

A photograph of a Philips Azurion medical suite. The room features a large C-arm X-ray system with a Philips Azurion monitor displaying a 3D vascular model and vital signs. A Mentice simulator is mounted on the table, and a laptop is open next to it. The table is covered with a black cloth and has a control panel with various buttons and knobs. The background shows a typical hospital room with a tiled ceiling and a large window.

**PHILIPS**

Image guided therapy

**Azurion**

Integrated Mentice  
VIST® Virtual  
Patient Simulator

Acquire skills and rehearse  
endovascular procedures  
away from the real patient in a radiation free environment.

### **Introduction of Mentice**

Mentice is a provider of software and hardware simulation solutions for neurovascular, cardiovascular and peripheral interventions helping healthcare professionals to acquire, retain, and enhance their procedural skills driving improved productivity and clinical outcomes.

# Speed up endovascular training and competency

## **Practice procedures in a patient-free, radiation-free environment**

How do you prepare your workforce to meet the rising wave of endovascular procedures? At Philips, we have joined forces with Mentice, a leader in simulation training, to offer a realistic training experience in your actual working environment that aims to accelerate the learning of new technical skills.

The Mentice VIST® Virtual Patient simulator is connected with the Philips Azurion interventional X-ray system so that users can practice handling the X-ray system's control elements, table and C-arm – without radiation or direct risk to patients. This solution provides unlimited patient volumes and learning possibilities on real clinical procedures for individuals and teams.

### Key benefits

- Training in your actual work environment promotes effective learning
- Quickly convert your Azurion lab into a virtual patient learning-environment
- Patient-free, radiation-free training of clinical procedures and system usage
- Fast, cost-effective way to train your workforce on a high number of procedures
- Leverage connection between high procedural volumes and patient clinical outcomes





## Train on your cases, in your working environment

Virtual Reality simulators have been a mandatory part of learning and competency testing in aviation and other fields for a long time. They have been shown to improve technical proficiency and shorten learning curves in other fields requiring fine dexterity and hand-eye coordination, such as laparoscopic surgery and endoscopy. To make the learning experience as realistic as possible, your clinical team trains on their own cases in their own work environment with the integrated Azurion – Mentice VIST® Virtual Patient simulation solution.

“ The inclusion of a simulator in the environment of a real angiography suite offers the best preparation for the first examination of a patient<sup>4</sup>. ”

## The Virtual Patient is always available in radiation-free learning environment

This VIST® Virtual Patient and Philips angio-suite integrated solution allows your physicians to practice a wide range of clinical procedures, without radiation or direct risk to a patient. It provides the following functions:

- Broad variety of procedures are performed at the Azurion table using the Azurion control panels and foot switches
- All aspects of an endovascular treatment are simulated (including clinical device haptic feedback, using real controls & 'buttonology', performing system movements, manipulating catheters and devices)
- The VIST® Virtual Patient simulator allows treatment through left and right femoral, radial, subclavian, jugular, axial, trans-pedal and trans-apical approaches
- The (live) Virtual Patient fluoroscopy is displayed on the Philips Angio-Suite monitors and follows the Angio-Suite system movements just as during a real clinical case
- The Mentice VIST® Virtual Patient user interface can be shown on the Angio-Suite display to control the immersive learning environment
- The Fully Validated metrics recorded and stored by the simulator include: examination time, fluoroscopy time, total time for the series, number of series and amount of contrast agent. The system also records which materials were used at which time



## Training modules

The Azurion – Mentice VIST® Virtual Patient simulation solution comes with all required hardware for an integrated and stand-alone setup, with five perpetual modules and a 1 year license of complete standard module offering:

### Perpetual Licenses

- Peripheral angiography
- Coronary Essentials
- Radiation Safety plug-in
- Philips' VIST® Virtual Patient Link

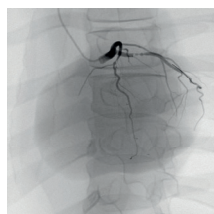
### 1 year license

- Acute Ischemic Stroke Intervention
- Aortic Valve Implantation
- Atrial Septal Defect & Patent Foramen Ovale Occlusion
- Below-the-knee Intervention
- Cardiac Rhythm Management
- Carotid Intervention
- Coronary Intervention
- Endovascular Aortic Repair
- Iliac/SFA Intervention
- Left Atrial Appendage Occlusion
- Neurovascular Intervention
- Prostatic Artery Embolization
- Renal Denervation
- Renal Intervention
- Thoracic Endovascular Aortic Repair
- Transarterial Chemoembolization
- Transseptal Puncture
- Uterine Artery Embolization
- Vascular Trauma Management

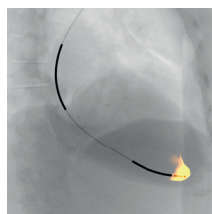
**In addition, you can order additional training modules from the Mentice catalog.\*\***



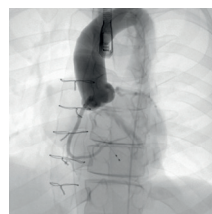
Neuro



Coronary



Electrophysiology



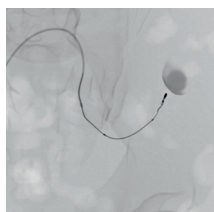
Structural heart



Embolotherapy



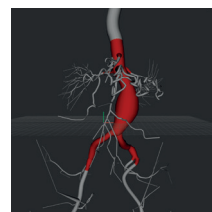
Aortic



Trauma



Peripheral



VIST® CASE IT  
Anatomy Importer

Discover the latest Mentice suite of over 20+ procedures to help you acquire essential endovascular technical and manipulation skills at [www.mentice.com/training-software](http://www.mentice.com/training-software)

### References

- 1 Rolfe JM, Staples KJE (eds.) Flight simulation. Cambridge Aerospace series; Cambridge University press; 1988
- 2 Seymour NE, Gallagher AG, Roman SA, et al. Virtual reality training improves operating room performance: results of a randomized, double-blinded study. Ann Surg. 2002;236(4):458–463.
- 3 Walsh CM, Sherlock ME, Ling SC, Carnahan H. Virtual reality simulation training for health professions trainees in gastrointestinal endoscopy. Cochrane Database Syst Rev. 2012;6:CD008237.
- 4 Kreiser K, Gehling K, Zimmer C. Simulation in Angiography – Experiences from 5 Years Teaching, Training, and Research. Academic Radiology. DOI: 10.1055/a-0759-2248.

**Please contact your Philips representative for details about how the Azurion – Mentice VIST simulation can benefit your interventional training or go to: [www.philips.com/mentice](http://www.philips.com/mentice)**

\*The Mentice VIST® Virtual Patient simulation is compatible with Philips monoplane and biplane systems, including: all Azurion systems and Allura Xper systems, release 7.6 and 7.8 onwards.

\*\*Available from year 2 onwards.

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