

CATHIS® 3

THE Simulator for Top-Level Medical Training



CATHI
We care.

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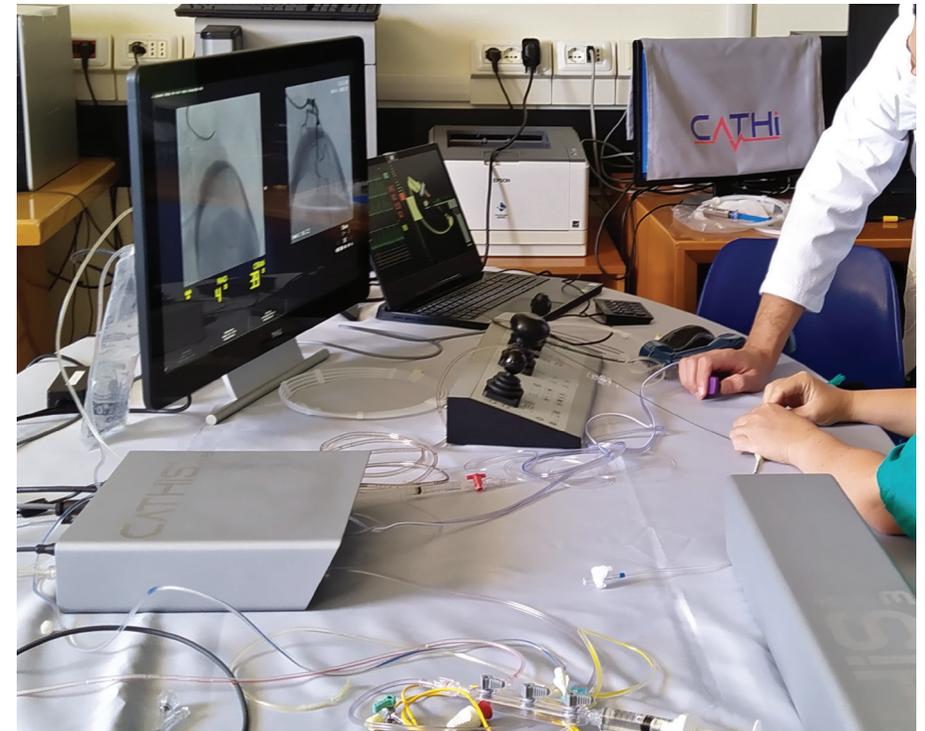
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The Simulator for Top-Level Medical Training

The number of minimally invasive interventions has significantly increased over the last few years, while at the same time related complications have risen. Endovascular simulation enables skill training in a safe environment, which leads to significantly higher success rates, improved efficiency and reduced patient harm.



Our highly realistic CATHIS® endovascular simulators are completely based on German engineering expertise, enabling training to the highest standard which results in obvious skills improvement and better management of stressful and challenging clinical situations.

