



SOCIÉTÉ
MONT-SOLEIL
C/O BKW ENERGIE SA

VIKTORIAPLATZ 2
CH-3013 BERNE
TELEPHONE +41 (0)58 477 51 11
www.societe-mont-soleil.ch

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THIRTY YEARS OF MONT-SOLEIL – OPENNESS AND INNOVATION

Dr. Martin Pfisterer, President of Société Mont-Soleil

MONT-SOLEIL IS OPEN

Today, 30 years after it was founded, we take a look back at the story of Société Mont-Soleil. Thirty years is a long time for a young technology like photovoltaics.

In the mid-1980s, well-known engineering company Elektrowatt Ltd. wanted to construct a large photovoltaic research and development installation. Elektrowatt Ltd. and BKW Energy Ltd. went on to complete the project, a first in Europe, in the Bernese Jura. The region welcomed the solar power plant and the associated development activities right from the start. The communal authorities and landowners immediately agreed to the plans.

Without this openness, we would not be here today. Without this openness, there would have been no beginning to this unparalleled development story on Mont-Soleil. Mont-Soleil also played a part in the boom in photovoltaics, which saw a sharp fall in costs and a 2,500-fold increase in solar cell production.

Our highly regarded Head of Research, Dr. Ruedi Minder, who was our Development Engineer at the time, will soon give you a first-hand insight into the twists and turns of how this creative solar concept came about.

MONT-SOLEIL IS INNOVATIVE

The formation of Société Mont-Soleil in 1990 was the result of a unique innovation story for Switzerland. The following important milestones attest to it:

- **1992 Commissioning of Europe's largest solar power plant at the time**
Operational analyses with Saint-Imier School of Engineering; long-term research with BFH
- **1995 Establishment of international photovoltaic test center on Mont-Soleil**
Testing and measurements performed on solar cells from a wide variety of manufacturers
- **2001 Launch of MobiCat solar vessel on the Jura lakes (Biel)**
Solar catamaran developed for Expo.02 (capacity of 150 people; 11 m x 33 m)
- **2005 Solar power plant integrated into Stade de Suisse (Bern)**
PV cells covering 12,000 m² with optimized spatial arrangement (service trolley)
- **2007 Jungfrauoch, high alpine solar power plant (3,500 m above sea level)**
Testing and measurement (energy yield approx. 70% higher than in Swiss Plateau region)
- **2009 Solar Impulse project, measurements on test panels (Bertrand Piccard)**
Electrical and thermographic readings at Dübendorf Air Base
- **2013 Support with storage technology research (with EPFL and BFH)**
Testing battery and compressed air storage for local energy equalization

Entreprises partenaires:

BKW Energie SA, ABB Suisse SA, AEK Energie AG, AEW Energie AG, onyx Energie Mittelland AG, Société des Forces Electriques de La Goule SA.

Partenaires affiliés:

Bourgeoisie de Saint-Imier, Municipalité de Saint-Imier.

- **2015 Collaboration with Swiss Energy Park (presentation on Mont-Soleil)**
Innovation and demonstration platform to visualize flow of current
- **2019 Surface-designed solar modules (presentation on Mont Soleil)**
Support of design-optimized PV module (coloring, CSEM Neuchâtel)

Over this period, solar energy saw strong advancements around the world. This led to new challenges, which Société Mont-Soleil actively addressed by shifting its core activities. We have realigned our strategy and are now investigating how photovoltaics could be further developed and used sustainably, with a focus on long-term research, integration into the power grid and battery technologies.

Our Development Manager, Dr. Jakob Vollenweider, will now tell you about the rapid developments in solar technology and the solar energy market.

MONT-SOLEIL IS INFORMATIVE

The openness of the Bernese Jura empowers us to carry out our innovative work. For 30 years, this has also come with a sense of accountability. We have a responsibility toward the public, landowners, local community, residents and region.

We approach our responsibility in the following five ways:

- One: we have been providing transparent information about our ideas and work since our open-air media conference on May 17, 1989. We always provide first-hand information to the Saint-Imier citizens' commune and local authority as they are our associate partners. They actively participate in our partner meetings.
- Two: our site has been open to international visitors since 1990. Around 1.5 million people have visited the solar power plant and photovoltaic test center, including a quarter of a million on guided tours. The Visitor Pavilion built by BKW provides our team of tour guides with the latest infrastructure.
- Three: together with numerous partners, we have actively helped build and manage a seamless visitor infrastructure on Mont-Soleil for the region's benefit. Mont-Soleil provides substantial added value of around CHF 1 million per year and enhances the area's positive image, bringing significant benefits to the Bernese Jura.
- Four: we want to share our infrastructure and knowledge with doctoral students. For many years, the Swiss Federal Institutes of Technology Lausanne (EPFL) and Zurich (ETH), Bern University of Applied Sciences, Saint-Imier School of Engineering and the Universities of Bern and Neuchâtel have maintained close ties with numerous Mont-Soleil projects.
- Five: last but not least, three years ago we began developing 'Summer School Mont-Soleil' in partnership with the Swiss Federal Institute of Technology Lausanne and Bern University of Applied Sciences in Biel. This graduate school, backed by the region, has been thriving. We have already had to introduce entry requirements.

THANKS AND THE FUTURE AHEAD

Thirty years of Mont-Soleil: it makes for an impressive history. We have built all of this thanks to the openness of the landowners, local authorities, inhabitants, partners and the region. In the years since 1990, this openness has given rise to a strong relationship. I therefore offer you all my heartfelt thanks on behalf of Société Mont-Soleil.

The future of our company also shows great promise. As Europe's largest solar power plant in operation for 30 years, Mont-Soleil is a goldmine of opportunity for the scientific community in terms of long-term research. It also offers an ideal platform for modeling the challenges that will need to be met as renewable energies become rapidly deployed for a stable energy supply in the future.

We are currently working on the «Avenir Mont-Soleil» (Mont-Soleil Future) program, through which we seek to answer central questions about the future together with scientists and the energy industry. The program will focus on grid integration and storage of renewable energy, both in general and as concerns solar energy specifically (Swiss Energy Park). As ever, Mont-Soleil will strive to offer an appealing platform for informing people and providing specialized training.

Société Mont-Soleil and our partners, employees and the Bernese Jura are looking forward to a great future. Long live Mont-Soleil.