PRONATEC AG

PIONEERS WITH A PURPOSE

PRONATEC AG has been distributing fair-trade and sustainably manufactured products for the global food and cosmetics industry and the grocery trade for over 45 years. It has been a pioneer in this field, launching the world's first organic and fair-trade certified chocolate in 1996. Twenty-five years later, the next logical, yet courageous step followed. It constructed one of the world's most modern cocoa processing plants, gaining independence from external contractors to reach pole position for organic cocoa production.

TEXT: BIANCA RICHLE
PHOTOS: THOMAS EUGSTER

From left: Yannick Rihs, David Yersin, and Simon Yersin from PRONATEC AG check the quality of the cocoa beans.

The Tornado roasting system is the heart of the PRONATEC AG plant.

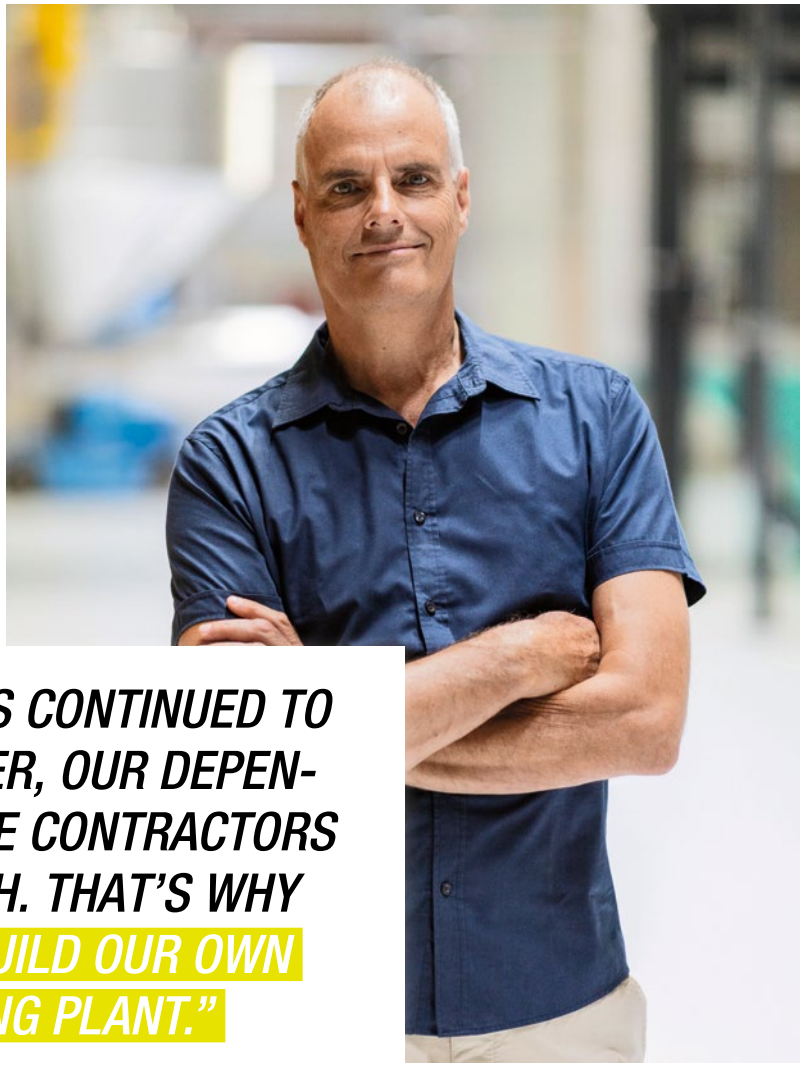
IT WAS 1996 when David Yersin, the CEO and owner of PRONATEC AG, decided to tackle the challenge of producing organic fair-trade chocolate, and managed to produce the first chocolate to receive an organic and fair-trade label. "At the time, there were few suppliers of organic cocoa," says David Yersin. "That's why we had decided to source cocoa ourselves in the Dominican Republic." PRONATEC established a local company for this purpose.

