

## Headquarters

Nanogate AG

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## Business model

Nanogate is the leading international integrated systems provider for nanosurfaces, concentrating primarily on enhancing high-performance surfaces. The firm, which is based in Göttelborn (Saarland), enables the programming and integration of additional properties – such as non-stick, antibacterial, anti-corrosive and ultra-low friction – into materials and surfaces. As an enabler, Nanogate gains a competitive edge for its customers by means of product refinement using chemical nanotechnology. Nanogate covers a wide range of industries, functions and substrates. The company thus provides a decisive interface for the commercial use of chemical nanotechnology and bridges the gap between the suppliers of raw materials and industrial conversion into products. In doing so, Nanogate concentrates as an enabler on one of the most attractive segments in the industry. Nanogate has a unique combination of extensive materials expertise paired with comprehensive, first-class process and production know-how. As a systems provider, Nanogate covers the entire value chain, from the purchase of raw materials, to the synthesis and formulation of the material systems, right through to the enhancement and production of the finished surfaces. Nanogate focuses primarily on coatings for plastic and metal for all surface types (two and three-dimensional components). So far several hundred solutions have been successfully implemented in the market.

## Nanogate-Technologie®

Nanogate-Technologie® is a combination of chemistry and materials sciences which also incorporates product and process engineering.

In technological terms, Nanogate's work in the fields of chemistry and materials sciences concentrates on nanocomposites and nanoformulations manufactured using chemical nanotechnology. Complete platforms are already available for adjusting surface energies, generating barrier layers, tribological functions, electric storage layers and enabling additional properties. Nanogate's core competency in product and process engineering comprises various wet chemical and electrochemical processes as well as PVD processes. The integrated material systems available as a result offer optimum, cost-effective implementation platforms for tailored customer solutions. This allows Nanogate to cover a wide range of functions and substrates for countless industry sectors.

**Business segments and application areas**

The *Multifunctional Surfaces* segment primarily comprises product refinement by adding new functionalities to high performance surfaces. In this field, the Nanogate Group concentrates primarily on the application areas of Buildings/Interiors, Automotive/Mechanical Engineering, Sport & Leisure and Functional Textiles.

The *Advanced Applications* segment incorporates complex applications and systems for highly specialised markets which share both considerable sales potential and a significantly longer time to market.

**Financial data (IFRS)**

	2006	2007	2008	2009	2010
<b>Sales (EUR m)</b>	7.8	10.4	12.2	10.7	20.9
<b>EBITDA(EUR m)</b>	1.4	1.5	1.8	-1.2	4.9
<b>EBT (EUR m)</b>	1.2	1.5	1.1	-2.6	-0.8

**Employees**

approx. 245 (as of December 2011)

**Share**

Segment: Entry Standard  
 ISIN: DE000A0JKHC9  
 IPO: 18.10.2006  
 Share capital: EUR 2,472,499  
 Designated sponsor: Landesbank Baden-Württemberg, equinet Bank AG

**Shareholder structure**

Free float 39 %  
 Heidelberg Capital Private Equity Fund 30 %  
 BIP Investment Partners 25 %  
 Nano Tec Beteiligungen GmbH 6 %

**Management Board**

- Ralf Zastrau (CEO)
- Michael Jung (COO)

**Supervisory Board**

- Oliver Schumann (Chairman)
- Dr Farsin Yadegardjam (Deputy)
- Gerhard Asschenfeldt
- Dr Clemens Doppler
- Marc Faber
- Hartmut Gottschild

## Equity holdings

### **Since 2002**

#### **HOLMENKOL AG, Ditzingen, Germany**

Nanogate has held a stake in Holmenkol AG since 2002. Holmenkol is a long-standing company with more than 85 years of expertise. It is currently being further developed into a leading international supplier of sports surfaces. The company's products draw on leading-edge technology to cater for competitive sports and the premium segment of the leisure and outdoor activities market.

### **Since 2004**

#### **Nanogate Industrial Solutions GmbH**

Nanogate Industrial Solutions GmbH (former Nanogate Advanced Materials GmbH, founded 2004) is a wholly owned subsidiary of Nanogate AG and bundles the core expertise in the area of industrial high-performance surfaces. The company focuses on innovative material systems and high-quality optical surfaces for the application areas buildings/interiors and automotive/mechanical engineering.

