



Nanocyl participates in Nanomed:

Development of Artificial Muscles on the basis of Carbon Nanotubes

Sambreville, Belgium, 29 August 2005 – Nanocyl, one of the world's main producers of nanotubes, participates in the Nanomed project. Nanocyl participates with other key industry and university partners in this European research project. The project proposal entitled "NANOMED: Development of a carbon nanotube actuator for use in medical technology" was submitted within the framework of SME measures.

Medical technology, with annual growth rates of more than 10 percent, is one of the strongest growing sectors. On the European market, the annual turnover has already reached 80 billion euro. Considering the increasing life expectancy in Europe, it can be assumed that the need of medical technological devices and aids such as prostheses of all kinds will become even larger.

Already now some gaps in the market are evident as can be shown with the example of leg amputations: In Europe, annually approximately 47 000 leg amputations are carried out. However, only approximately 50% of the patients can be supplied with a prosthetic leg, as most of the patients are too weak to attach the prostheses and use them appropriately.

In the future, actuators could provide a solution to these kinds of problems. Actuators cause something to move and they have already become an integral part of robotics and automation. Logically, actuators might also be used as prostheses. Currently, the possibilities to do so are still very restricted as the energy required for actuators is quite high. Also, the effectiveness of the actuators is not that great and the weight of the actuators is another problem. The use of new materials might prove to hold the answer to some or all of these problems: carbon nanotubes (CNT), very small tubes made from carbon which are approximately 10 000 times thinner than human hair. The actuators made from carbon nanotubes are said to have exactly the characteristics which are required for a prosthesis: they require very little energy, have a high system effectiveness and are light-weight. All these characteristics turn these actuators into candidates for the development of innovative prostheses which can be regarded as artificial muscles.

A European consortium under the leadership of the British Healthcare Trading Association (BHTA) has set itself the goal of developing artificial muscles on the basis of carbon nanotubes. In total, 13 partners from six European countries are part of the consortium. Nanocyl is one of the key industry partners – with Neue Materialien Würzburg (Germany) and Ortopedijo tehnika (Estonia) – in this consortium.

Francis Massin, Managing Director of Nanocyl adds: “The future introduction of CNT actuators for a large variety of possible medical applications, will lead to dramatic changes in the healthcare system: new prostheses will reduce healthcare costs by reduced need of medical care of healthier amputees and reduced community nursing costs by more mobile and independent patients. The CNT actuator is a crucial positive change in the healthcare system, Nanocyl is proud to participate in such a revolutionary project.”

Nanomed runs from March 2005 to February 2008.

About Nanocyl

Nanocyl is a company, founded in February 2002, emerged from the Universities of Namur and Liège (Belgium) and is supported by individual and institutional investors. The purpose of Nanocyl is to develop new business for the supply of specialty carbon nanotubes based on an existing and expanding portfolio of intellectual property. Nanocyl is one of the first companies to be established in Europe for the commercial supply of this family of novel material. Currently, pilot production is dedicated to associated laboratories and selected industrial partners. Nanocyl is investing in production equipment, laboratories and process development at its facility in order to supply commercial quantities of carbon nanotubes. For more information, please visit the company's website at www.nanocyl.com

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