More than 45 years ago, the Swiss company started trading fair-trade sugar, vanilla, and a variety of spices. PRONATEC sought direct contact with the farmers to achieve this. "It was important to us from the beginning to pay fair prices," Yersin says. "We do not buy our organic certified fair-trade raw materials through middlemen. We prefer to source directly from small farmers and cooperatives whenever possible."

Thanks to the close collaboration with its partners in the countries of origin and a direct supply chain that is entirely controlled by PRONATEC, the company can guarantee the traceability of its products at all times. PRONATEC has recently started working with an app-based traceability tool for this purpose, in which all parties involved record the path of the beans from the country of origin to the cocoa processing plant using a barcode via smartphone. "This traceability from farmer to factory is unprecedented," Yersin says.

Until the point that PRONATEC decided to build its own cocoa plant, it relied on external contractors to process organic and fair-trade cocoa beans into cocoa butter, cocoa liquor, and cocoa powder. "As our business continued to grow ever larger, our dependence on outside contractors became very high. That's why we decided to build our own cocoa processing plant," explains David Yersin.

This move brought many advantages. "The goal was also to increase our credibility with customers," says Simon Yersin, Head of Cocoa at PRONATEC. "Now that we cover this value-added step ourselves in Switzerland, we occupy a completely different position in relation to our customers. All the planning and production are under our control and we can shape it the way we want. This enables us to respond more flexibly to their needs, especially for small batch production. We are the only supplier that can make this possible."



"AS OUR BUSINESS CONTINUED TO GROW EVER LARGER, OUR DEPENDENCE ON OUTSIDE CONTRACTORS BECAME VERY HIGH. THAT'S WHY WE DECIDED TO BUILD OUR OWN COCOA PROCESSING PLANT."

DAVID YERSIN
CEO and owner of PRONATEC AG

The Bühler cocoa processing plant, which was designed in close cooperation and coordination with the PRONATEC team, is one of the most advanced plants established worldwide. The advantages lie in the consistently high quality of the roasting and grinding of the cocoa beans into cocoa liquor and further processing into cocoa powder and butter.

Automation is crucial since PRONATEC works with a batch separation process for traceability. It was included in the project at an early stage because the entire structure is different from other plants.

"The efficiency of the plant at the Swiss site, along with the uncompromising standard of 100 percent organic certification, was of utmost importance for PRONATEC from the very beginning," explains Joachim Essig, Head of Sales Cocoa & Malt at Bühler. "Fully integrated automation, small-scale batch production, batch separation, and full traceability were already important topics in the initial

A sample of cocoa taken from the Tornado roaster.

discussions in mid-2018, as were gentle handling of raw materials, food safety, and the highest hygienic design standards."

But before PRONATEC decided on the new plant, a thorough decision-making process was carried out. "Because we used to have the beans processed by contractors in Europe, we knew the upstream and downstream costs, but we were not familiar with the processing costs," says Simon Yersin. "We received excellent and exceptionally quick support from Bühler with the necessary analyses and information, which enabled us to calculate and assess the entire business concept. This in turn helped us to decide in favor of the Swiss location."

PRONATEC is the first company in Switzerland to produce all three organic cocoa semi-finished products: cocoa liquor, butter, and powder. "It's very important that we can maintain proven flavor profiles that we have developed over the years. At the same time, the new roaster also gives us the opportunity to develop new products," explains David Yersin.

The Bühler Tornado roasting system is at the heart of the plant. It allows flavors to be retained or removed depending on the roasting profile. "Our experience with the Tornado roaster has been very

The beans are broken in the winnower and the shells are separated from the nibs.

"ALL THE PLANNING AND PRODUCTION ARE UNDER OUR CONTROL AND WE CAN SHAPE IT THE WAY WE WANT. THIS ALLOWS US TO RESPOND MORE FLEXIBLY TO CUSTOMER NEEDS."

SIMON YERSIN
Head of Cocoa at PRONATEC AG

PRONATEC AG is the first company in Switzerland to produce all three organic cocoa semi-finished products, namely cocoa mass, butter, and powder.

positive. We appreciate the high flexibility," says Yannick Rihs, Plant Manager at PRONATEC. "Once it's set up, the level of reproducibility is very high. The advantage of the Tornado is that each batch can be roasted differently."

