

# Core markets



## Mobility

Population growth and urbanization have resulted in an increased demand for mobility and transportation capacities. Additionally, the rising middle class, particularly in emerging markets such as China and India, is seeking better mobility. Therefore, this market will remain a long-term growth market. The industry is also seeing an increase in the demand for safety, comfort and better information systems, as well as innovative and eco-friendly technologies with more effective fuel consumption and high engine performance. All four of Oerlikon's Segments offer solutions for mobility:

### Surface Solutions Segment

- Surface solutions for aircraft components such as turbine blades, tail and landing gear systems.
- Surface solutions for decorative elements, key components and molds for automobiles, such as diesel injection systems.

### Manmade Fibers Segment

- Production solutions for technical textiles used in vehicles, such as airbags, seat belts and interior trim.
- Production solutions for technical textiles used in airplanes, such as carpets and upholstery.
- Winders for the carbon fiber production industry.

### Drive Systems Segment

- Drive systems for electric and hybrid vehicles.
- Drive systems for high-performance sports cars, city buses, locomotives and airport tugs.

### Vacuum Segment

- Vacuum technology for the production of vehicle accessories and batteries.
- Vacuum solutions for the manufacture of microchips, touch screen panels and LEDs for automotive electronics.

## Energy

Global demand for energy is growing steadily, driven mostly by urbanization, the industrialization of emerging markets and an increasing population. More efficient uses of energy and alternative sources of energy are becoming focus topics. A key driver for solutions is innovation – developing technologies that optimize energy consumption, improve energy efficiency, or generate new and cleaner sources of energy. Three Oerlikon Segments are active in the energy market:

### Surface Solutions Segment

- Surface solutions for turbine blades and other critical components.

### Drive Systems Segment

- Gearboxes and drives used in the exploration, extraction and transportation of energy resources.
- Drive solutions for oil and gas platforms and drilling rigs.

### Vacuum Segment

- Vacuum systems for producing solar cells, semiconductor chips, batteries and condensers.

## Food

Supplying the growing world population with food is a key challenge. According to the United Nations' estimates, the global demand for food will grow disproportionately to the increase in population, and is expected to increase by 70% by 2050. With the growing middle class, particularly in emerging markets, there is also an increasing demand for higher-quality foods as well as industrially processed food products. All four Segments of Oerlikon are involved at different stages of the value chain in the food market:

### Surface Solutions Segment

- Coatings for the packaging industry, such as molds for the production of PET bottles.

### Manmade Fibers Segment

- Production technologies for the packaging industry, particularly for liquids.
- Plants for the manufacture of geotextiles and nonwovens used in agriculture.

### Drive Systems Segment

- High-precision gears, shifting solutions, planetary drives and transmissions for vehicles and machines used in agriculture such as tractors, combine harvesters and self-propelled sprayers.

### Vacuum Segment

- Vacuum systems for the processing and packaging of foods.
- Vacuum systems for the production of PET bottles and coated packaging materials.



## Infrastructure

The infrastructure construction and renovation market is growing steadily. This is mainly driven by overall population growth and urbanization, particularly in emerging markets. Three Oerlikon Segments offer solutions in the infrastructure sector with a focus on efficient and energy-saving buildings:

### Manmade Fibers Segment

- Production solutions for technical textiles made of high-strength industrial yarns or nonwovens used in roof insulation, geotextiles for stabilizing roads, dams or walls, and fiber-reinforced concrete.
- Solutions for the manufacture of carpets and household textiles.

### Drive Systems Segment

- Planetary drives, axles and shifting solutions for construction machinery, such as aerial work platforms, wheel loaders, motor graders, road compaction and paving, material handling and hauling.

### Vacuum Segment

- Vacuum systems for architectural glass coating, climate control and pipeline drying as well as for industrial processes such as steel degassing.
- Vacuum solutions for medical research centers and hospitals.



## Functional wear

Currently, about 50 million tons of manmade fibers are produced each year. This amount increases every year by around 5%. Global population growth and rising prosperity in emerging economies are the main factors responsible for this growth. About 50% of all manmade fibers produced today are used in the clothing and functional wear markets. They are also increasingly being mixed with natural fibers because they allow fibers and fabrics to be functionalized for activewear garments worn for sports, outdoor or professional activities. Two of Oerlikon's Segments are active in this market:

### Manmade Fibers Segment

- Engineering and construction of polycondensation systems for the preparation of the melt, which is part of the raw material for manmade fibers.
- Filament spinning and texturing machines for the production and finishing of artificial textile fibers.
- Machines to produce nonwovens.

### Vacuum Segment

- Vacuum Systems for the production of functional membranes for shoes.



## Electronics

A rising world population and increasing purchasing power in emerging markets are driving the higher demand for electronic devices, thus stimulating the growth of the semiconductor market. Based on current forecasts, over two billion people will own at least one smartphone by 2015. Similarly, electronic products such as smart TVs or set-top boxes for digital TV are pushing up the demand for chips. Two of Oerlikon's Segments serve customers in the electronics market:

### Surface Solutions Segment

- Surface coating of components for mobile phones.

### Vacuum Segment

- Vacuum systems for the production of semiconductors for the consumer electronics industry and for producing electronic components used in organic light emitting diodes (OLEDs).
- Vacuum systems for the production of displays for smartphones, tablets and TVs.