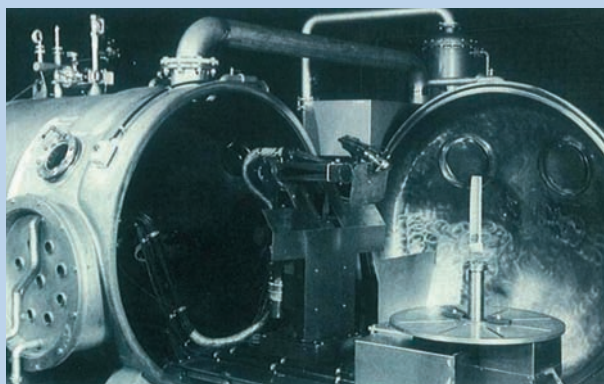


A history of surface technology

Today's Sulzer Metco division has evolved from a number of different companies. However, a part of the roots of the company are in Winterthur. In 1968, a small team of researchers began investigating the application of coatings using chemical vapor deposition (CVD) and thermal-spraying techniques. Sulzer Metco now operates globally and offers thermal-spraying and thin-film processes as part of its portfolio of surface technologies and solutions for clients in the aviation and automotive industries, power generation, and other specialized markets.



The low-pressure thermal-spray equipment allows the coating of turbine blades.

In 1968, a team led by Hans Beutler commenced work in a new research facility—the Laboratory for New Materials. Its mandate was to develop processes to better protect surfaces against wear and corrosion and to employ new materials—such as those used in the construction of aircraft and rockets—in Sulzer products.

A superior coating

The main driving forces behind their work were the need to find better coatings for thermal turbo machines and the need to meet requirements in the fields of nuclear energy and weaving machines. The research activities focused on the CVD process, the thermal spraying of coatings, and tribology. Since it was possible to conduct several trials per day, thermal-spraying techniques developed

more rapidly than CVD, which could only process one batch daily. In the early 1970s, intensive work was carried out in conjunction with BBC (now ABB/Alstom) to develop high-temperature corrosion-resistant coatings for gas turbines. The plasma coating known as SS14 that was developed by the New Materials team was superior to all others. The coating of gas turbine blades was an important step forward that significantly influenced the success of Department 15 (now Sulzer Innotec) in the years that followed.

Founding of companies and acquisitions

The firm Plasmatechnik AG was founded in Wohlen in 1970, at around the same time that Sulzer in Winterthur was taking its first steps in the field of surface technology. Working in close cooperation with Sulzer, Plasmatechnik AG developed sophisticated and highly efficient plasma spray systems with a high production capacity and low rejection rates. The company was taken over by Sulzer in 1985 and subsequently integrated into the group.

In 1986, Sulzer acquired the Michigan-based firm AMI. As a result of this move, Sulzer not only expanded its product range to include spray materials and brazing but also strengthened its profile



One of the first thermal-spray equipments of Switzerland.

and positioning in the USA. In 1991, the Californian company Electro Plasma Inc. was taken over by Sulzer. In the late 1970s, its owner Erich Mühlberger—the American pioneer of plasma spraying—developed the MCrAlY alloys that could be used for stationary gas turbines.

In 1994, Sulzer purchased the Metco division of Perkin Elmer which was headquartered in New York, and combined all its companies that were active in materials and surface technologies under the name Sulzer Metco. Metco had been founded in 1933 in the USA—at the height of the Great Depression—by a graduate of the California Institute of Technology. The company, which started out with five employees, had developed into a global organization by 1994. Further acquisitions have included: Salzgitter AG in 1995; QCoat Ltd. in 1998; Eldim BV and Interturbine Coatings BV in 2000; Metaplas-Ionon GmbH and EuroFlamm GmbH in 2001; Euroflamm Select Inc. and DB Thin Filmx LLC in 2002; as well as WOKA GmbH, Ambeon, and OSU Maschinenbau GmbH in 2004.

Today, Sulzer Metco offers a broad range of surface technologies, which, combined with its experience, offer customers the very best surface solutions.

Gabriel Barroso