



**PRESS RELEASE**

**Nanogate AG: Optics application multiplies output of LEDs – Capital increase boosts influence in the subsidiary Nanogate Advanced Materials**

**Further market segment for innovative Dotfarm® optics technology – Talks under way on first cooperations for commercial use – Significant contributions to sales and earnings from series production expected from 2010 on – Nanogate makes huge investment in future sales and earnings potential in the "Advanced Applications" business segment – Qualified majority equity holding of around 78% in subsidiary Nanogate Advanced Materials GmbH**

**Saarbrücken, 18 February 2008. Nanogate AG (ISIN DE000A0JKHC9) is securing further huge sales and earnings potential with its groundbreaking Dotfarm® optics technology. The new application can boost the output of LEDs by a factor of two to ten. Thus, in addition to the display business, the company is tapping into a second market segment by refining many different types of LEDs, thereby entering a dynamic growth market. Nanogate expects initial cooperation deals to be concluded this year and adaptations into series production to take place as early as next year. Significant sales and earnings contributions are expected as of 2010. To fully capitalise on the vast potential of Dotfarm® optics, Nanogate will significantly increase investments in the "Advanced Applications" business segment and the subsidiary Nanogate Advanced Materials GmbH.**

The new application is not only of interest in business terms: an important contribution could also be made to reducing global energy consumption. In the area of climate protection, increasing the economic viability of environmentally



friendly LED systems is seen as a key factor in a wide range of lighting applications.

The Dotfarm<sup>®</sup> optics technology, developed and patented by Nanogate, solves the pressing problem of not being able to direct LED-generated light to a sufficient extent. Nanogate is primarily focusing on the market for high-performance LEDs (HB and UHB LEDs). A high-precision, nano-structured surface ensures that the luminous power is more concentrated and targeted. The result: an increase in light output by a factor of two to ten. This new solution thus makes it possible to reduce the power consumption of an LED lighting system. In comparison to a traditional light bulb, this system reduces consumption by approx. 95% and for a traditional neon tube by approx. 75%. A practical example: for a classroom requiring a light output of 100,000 lumen, costs can be reduced by several hundred euros per year.

The Dotfarm<sup>®</sup> optics application is intended for use in numerous light fittings, e.g. in lamps for buildings, vehicles or in mechanical engineering and toolbuilding. Another fundamental advantage of Nanogate's solution is that production could be carried out in a cost-effective way, employing a generically new nanoimprint technology: the estimated additional costs of 10% to 20% should be able to be amortised within just a few months, solely through energy savings and increased output.

### **Dynamic market development**

The market for LED production is growing rapidly and will grow at an annual average rate of 14.6% until 2012, to reach an estimated USD 12.3 billion (source: iSuppli). The growth drivers are primarily high-output LEDs, whose market share is expected to increase from 4% in 2005 to 31% in 2012, based on production quantities of more than 50 billion units per year. The market segment of high-output LEDs in particular would thus reach growth rates (CAGR) amounting to more than 50% over an extended period of time, making it one of the strongest growing global markets in optical systems.



### **Huge potential for Nanogate**

Nanogate is expecting to acquire its first cooperative partners for opening up the market as early as this year. Accordingly, series production is to be developed next year. The company is anticipating significant sales and earnings contributions as of 2010. In the medium to long term, Nanogate sees a sales potential in this business area, accompanied by considerable licence shares, well into double-digit millions, with attractive margins.

To open up more market segments and to further develop the Dotfarm® optics technology, Nanogate will significantly increase its investment programme. Firstly, over one million euro will go into the subsidiary Nanogate Advanced Materials GmbH, primarily as a capital increase, thus increasing Nanogate's share to a qualified majority of about 78%. In addition, further capital measures and investments in the "Advanced Applications" business segment are planned as part of the operative advances with Dotfarm® optics over the next months.

Ralf Zastrau, CEO of Nanogate AG: "With its Dotfarm® optics technology, Nanogate is offering an attractive solution for improving energy efficiency and thus for a key issue of the 21st century. Ongoing talks with manufacturers confirm the wide range of possibilities for using the technology. We are targeting the right markets with our applications and have the chance to open up huge sales and earnings potential with our investments. By significantly strengthening our investment in Dotfarm® optics, we are able to make an essential contribution to leading Nanogate into a new phase of development over the next years. In the medium and long term, we expect sales potential to reach double-digit millions."

### **Background:**

Dotfarm® optics is a fundamentally new optical process. It involves complex, nanostructured surfaces being produced in conjunction with special nanocomposite materials, new physical processes and a Nanoimprint Technology developed by Nanogate. By means of the refined optical surfaces, more efficient and miniaturised optical components can be produced, with optimised functionality and very low production costs. More detailed information on the Dotfarm® optics technology platform is available at [www.nanogate.com](http://www.nanogate.com).



**Queries? Please feel free to contact:**

**Christian Dose** (Financial press and investors)  
equinet Communications AG  
Tel.: +49 (0)69 5899-7302  
communications@equinet-ag.de

**Nanogate AG**  
Gewerbepark Eschbergerweg  
D-66121 Saarbrücken  
www.nanogate.com

**Klaus Reuning** (Business and trade press)  
MPW FINANCE  
Public & Investor Relations GmbH  
Tel. +49 (0)69 959 290-0  
nanogate@mpwfinance.com

**Nanogate AG:**

Nanogate is a leading international enabler in the nanotechnology growth market and so opens the gate to this technology for its customers. The Saarbrücken-based firm enables the programming and integration of additional properties such as non-stick, anti-bacterial, anti-corrosive, ultra-low friction. Nanogate thereby gains a competitive edge for its customers by product refinement using chemical nanotechnology. Nanogate covers a wide range of industries, functions and substrates already on the basis of technology platforms. The company thus provides a decisive interface for the commercialisation of chemical nanotechnology, bridges the gap between raw materials and their industrial conversion into products and concentrates as an enabler on one of the most attractive segments in the industry. As a partner in innovation, Nanogate provides many services along the value chain – from development and production of innovative nanocomposites and nanostructured materials to powerful support for innovation and product integration.

The Nanogate Group currently has 57 employees in all (as of 1 July 2007) and since commencing operations in 1999 has been a pioneer in nanotechnology. Nanogate is a high-growth company and has operated profitably since financial year 2004. In financial year 2006 it boosted consolidated sales by about 64% to around €7.84 million. Consolidated earnings before interest and taxes (EBIT) to IFRS increased by about 220% to around €1.1 million in 2006. The company has first-class customer references, such as ABB, BSH Bosch-Siemens Hausgeräte, Kärcher and Koenig & Bauer AG, and many years' experience of different industries and applications. It has also entered into strategic cooperation with US companies Dow Corning and Ceradyne/ESK Ceramics and Authentix and with Giesecke & Devrient. The Group's consolidation entity includes Nanogate Advanced Materials GmbH, which specialises in safety engineering and optics and is a joint venture with the US Air Products group. Nanogate also holds a strategic investment with a majority option in HOLMENKOL Sport-Technologies GmbH & Co. KG.

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