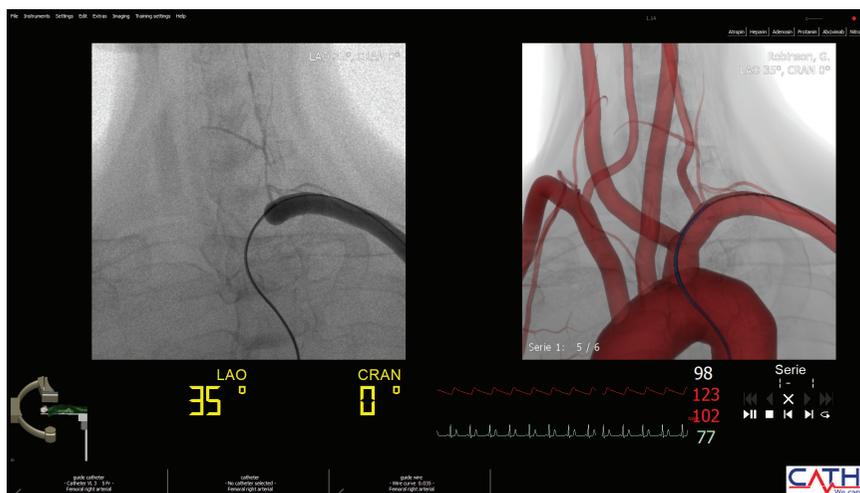


The Thoroughbred Workhorse Simulator

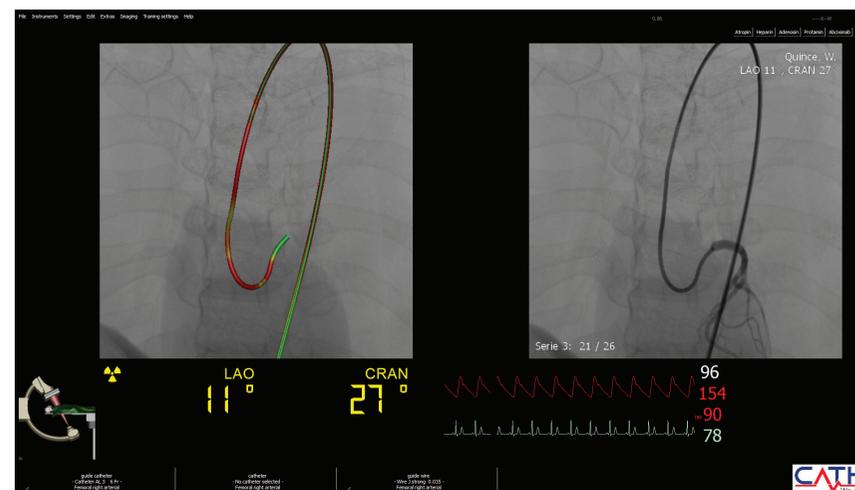
CATHIS® 3 is an innovative fullscope endovascular simulator, providing three internal tracking systems which facilitates the display of three independent instruments.

It is designed to implement all interventions to their full extent from simple to complex vessel anatomies using one insertion point (jugular, transradial, transfemoral) and can manage multiple and complex complications and techniques such as double wire or pressure wire.

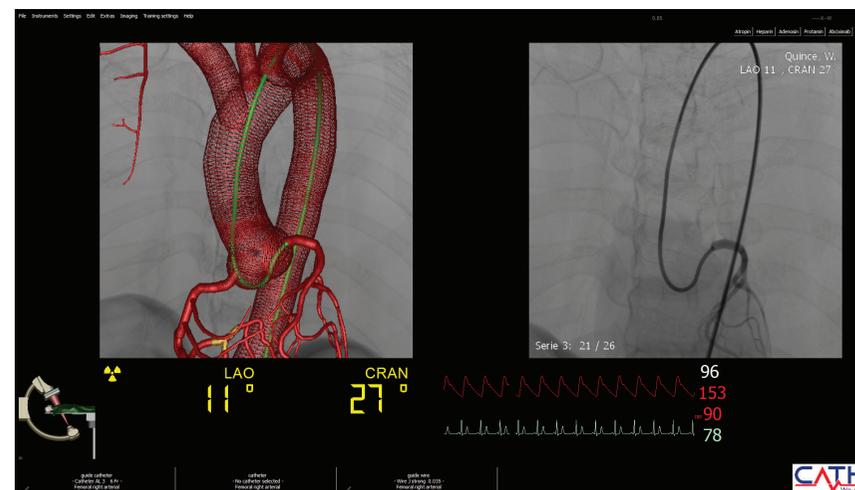




The optional display of 3D projection parallel to the x-ray image fosters the spatial understanding and assessment of vessel anatomy and thus enables a significantly easier and better handling of catheters. Highly specific software enables 3D display of vessels and even visualization of the pressure intensity being applied to the vessel through the catheter as well as the control of catheter contortion.



Visualization of catheter contortion required to control instrument movement, using intensity of colour



Force from an instrument on the inner side of the vessel, visualized in 3D via intensity of colour

The advanced features of CATHIS® 3 training equipment, such as a high end graphic interface, compatibility with any kind of device, the use of liquids, force feedback and immediate system response, combine to provide a highly realistic environment resulting in extremely efficient training.

CATHIS® 3 can be customized to meet end-users needs and may be combined with any instrument or device. It is compatible with patient simulators and angio machines to enhance the complete experience of a highly realistic environment.



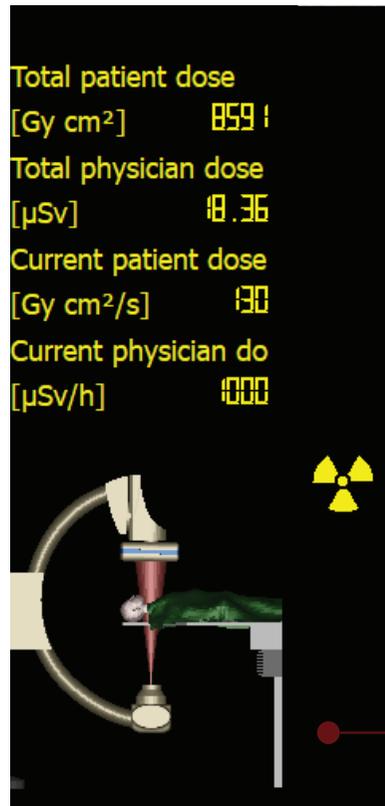
The CATHIS® 3 simulator is supported by a range of hardware including the CATHIS® Control Unit, the CATHIS® Hub, a notebook and a foot pedal, which together with the premium software facilitates effective and impactful training for all interventional procedures.

