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## **FOR IMMEDIATE RELEASE**

### **GMV's Latest Arthroscopic Surgical Simulator Incorporates New "Virtual Touch" Scenarios Using SensAble's Haptics**

*New Features in **insightArthroVR**<sup>®</sup> Virtual Reality Arthroscopic Trainer for Knee, Shoulder Surgery Enhance Realism for Training and Skills Assessment to Improve Patient Safety and Surgical Outcomes*

**WOBURN, MA USA April 30, 2009** – [SensAble Technologies, Inc](#)<sup>®</sup>, a leading provider of haptic devices and touch-enabled modeling solutions, announced that its customer [GMV](#), based in Madrid, Spain, is showcasing an expanded set of touch-enabled features in a major new version of its [insightArthroVR](#)<sup>®</sup> arthroscopic knee and shoulder surgery simulator at this week's [Arthroscopy Association of North America \(AANA\)](#) annual meeting in San Diego. These new touch-enabled features provide exceptional realism in teaching surgical residents to differentiate between the feeling of healthy and pathological conditions, and then simulate the feeling of corrective procedures, using SensAble's haptic devices and software toolkit.

In addition, a poster to be presented at the meeting by a GMV customer, the University of Chicago Medical Center, will highlight the results of a multi-year study where [insightArthroVR](#), which incorporates SensAble's haptics, was tested as a valid way to assess surgeon competency.

With worldwide interest in technology that lowers medical provider training costs and improves patient safety – as well as heightened US interest due to [US Recovery Act stimulus funding](#) for surgical simulation training projects – GMV's [insightArthroVR](#) demonstrates the success of artificial touch-based solutions for training surgeons to mastery with zero risk to patients and fewer demands on medical center personnel.

Orthopedic surgeons performing arthroscopy have been at the forefront of surgical subspecialties to embrace haptically-enabled surgical simulation. While various studies designed to validate the value of force feedback in surgical simulators are underway, early results of testing in some surgical specialties are impressive. In one specialty, surgeons trained using haptics performed 36 percent faster and 97 percent more accurately when training with haptics than without.<sup>1</sup>

[insightArthroVR](#) teaches surgeons the essential skills of triangulation, camera orientation, and hand-eye coordination for shoulder and/or knee arthroscopy. The system uses two [PHANTOM Omni](#)<sup>®</sup> haptic devices from SensAble that allows the user to mimic surgical procedures using such tools as a probe and a burr. While surgeons follow GMV's training modules on a computer screen,

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<sup>1</sup> Cho, Zho, Jones and Schwartzberg, "Can Surgeons Think and Operate with Haptics at the Same Time?" Journal of Gastrointestinal Surgery, 11(11): 1564-9, November 2007

the haptic devices they hold literally “push back” on their hands as they perform virtual surgery on physical 3D knee and shoulder models. In addition, the system generates realistic sounds and can assess skills.

GMV’s team used SensAble’s [OpenHaptics® software toolkit](#) to develop the learning modules, and specify appropriate material properties and levels of force feedback -- so that the student experiences the precise feeling of bone, cartilage, labrum, ligaments and tendons as they proceed through training exercises.

With *insightArthroVR*, surgical residents can better learn to identify knee and shoulder conditions at zero risk to the patient – and without the need for cadavers, which are costly or unavailable in some countries. Residents can train to perfection as they learn to distinguish the feeling of rough, damaged tissue compared to the smoothness of healthy tissue. They gain unlimited practice opportunities, with skill levels recorded for instructor review.

New features in the latest version of the *insightArthroVR* simulator expand the pathologic scenarios, training exercises and performance indicators in fundamental surgical procedures. For example, in the new version, surgical residents now can practice more steps in determining shoulder instability, or completing knee meniscectomies. The new version also adds more virtual instruments that the user can access during practice scenarios, including a tissue manipulator, basket grasper and anchors. All *insightArthroVR* instruments are touch-enabled so that the surgical resident can master their use under realistic scenarios.

GMV joins numerous other SensAble OEMs who are touch-enabling advanced medical and surgical simulation applications using SensAble’s haptic devices and software toolkit. With 41 patents and over 7,000 haptic devices shipped to date across a wide range of industries, SensAble allows simulation providers to incorporate the realistic “feelings” of anatomical objects and surgical procedures into their products.

“When surgeons can’t rely on their eyes to guide them through specific aspects of surgical procedures, knowing how things should feel is paramount to imparting accuracy and confidence in students learning all kinds of skills related to blind surgical procedures,” said David Chen, Ph. D., chief technology officer of SensAble Technologies. “GMV’s *insightArthroVR* solution keeps pushing the envelope in terms of leveraging the value of haptics in medical simulation.”

GMV’s *insightArthroVR* is being showcased at the AANA conference from Thursday April 30 through Sunday May 3 at the San Diego Convention Center in booth 504.

### **About GMV, Inc.**

GMV is a privately owned Spanish technology group founded in 1984 and trading on a worldwide scale in the following sectors: Aerospace, Defense and Security, Transport, Telecommunications and IT for public administration and large corporations. In 2008 it chalked up a revenue of 91,8 million euros and more than 1000 employees. The company’s growth strategy is based on continual innovation; 10% of its turnover is plowed back into R&D. GMV hence ranks fifth among all

Spanish firms in terms of returns on the European Community's Sixth Framework Program for Research and Technological Development and holds several international patents. GMV is currently one of the world's two foremost suppliers of satellite control centers; as a firm it boasts Europe's third biggest participation by volume in Galileo; it is the main supplier of C3I command and control systems to the Spanish army and the nation's top supplier of telematic systems for public transport. In the ICT sector it is a national benchmark as provider of advanced IP network security solutions and services, mobility applications and applications for the public sector and the development of e-Government.

### **About SensAble Technologies**

Founded in 1993, SensAble Technologies is a leading developer of 3D touch-enabled (force feedback) solutions and technology that allow users to not only see and hear an on-screen computer application, but to actually "feel" it. SensAble Technologies' haptic technology is being used in applications ranging from designing toys and footwear, to surgical simulation and stroke rehabilitation, to dental restorations, as well as a range of research and robotic applications. The company markets its own 3D modeling solutions as well as its haptic devices and developer toolkits to medical, dental, design, and manufacturing companies; educational and research institutions; and OEMs. SensAble products are available through direct and reseller channels worldwide.

[www.sensable.com](http://www.sensable.com).

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