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Nordic Innovation Centre launches:

Everyday Nano

(Helsinki, 16 May 2006) Within our micro and nanotechnology programme, Nordic MINT, we now launch a new Nordic initiative aimed at commercialising existing research. Our approach is to demystify the micro and nano concepts and point out practical, marketable applications of well-being, health care and safety solutions that can be available and have an impact on contemporary life in the near future.

Capitalising on existing research - for a better life

Modern life style and an increasing awareness of personal health and safety issues lay the ground for good commercialisation possibilities. There is a market pull for more and more high-tech smart products, as long as safety and reliability is guaranteed. The Everyday Nano initiative will particularly focus on well-being, health care and safety applications that have considerable impact on contemporary life and good potential for commercial success.

The industry is waiting

In the ocean of initiatives on micro- and nanotechnology, the Nordic Innovation Centre puts emphasis on the importance of building on already existing research. Currently, most activities take place at universities and research institutions, while the industry is still waiting for the right opportunity to implement new technology and launch new innovations in the market.

8 projects, 85 organisations, one focus

In May 2006, Nordic Innovation Centre granted financial support to 8 new projects within the Nordic MINT programme. Representatives of each project are present at the NTNE conference for a joint kick-off session on Thursday, 18 May 2006. The projects represent 85 Nordic knowledge environments and companies that have joined forces with one focus in mind; to develop versatile, everyday applications within health care, safety and well-being; all based on existing research. **We call it *Everyday Nano*.**

Nordic competitiveness through Nordic MINT

The main ambition of all projects shall be to exploit existing competences and research results in order to:

- Form essential and beneficial links between research and industry
- Capitalise on existing investments in technology and systems
- Involve and focus on the end-user; product consumer or technology exploiter
- Develop increased value products

Our goal: Achieve enhanced competitiveness for Nordic micro- and nanotechnology SMEs

Nordic Innovation Centre is the Nordic Council of Ministers' operating instrument for promoting an innovative, competitive and knowledge-intensive Nordic business sector.

Nordic Innovation Centre

Appendix

8 projects, 85 Nordic organisations, 1 focus:

Meet our versatile, everyday applications

Personalised Health and Safety (PHEASAFE): The aim is to stimulate the development of Nordic health care products based on micro technologies. The project will carry out seven industry cases on the following product concepts: epilepsy sensor, sleep disorder treatment, immunosensor, gastro balloon device, wireless monitoring of ischemia, orthopaedic aids and medical transducer for internal pressure measurements.

Nano-sized particles for improved scratch resistance of polymeric materials (NANOREP): A Nordic collaboration platform will develop scratch- and mar resistant nanocomposites for polymers. The focus is especially on premium plastic products, where scratch- and mar resistance are essential. In this respect, particularly nano additives in polymers used as base materials or coatings are promising, ideally offering cost and weight reductions with maintained or improved properties.

Components and Smart Machines with Micro-Nano Surface Embedded Sensors (COSMOS): The project will develop a generic micro/nano thin film temperature and pressure sensor that is embedded under optimized wear-resistant coatings. Most available sensor systems can only carry out indirect measurement of averaged macroscopic properties, and are also expensive. However, thin film sensors can be applied locally inside component surfaces at much lower cost.

Nordic Antenna Integrated RF-MEMS Router (NAME): With an efficient microwave router to deal with sensor signals, particular benefits for public health and safety can be achieved. The novel component will be powerful and application-driven. It will be based on RF MEMS switching and integrate communications networks with multi-band wireless networks to share information and monitor safety, efficiency, environmental impact, etc., of operating systems.

Novel Hand-Held Chemical Detector (THREATGÅRDEN): The aim of this project is to develop and commercialize a handheld chemical detector with micro gas sensors. Combining MEMS- and semiconductor-based gas sensors with an ion mobility spectrometer. The device will be cost-efficient, accurate and reliable, with a fast response, satisfactory sensitivity and comprehensive toxic agent detection capability.

NORD-pie: Through this project, Nordic industry will be provided with the infrastructure and knowledge required for the integration of piezoelectric thin films with silicon. A design handbook and modelling tools for piezoelectric MEMS design and fabrication will be compiled and commercial product concepts developed.

Oxygen scavenging and aroma affecting enzymes embedded in barrier coatings: This project will combine nano- and enzyme technology to develop functional barrier coatings for paper, board and plastics used in the production of environmental friendly active packaging. Enzymes acting as oxygen scavengers can e.g. improve the shelf life of packed food.

Enhanced functionality of self-cleaning and antibacterial surface coatings: A single-step process for manufacturing surfaces that combine self-cleaning photocatalytic and antibacterial properties has been tested and proven in laboratories. The process is now to be commercialized by demonstrating its practical use in an industrial context for products like self-cleaning windows, hydrophilic ceramic tiles and antibacterial refrigerators.