Essig shares Rihs' enthusiasm about the machine. "The Tornado roaster sets new standards in the cocoa industry. It's designed for 24-hour operation, including weekends. The Tornado has been on the market for many years. It's the most frequently installed roaster for cocoa, it's very flexible and fully automated. A robust device all around."

Continuous monitoring for quality

The processes are continuously monitored in the control room, at the heart of the processing plant. In addition, the PRONATEC team continuously tests the quality of the cocoa products produced in its own laboratory. Bühler's MultiTherm application can be used, for example, to determine the crystallization properties of cocoa liquor and cocoa butter, which are important quality criteria in chocolate production.

"This real-time controlling ensures the quality of PRONATEC's products and also has a major impact on the energy efficiency of the plant," Stefan Linder, Project Director at Bühler, says. "The high demands of the plant in terms of automation and energy efficiency were challenging and exciting. Ultimately, all our customers benefit from the findings."

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The cocoa mass flows out of the Nova S bead mill.

A PRONATEC AG employee checks the quality of the cocoa beans.

VIDEO

Watch the video about PRONATEC's modern cocoa processing plant.

"WE CERTAINLY CHALLENGED BÜHLER, BUT WE WERE ABLE TO FIND GOOD SOLUTIONS TO ALL CHALLENGES. THE COMMISSIONING WENT SMOOTHLY AND EVEN OUR MOST OPTIMISTIC EXPECTATIONS WERE MET."

MICHAEL GRETHER
Project Manager at PRONATEC AG

The mandatory requirement for energy efficiency was taken into account in the system design and implementation, such as the separation of temperature zones, installed heat recovery systems, and efficient insulation. Furthermore, the team focused on emissions in the planning phase right from the start. This was necessary to enable the highest standards to be met in terms of environmental compatibility alongside all safety requirements. For example, a state-of-the-art exhaust air after-treatment system was installed to prevent unpleasant smells.

Organic as a challenge

The project was so challenging because it was so out of the ordinary; this is a small plant that must produce at a high level of efficiency and meet all the requirements of strict organic labels, such as batch separation.

"PRONATEC has invested a lot of time and energy in preparation right from the start," says Michael Richard, Project Manager at Bühler. "We did trials in the pilot plant at Bühler. We held workshops to understand the special requirements of an organic plant and incorporate them into the process. This helped us design, install, and commission a complete processing plant in just two years, all in an existing building."

For Michael Grether, the Project Manager at PRONATEC who supervised the development from the beginning, the cooperation was also extremely positive: "We certainly challenged Bühler, but we were able to find good solutions to all challenges. The commissioning went smoothly and even our most optimistic expectations were met, which allowed us to begin production so early."

INFO

PRONATEC

PRONATEC AG

Winterthur and Beringen, Switzerland

Founded in 1976.

PRONATEC specializes in certified organic cocoa products, sugar, vanilla, and spices. Around 100 employees work in Switzerland, and about 300 employees work in subsidiaries in the countries of origin of its raw materials.

PRONATEC'S customers comprise the global food industry, food wholesalers, and the cosmetics industry.

Bühler is the complete plant supplier of PRONATEC's site in Beringen.

For David Yersin, it was clear from the beginning where and, above all, with whom the plant should be built. "We are a Swiss company that will produce in Switzerland, with a Swiss machine builder on our side. As an innovative market leader, Bühler was the only remaining option for me after a short evaluation phase," says Yersin with great conviction.

Two core elements of the plant, the Tornado cocoa nibs roaster and the Nova S bead mill, are manufactured by Bühler in Appenzell, Switzerland, which is perfectly aligned with PRONATEC's philosophy in terms of quality and having a local partner. "As an SME, the plant was a big investment for us," says David Yersin. "However, we are already noticing that quality and the fact that we produce regionally are becoming more and more important to many of our customers. So for us, it is an investment in the future."

Since October 2022, PRONATEC's organic cocoa processing facility has been operating in three shifts. "A large part of the revenue has already been secured," says Simon Yersin. "We've also left a lot of space for future projects, which we hope to fill with more Bühler equipment."