

# 2015 milestones

## Group

**Strategy:** At the Investor Day in November, Oerlikon presented its strategy that is built on its key competencies in surface engineering, advanced materials and materials processing, with the aim to become a surface solutions and advanced materials powerhouse.

**Divestments:** To further focus the company and build on its businesses with leading market positions, Oerlikon closed the sale of the Advanced Technologies Segment and announced the divestment of the Vacuum Segment.

**Acquisitions:** To further expand the Surface Solutions Segment's technology portfolio and open up its access to key customers in the U.S. energy sector, Oerlikon acquired the business of Laser Cladding Services in Houston, Texas, USA.

**Services:** To further strengthen the company's resilience to market changes and to tap new business opportunities in the service business, Oerlikon improved its ratio of service revenues to total Group sales, which stands at 33.6 % at the end of 2015.

## Markets

**Additive manufacturing:** To develop the business and opportunities in the additive manufacturing market, Oerlikon established a dedicated "Additive Manufacturing" business unit, where it can better leverage its unique market proposition built on the combination of its core expertise in both surface solutions and metal and ceramic-based powders and materials.

**Thermal spray:** To better serve markets and customers of the Surface Solutions Segment and explore new materials and technology opportunities in thermal spray applications, Oerlikon formed a new business unit "Metco Materials and Technology".

**Polycondensation:** To offer customers, from one single source, the ability to do the complete design, setting up, running and servicing of polycondensation plants, Oerlikon signed a joint venture with Huitong Chemical in China, creating the only company in the world that can offer a complete solution and an entirely integrated process – from raw materials all the way through to the textured yarn or the production of PET bottle-grade materials.

## Proximity to customers

**Surface Solutions Segment:** To continuously improve the service network and customer proximity, the first joint technology service center in Guelph, Ontario, Canada for Oerlikon Balzers and Oerlikon Metco, a first automotive competence center in Veľká Ida, near Košice, Slovakia and a sales office in Dubai were opened.

**Manmade Fibers Segment:** To strengthen customer services, a new service center was opened in Dalton, Georgia, in the U.S.A., and a new technology center in Chemnitz, Germany. The Segment also began construction of a new customer service center in Vadodara, India.

**Drive Systems Segment:** To expand the presence in emerging markets, the distribution network was extended in Argentina, Chile, Colombia and Peru, where the business focuses on customers in the industrial, off-highway, construction and agriculture sectors. In addition, the Segment has reinforced its sales presence in the Middle East to develop markets and distribution networks in the region, focusing on Turkey, and in Russia to further develop the business in agriculture, construction, light commercial vehicles and trucks.

## Innovations

**New in family of BALINIT surface solutions:** To provide a complete offering of extremely wear-resistant thin-film coatings, formerly from Oerlikon Metco, and the extensive production and service network from Oerlikon Balzers, BALINIT CROMA and BALINIT CROMA PLUS were added in the BALINIT family.

**Next-generation woven carbon material:** To ensure high-end friction and wear performance for synchronizer applications in the heavy duty truck market, the next-generation woven carbon material EF<sup>®</sup>9000 series was introduced to the market.

**New metal-based superalloy powders:** To provide strength and corrosion resistance at high temperatures, a new family of superalloy powders have been introduced. They are optimized for new applications in laser-based and electron beam additive manufacturing (AM). Under the MetcoAdd<sup>™</sup> brand, gas atomized alloy powders designated for powder bed AM processes such as selective laser melting (SLM) and powder bed fusion, were also brought to market.

**First AM-produced components:** To demonstrate the capabilities of both the AM materials and the AM processes for components for aviation and industrial gas turbines, Oerlikon Metco's business line Eldim successfully produced blade locker prototypes using MetcoAdd materials.

**New environmental barrier coatings (EBC):** To ensure excellent thermal expansion that matches CMC (ceramic matrix composites) substrates and is optimized for effective protection against vapor and environmental factors, new EBC surface materials for turbine engines were introduced.

**Next-generation BALIQ coatings:** To bring wear resistance and extremely smooth and dense coatings for a wide range of applications to the next level, the BALIQ family was extended. The new coatings are based on S3p (Scalable Pulsed Power Plasma) technology, which enables a high degree of ionization, resulting in virtually droplet-free and highly dense coatings.

**Improved yarn finishing component:** To enable energy and cost savings in production by reducing the amount of compressed air required in yarn processing by up to 50%, RoTac<sup>3</sup>, was launched.

**New software solution in fibers production:** To provide a complete software solution that manages the entire spinning and texturing production process, a new version of the Plant Operation Center (POC), in line with Industry 4.0, was introduced.

**WINGS product line expanded:** To continuously offer innovative improvements for customers, the WINGS family gained two new additions. WINGS FDY (fully drawn yarn) PLUS, allows for a larger operation window and higher package weights, while the WINGS POY (partially oriented yarn) XS-Series offers modernization potential for conventional spinning plants.

**New range of Torque Hub drives:** To increase operational safety and efficiency, reduce maintenance costs and eliminate corrosive failures found on systems employing external service brakes, a new range of Torque Hub drives for sprayer machines was launched.

**Power transfer unit (PTU) for Mercedes:** To improve the clutch transmission's efficiency and weight, a new generation of central power transfer unit (PTU) that is assembled in the new 9F-DCT dual clutch transmission for Mercedes-Benz AMG was introduced.

## 33.6 %

Service revenues as a percentage of Group sales

## 32 %

Reduction in lost time accidents frequency rate compared to 2014

## 4 %

Percentage of Group sales devoted to research & development (R&D)

## > 1 350

Number of engineers employed globally

## 86

Number of new patents filed