



Case Study: Realists Training Technologies GmbH

**Enhancing Spinal Surgery Education
with Polaris Vicra[®] Optical Navigation Solutions**

Prepared By:

Northern Digital Inc.

Realists Training Technologies GmbH

Founded 2015
20+ employees
www.realists.de



Introduction

Realists GmbH is a global provider of lifelike surgical training systems to improve patient outcomes in the field of spinal surgery. Realists has integrated the NDI Polaris Vicra into their Realists Imaging product to simulate X-ray imaging for the navigation and placement of pedicle screws or cages, as in a real operation.

About Realists

Realists GmbH is a provider and manufacturer of technologies and services for educational purposes in the field of spinal surgery. Their lifelike RealSpine Training System imitates the living organism and are visually and haptically as realistic as possible. Their anatomical models, built entirely from synthetic materials, contain all the anatomical structures and fluids present during surgical procedures on the spine. This allows for the practicing of both standard and challenging procedures in a realistic environment. The system, together with a scientifically based training concept, makes every training session a successful learning experience.



The development on the technology behind RealSpine began in 2010 with anatomists, educational experts, psychologist, and spine surgeons at the HTWK University of Applied Science in Leipzig, Germany.

Today, Realists continues to grow with new business models and through the expansion of their portfolio of products and service for spine surgery training.



NDI's experience and technical precision allow us to develop and deliver an excellent solution to our customers and make surgeon training more flexible and available."

Realists

Dr. Luis Bernal,

CEO and Founder of Realists Training Technologies GmbH

The Need for Navigation

One of the key components of the Realists portfolio is Realist Imaging. This solution provides radiation-free X-ray simulation exclusively for surgical training with Realists products. A flexible and precise navigation (or tracking) solution was required to simulate fluoroscopy based on image guided navigation.

The Solution – Polaris Vicra

Realists selected the Polaris Vicra optical navigation system for both its precision and NDI's integration support.



The Result

The Polaris Vicra allows the Realists Imaging Software to simulate fluoroscopic images of the structures of the RealSpine Patients (synthetic patients with bones, soft tissue, and fluids) without the need for expensive and dangerous X-ray equipment. Polaris Vicra enables Realists to create an authentic simulation and training environment to educate users in the use of different medical instruments like screw drivers for pedicle and lateral mass screws, implant devices for cages, or endoscopic instrumentation.

The integration of NDI during the software development process was easy due to the availability of NDI's well documented APIs.



NDI was the first option for Realist because it is a solution that is already established on the market with a good support. Technically NDI offer us the precision that we need in order to have a very realistic simulation of patient and instruments for training.”

Realists

Dr. Luis Bernal,

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Why Partner with NDI?

NDI is proud to be the industry pioneer and world's leading manufacturer of optical measurement and electromagnetic tracking technology solutions. In fact, nearly 90% of all surgical navigation systems on the market incorporate our technologies. Our solutions are designed with ease and speed of integration in mind, boasting flexible customization options to meet your most challenging tracking requirements. NDI - the partner of choice to help bring your tracking applications—and industry breakthroughs—to market.



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