### **Since 2008**

#### **Nanogate Textile & Care Systems GmbH, Germany**

Nanogate Textile & Care Systems GmbH (formerly FNP GmbH and founded in 2008) is a wholly owned subsidiary of Nanogate AG that pools the core competences in the growing market for functional textiles and care products. One of the responsibilities of Nanogate Textile & Care Systems GmbH is the strategic partnership with GEA Air Treatment GmbH for refinement systems in filter media. In the field of care products for sporting and leisure activities, the company has a well-established and successful range of products that is constantly being expanded with new and innovative product concepts.

### **Since 2009**

#### **sarastro GmbH, Göttelborn, Germany**

The nanotech company sarastro GmbH specialises in developing and marketing biologically active functional surface finishes. In February 2011 Nanogate has converted its equity holding of 25.1 % in sarastro into a dormant equity holding.

### **Since 2010**

#### **Gfo Gesellschaft für Oberflächentechnik mbH, Schwäbisch Gmünd, Germany**

GfO was established in 1977 as a subsidiary of Degussa AG in Schwäbisch Gmünd and was acquired by its current management in 1993. The technology company with some 150 employees enhances surfaces with new characteristics on behalf of industrial clients. Besides the established surface finishing processes for plastic with effective electromagnetic shielding layers or transparent scratch resistant coatings against environmental influences, GfO now can rely on the complete Nanogate-Technology® and will be positioned as a comprehensive innovation partner for the industrial high performance surfaces market.

The current customer base consists of companies in the communications, automation, automotive, aerospace, medical devices, HVAC, decoration and jewellery, and white goods industries.

## Equity holdings

### **Since 2011 Eurogard B.V.**

Eurogard specialises in enhancing surfaces on two-dimensional components and is the global market leader in the lucrative specialist sector of transparent plastics. Based in Geldrop (Netherlands), the company was established in 1992 as a surfaces centre for the global GE Plastics group after it began operating in this segment in the 1980s. Most recently, the firm was owned by Vokes-Air Holding AB. The firm primarily focuses on supplying the buildings/interiors, aviation and automotive/mechanical engineering sectors. Its most important clients include the SABIC Group (formerly GE Plastics, one of the world's largest manufacturers of plastics) and the Hörmann Group. Eurogard coatings can be used on aircraft windows, utility vehicles, building elements and ski goggles, for example. Eurogard operates two production lines – a thermal cure coating facility and a UV cure coating facility – as well as a test plant.

## Company history

- 1999 The company begins operating as a spin-off from the Leibnitz Institute for New Materials, Saarbrücken
- 2000 Takeover/integration of the Wiesbaden-based Colloid Surface Technologies GmbH's business activities  
Introduction of an integrated quality management system (ISO 9001:2000)
- 2001 Subsidiary Nanogate Coating Systems GmbH founded
- 2002 Stake acquired in Holmenkol Sport-Technologies GmbH & Co. KG
- 2003 Surface technologies pooled within Nanogate Coating Systems GmbH
- 2004 Nanogate Advanced Materials GmbH established
- 2005 Decision to transform Nanogate Coating Systems GmbH into a stock corporation
- 2006 Company renamed Nanogate AG  
IPO (18.10.2006, Entry Standard Deutsche Börse)
- 2007 Certified in line with the international environmental management norm (ISO 14001:2004)  
Launch of the strategy programme NEXT
- 2008 Nanogate Advanced Materials GmbH acquired in full  
Subsidiary FNP GmbH established
- 2009 Stake acquired in sarastro GmbH
- 2010 Majority stake acquired in GfO Gesellschaft für Oberflächentechnik mbH  
Further development of Nanogate Advanced Materials GmbH to Nanogate Industrial Solutions GmbH with focus on industrial surfaces  
Completion of the innovation drive started 2008
- 2011 Takeover of the Dutch Eurogard B.V.
- 2012 Further development of the wholly owned subsidiary FNP GmbH into Nanogate Textile & Care Systems GmbH with a focus on functional textiles and care products  
Nanogate AG in its position as the holding company will itself be concentrating on the operational and strategic management of its equity holdings and on the central materials development and manufacture. The holding company also pools core functions such as accounting, financial controlling and procurement for the Group companies.