Managing X-Ray Hygiene

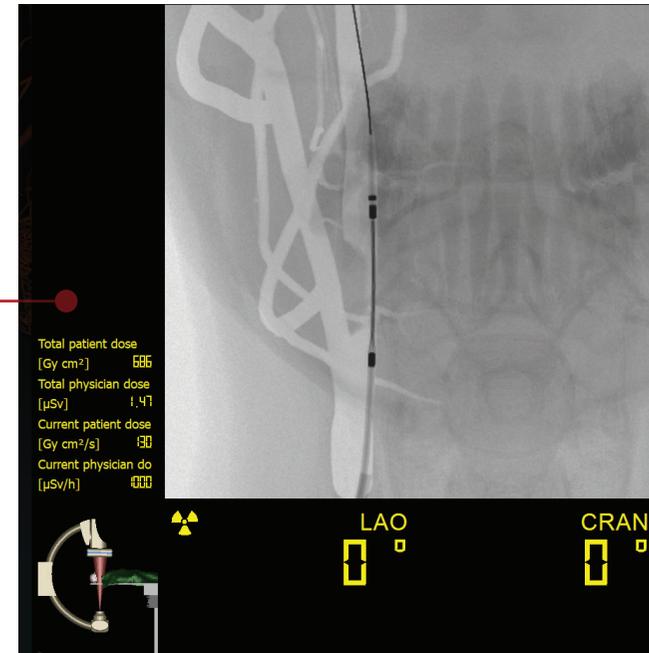
Working interventionally means a certain level of exposure to x-rays, for the patient as well as for the physician.

One of the key ways for the physician to minimize this exposure is the use of simulated training: it provides an extremely realistic environment under relatively safe conditions – including virtually no x-ray exposure.

Our software can also help to reduce levels of x-ray exposure in the cath lab itself: it can display x-ray levels at any given time to both patient and physician, as well as totalling the cumulative dose that each has been exposed to. This enables the physician to be continually aware of how high overall x-ray exposure is, thus enabling them to minimise this exposure and ensure a safer environment for both their patient and themselves.

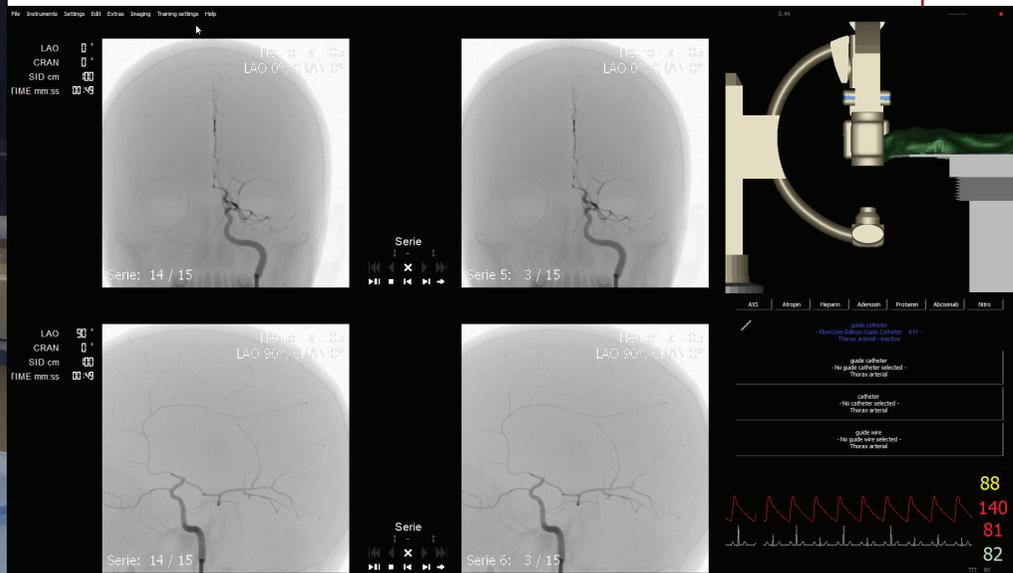


Positioning of a self-expanding stent in the carotid artery and opening under roadmap



Application

CATHIS® 3 is ideal for use in university hospitals and simulation centers. It is suitable for training in all medical specialties, including neuroradiology, cardiology, radiology, angiology and pneumology and even provides the display of complex procedures such as coronary complications, right heart catheterization as well as biplane display of simulation (simultaneous, independent use of C-arms and table movement).



Biplane projection full screen



Technical Details

CATHIS® 3 uses medical liquids to enhance the experience of reality:

- Disposable manifolds management
- Aspiration catheter
- Contrast agent injections
- Medication injections
- Indeflators
- Connection of injection systems



The use of liquids allows the CATHIS® 3 simulator to provide a highly realistic training environment leading to more effective skills training, such as avoiding air embolism.

