

FOR IMMEDIATE RELEASE

## **A Robotic Beetle for Detecting Cancer in Stomach and Bowel**

**– Micro Technology with Locomotion Capabilities for Medical Treatment of the Future –  
Kick-off for European Research Project VECTOR**

Tuebingen, Germany, 4 September, 2006

The idea sounds revolutionary, but it could become part of everyday clinical practice: an actively controllable miniature capsule endoscope equipped with an optical system and operating instruments, which can be used not only to detect stomach and bowel cancer in the early stages but to actually treat it then and there. In the early drafts it resembles a beetle with legs and gripping tool, but now it will be developed using the latest in micro and nanotechnology.

To make this vision a reality, the EU-funded research project VECTOR is being launched today. VECTOR's objective is „Eliminating gastrointestinal cancers through breakthrough medical microtechnology“, so it will develop intelligent capsules which will be taken orally and will scan the digestive tract for early stage cancers. Unlike existing capsule endoscopes, the VECTOR capsules are actively controlled by a doctor and, like a beetle, have legs for moving around in the stomach and bowel. For detecting diseases, VECTOR capsule technology incorporates optical sensors which analyse the tissue and thus improve significantly the early detection of cancers. Treating tumors at an early stage will also be possible with VECTOR capsules as they are equipped with grippers and operating instruments which are able to remove or destroy diseased tissue inside the body.

Early detection is especially important with cancers of the digestive tract. The risk to fall ill with colon cancer is comparatively high, it amounts to five percent in a person's lifetime. If detected early, benign pre-stages of tumors can be removed and their development into cancer can be interrupted. "While there are options available for cancer prevention with flexible endoscopes, the examination is conceived as very unpleasant by many patients and therefore they often do not make use of screening programmes," says Professor Dr. Marc O. Schurr, M.D., managing director of novineon GmbH, the coordinator of the VECTOR project. "This is why we and our partners will develop new technologies over the next four years to dramatically enhance endoscopic procedures in the stomach and bowel.

There is considerable market potential for such technologies: over 30 million people worldwide who have a family history with cancer or even showed first symptoms should be screened for colon cancer on an annual basis – but less than ten percent go and see a doctor. Intelligent micro robots could significantly help open up the market for endoscopic procedures.

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The VECTOR consortium consists of 18 leading European research institutions and companies, as well as the Korean Institute of Science and Technology. Financially supported by the EU, the project partners want to develop new technologies and products, which will help further strengthening the competitive position of Europe in the field of medical and micro technologies. The project will be launched today, 4 September, 2006, with an international symposium of all participating organisations in Tuebingen.

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### **About novineon**

novineon Healthcare Technology Partners is a private consulting and research company for the healthcare industry. As professionals at the interface between the scientific and the business sector we are acting internationally. We support manufacturers and users of medical products and services in all aspects of R&D, product assessment and marketing. In addition to our services in strategy consulting and contract research for industry, we invest in start-up companies and help them convert their technological competence into business success.

### **Further Information**

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**Annex: Organisations participating in the VECTOR Project**

<b>Organisation</b>	<b>Country</b>
novineon Healthcare Technology Partners GmbH	Germany
CRIM Laboratory, Scuola Superiore Sant' Anna	Italy
SINTEF	Norway
KIST Europe GmbH	Germany
SÉNSITEC GmbH	Germany
KU-Leuven	Belgium
EPFL - Optical Microdiagnosis Group	Switzerland
CTMN	France
Endosmart GmbH	Germany
Society for Medical Innovation and Technology e.V.	International
Ovesco Endoscopy GmbH	Germany
netMED AISBL	Belgium
ERA Endoscopy S.r.l.	Italy
University of Barcelona	Spain
FORTH Foundation	Greece
Innovent Technology e.V.	Germany
Intelligent Microsystem Center	South Korea
Jagiellonian University - Cracow	Poland
NEURICAM SPA	Italy