

Pellenc Selective Technologies

is a company that develops optical sorting machines for household and industrial waste recycling. The company headquarters is located in Pertuis, France. Offices are also located in North America at Fort Mill, South Carolina and in Tokyo, Japan. Pellenc ST has a worldwide presence in the following locations: USA, Canada, Mexico, Brazil, Spain, Portugal, France, United Kingdom, Ireland, Poland, Italy, Turkey, Israel, China, South Korea, and Japan.



History

Roger Pellenc created the Pellenc SA company in 1973 and made it a major



Roger Pellenc

manufacturer of high technology equipment for fruit, grape and olive industries (see www.pellenc.com). He initiated collaborations with French Research Centers, like CEMAGREF (now IRSTEA) in Montpellier, and hired



Antoine Bourely in 1991, who directed the project of the fruit picking robot Magali at CEMAGREF. Bourely headed the Robotics and Automation Department at Pellenc SA up to 2001. This Department introduced many electronics and software technologies into the Pellenc products, many of which are still in use today. It also developed several fruit picking robots.

In 1992, a new French Law launched a broad recycling program, and targeted the total removal of waste dumps. This meant that sorting for recycling became a necessity, and Pellenc decided to focus an activity on this new segment.

The robotics technology was adapted to waste sorting, with a new product called PLANECO. This robot arm made it to the factory floor and worked in three shift operation. It soon became obvious that the added value was in the sensors to recognize the products (color cameras, metal sensors, and especially NIR spectroscopy), more than in the sophisticated handling. Unlike fruit, refuse is not fragile, and the competing solution, air jets to eject the products, proved more efficient: a bit less pure, but much more rapid. In 2000, Pellenc switched to air jets to handle the recognized products: that way, throughput went from 2,000 objects per hour to 40,000, then 150,000 objects per hour. A key lesson was: use only non-contact technologies, to ensure industrial speed.



CITRUS, an orange picking robot (1994)



PLANECO in a PET recycling plant (1999)

Another key technology was born in the agricultural world: Near Infra-Red Spectroscopy (NIRS). This technology was soon adapted to real time plastics recognition, and Pellenc created a patented spectrometer at the heart of a new machine called Mistral.

The portfolio was now ready to create a new company: Pellenc Selective Technologies was created in 2001, and started with a team of 7 people, dedicated to a completely new and emerging market. The CEO, Jean-Jacques Nardin, had been the creator of the first PET recycling plant in France. This brought strong ties with the PET recycling industry from the very start.

Technology Developments

Pellenc ST developed quickly from 2001 to 2008, first in the PET recycling industry (2001- 2003), then in the optical sorting for MRF (2002-2005).

In 2005, the end of waste dumps in Germany created a new market in industrial waste sorting. Paper sorting was a great challenge investigated in 2005, and developed into a product in 2009 (Boreas).

In 2008, a new integrated spectrometer (SPIN) was developed and proved to be a new leap in performance. E-waste and ELV (End of Life Vehicles) were research topics from 2002 to 2007, then became commercial applications. This helped bring Pellenc ST into the challenges of metal sorting (induction, XRays...).

From 2009 to 2013, The French Government (OSEO, now BPI France) sponsored TRI+, a major technology research project. Major advances were made possible, including:

- A new software architecture, and visible spectroscopy to replace color vision. Combined, they enabled the product Mistral Dual Vision, or "2G" technology;
- Dual Energy X-Ray transmission (now the Xpert product),
- Flake sorting (now the Finesort product),
- Organic and wood sorting (now the Mistral Bio and Mistral Wood products)
- A complete range of solutions for paper sorting.



The original Mistral (NIR) and TVB (color vision) in the APPE plant in Beaune (2002).

International Development

Exportation was a major feature from the origin of the company, starting with Italy and Spain. Pellenc ST then entered the German market in 2003, with the first three way sorting machines. Japan followed in 2004, as well as other European countries (UK, Belgium, Netherlands). Canada and the USA were next. Pellenc ST is present in over 40 countries, and has strong structures in 10 major countries. The most recent targets are Brazil and Poland.



Current Development



Jean Henin with the 1000th Pellenc ST machine

In 2013 Jean Henin became the new CEO of Pellenc ST. Henin helped continue the success of Pellenc by putting in place a new organization and focus on the development of better products and technology within optical sorting. Pellenc's 1000th machine was sold under Henin and the company has continued to solidify itself in every market of recycling with increased sales in Europe, North America, South America, and Asia.