In addition, CATHIS® 3 provides all the necessary features of a premium simulator, e.g. navigation of an instrument, force feedback and the use of inflation devices.

CATHIS® 3 also comes with a high-end graphic interface, excellent haptic and immediate system response. It also enables adjustment of all types of shutters (semi-permeable, round, angle and more) for training of x-ray hygiene, including display of radiation exposure to both patient and trainee.

The capabilities of the simulator can be extended with the attachment of selected CATHIS® devices which enable specific additional applications.

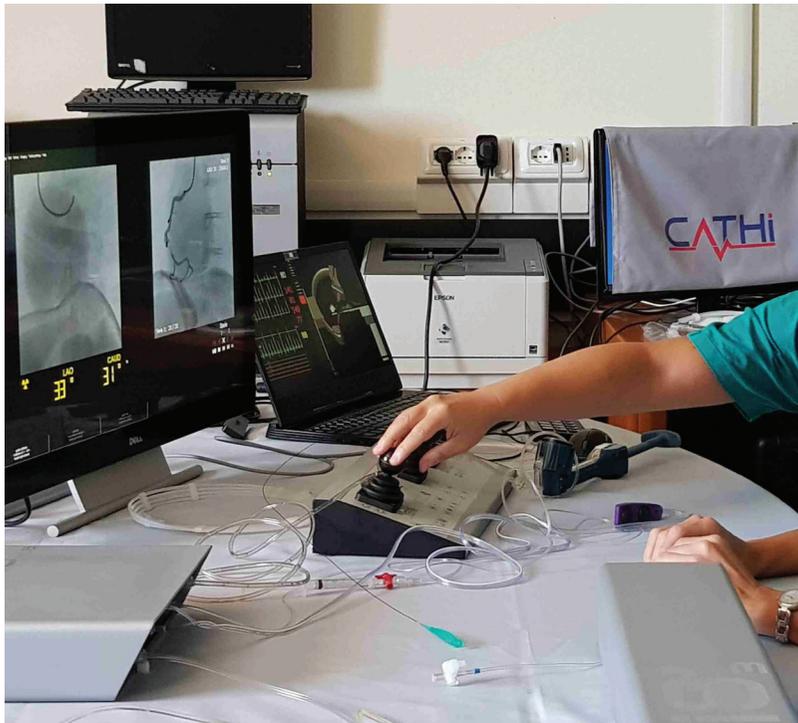
Training progress can be accurately assessed through the documentation of learning history and the export of training data.

Addition of Other CATHIS® Devices

CATHIS® Control Unit

The CATHIS® Control Unit is the highly realistic lab-like control unit that enables the management of the virtual angio machine and provides exactly the same functionalities as in a real cath lab or angio suite (movement of the table, C-arm, all types of shutters, DAS, roadmap and more).

It is a component of the simulation set and available in two versions.



CATHIS® Control Unit Monoplane



This control unit is the classical one for management of the angio machine. Via key-controlled functions it allows control of the C-arm and table movements, shutters or customized angle settings.

CATHIS® Control Unit Biplane



Based on specific software the CATHIS® Control Unit Biplane provides simulation that enables biplane projection as in real angio suites (using two C-arms simultaneously and facilitating the display of four monitors plus table movement from both perspectives with two live monitors simultaneously).



CATHIS® Hub

Attachment of the CATHIS® Hub makes it possible to measure the use of liquids, such as aspiration in mechanical thrombectomy or even various pressures from the inflation device. It can be connected with hand control injection systems.

Combination with the Instructor Cockpit

Combination of the CATHIS® Smart with the innovative Instructor Cockpit enables the trainer to control the entire simulation remotely in real time and to impact the simulation process to challenge the trainee during the ongoing intervention, encouraging even better training results.

In this way the trainee can focus on specific training sequences while the instructor manages the angio machine, C-arm, selection of instruments and hemodynamics remotely. The instructor can even trigger the occurrence of unexpected complications such as an embolization, dissection or perforation at any time.



The Instructor Cockpit is available in two versions, the tablet fullscope version for experts and a smaller edition with 15 buttons with pre-programmed functionalities. Furthermore, the device can be entirely customised to meet any specific individual requirement.

CATHI is a family-owned, German technology driven company that has been dedicated to developing highly innovative, breakthrough endovascular simulation technologies for 20 years. This has been based on long-lasting cooperation with academia, covering all types of interventions in any medical field, however complex and challenging they may be.

Our high performance products are entirely designed and developed in house and undergo intensive testing. It is our ambition to be the number one choice for endovascular simulation.



CATHI has received the German Innovation Award several times and is member of the German Association of Simulation DGSiM

