver—the material used to conduct electricity in the cells. Lower costs make for solar panels at the best price, a clincher for promoting the systematic use of solar energy.

Additional information

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© CSEM 2015 – *The combination of innovative technologies contributes to the outstanding aesthetics of this type of photovoltaic screen. The screen allows building owners—when carrying out renovations—to enhance the value of their property, and opens up many opportunities for future architectural development.*

City of Neuchâtel—The art of living and innovation

“Energy City” since 1995 and winner of the Swiss Solar Award in 2013, Neuchâtel seeks to build on its strengths as the center of the region, and to improve its national standing. Drawing on its motto “Neuchâtel—The art of living and innovation”, the city’s 2014–2017 policy agenda has three priorities: increase social cohesion and civic responsibility, advance economic expansion and sustainable development, and promote Neuchâtel and its region in Switzerland and abroad. The photovoltaic (PV) facade fits perfectly into this agenda and will contribute to promoting the technologies developed in the region. www.neuchatelville.ch

Viteos—Mastering energies

Viteos is actively invested in the Neuchâtel region with over 300 employees serving its 80,000 clients. Viteos is responsible for the network management and supply of water, electricity, natural gas, long-distance heating, and long-distance cooling. For many years now, Viteos has managed the majority of the renewable energy investments made in Neuchâtel. It notably played a major role as investor and builder in all of the renewable energy aspects of the Maladière Center and Microcity areas. www.viteos.ch

CSEM—Technologies that make the difference

CSEM, founded in 1984, is a research and development center (public-private partnership) specializing in microtechnology, nanotechnology, microelectronics, system engineering, photovoltaics, and communications technologies. Around 450 highly qualified specialists from various scientific and technical disciplines work for CSEM in Neuchâtel, Zurich, Muttenz, Alpnach, and Landquart. www.csem.ch