



Image Guiding Solutions

Interventional neuroradiology

**Upgrade your system  
workstation and applications,  
enhance your clinical practice**



GE HealthCare

# 2D and 3D applications to augment your imaging outcomes

Boost your clinical practice and confidence with cutting-edge apps

## 3D visualization

### 3D CT HD<sup>2</sup>

High-quality imaging of anatomical structures

#### Your win

Different rotation speeds for various clinical objectives

|                                   | 3D CT       | 3D CT HD      |
|-----------------------------------|-------------|---------------|
| Spin duration                     | 5 sec.      | 5, 7, 13 sec. |
| Frame rate                        |             | 50 fps        |
| Reconstructed 3D model resolution | 512x512x512 | 256x256x256   |

## Stent positioning

### Virtual Dilution<sup>5</sup>

Visualize the relationship of flow-diverter stents with vessels

#### Your win

- Greater confidence<sup>6</sup>: Improved inter-reader agreement vs. conventional 2D DSA alone, with comparable X-Ray exposure
- No contrast injection required

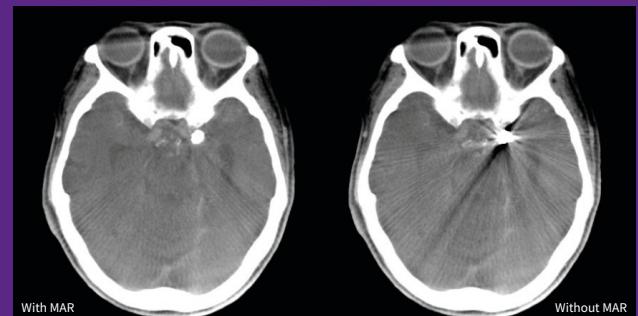
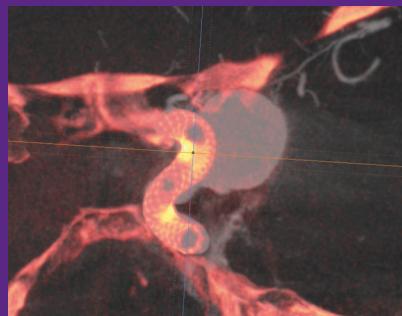
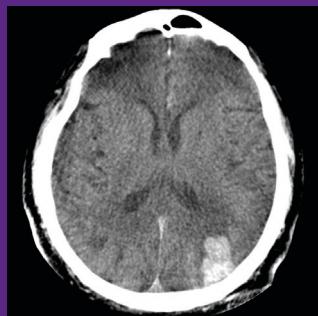
## Image quality

### MAR<sup>7</sup>

Integrated solution to reduce artifacts due to small metallic devices

#### Your win

- Automatic artifact reduction from devices such as aneurysm coils and clips
- Improved image quality of 3D CT HD<sup>2</sup> acquisitions



# Interventional neuroradiology upgrade: what added value for your practice?

Are you facing challenges like visualization of the complex brain anatomy for accurate treatment planning and guidance when using your monoplane or biplane system?

Consider upgrading your system with ASSIST\*, the comprehensive versatile suite to help address your interventional neuroradiology team's main challenges and improve outcomes in stroke, AVM (Arteriovenous malformation) and aneurysm procedures.

## Arteriovenous malformation embolization

AVM treatment planning requires a comprehensive visualization of the AVM vasculature complexity and its access.

### Your upgraded solution: Embo ASSIST AI<sup>1</sup> with 3D CT HD<sup>2</sup>

AI-based augmented guidance solution designed to define optimal embolization strategies

Access automatic AI-based segmentation and, in 1-click mode, simulate vessel injection and extraction points. Use 3D models of pathways to navigate catheter and leverage digital zoom to limit dose.

Visualize targeted vessels on 3D CT HD<sup>2</sup> directly from the interventional room to confirm catheter location before embolization.

#### Your win

- Simplified planning and guidance
- Supported embolization strategy

#### Your outcomes

- Easy visualization of AVM angioarchitecture
- Dynamically tested embolization strategy
- Augmented 3D guidance



Vessel extraction and injection points simulation

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A very intuitive software, easy to use, that provides quickly the information. It helps understand complex malformations during the planning phase, as well as allowing you to navigate and anticipate embolization results. It improves treatment accuracy and generates time savings, thus allowing a reduction in radiation dose.

Prof. René Anxionnat  
Interventional  
Neuroradiologist,  
University Hospital  
of Nancy, France

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## Aneurysm treatment with flow diverter stent

Cerebral aneurysm treatments require a meticulous preparation and the use of multiple 3D modalities to reach the right level of visualization.

The complex anatomy of vessels and aneurysms, and the relationships between them, remains a challenge in planning flow-diverter stent selection and positioning.

## Your upgraded solution: Vessel ASSIST<sup>3</sup> with Integrated Registration

Planning, guidance and assessment of aneurysm embolization

### Vessel ASSIST<sup>3</sup> delivers:

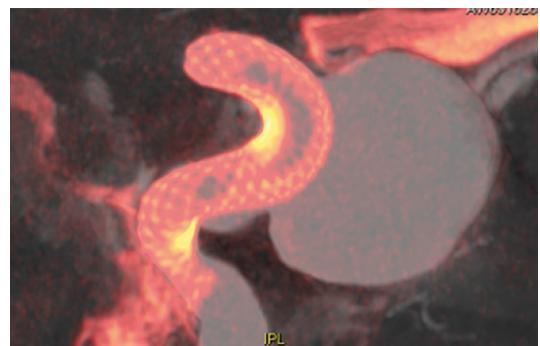
2-click segmentation and vessel quantification from 3D volumes.  
Advanced 3D roadmap, augmented imaging on frontal or lateral planes.

### Integrated Registration<sup>4</sup> delivers:

3D CT HD<sup>2</sup> comparison with fused 3D anatomical image from multiple modalities  
Virtual Dilution<sup>5</sup> for stent positioning assessment.



Segmentation and sizing with Vessel ASSIST<sup>3</sup>



Positioning assessment with Virtual Dilution

### Your win

- Simplified segmentation
- Aneurysm sizing
- Catheter guidance
- Treatment assessment

### Your outcomes

- Easy and accurate anatomy analysis
- Accurate vessel quantification from 3D volumes
- Use of multiple 3D modalities in clinical routine

Stay technologically and clinically current with access to recent applications

# Your upgrade package to stay at the forefront of technology

## IGS workstation upgrade



### AW workstation

Get access to the full ASSIST suite at table side



#### You buy

- Operating system hardware and software upgrade
- Volume Viewer Innovia Enhanced
- Reconstruction engine evolution
- Application refresh

#### You get

- Intuitive user interface
- Simplified workflow
- Increased storage capability
- Cybersecurity risk reduction
- 20% faster processing<sup>8</sup>

## Interventional neuroradiology imaging upgrade

New ASSIST, 2D, 3D applications



### Stroke

- 3D CT HD<sup>2</sup>

### Arteriovenous malformation

- Embo ASSIST AI<sup>1</sup>
- 3D CT HD<sup>2</sup>

### Aneurysm

- Vessel ASSIST<sup>3</sup>
- Integrated Registration<sup>4</sup>
- Virtual Dilution<sup>5</sup>
- 3D CT HD<sup>2</sup>
- MAR<sup>7</sup>



**Disclaimers:**

\* The Interventional neuroradiology upgrade includes an AW VS7 with Z4G4, Vessel ASSIST, Embo ASSIST AI. These applications are sold separately.

\*\* 3D CT data from Product Data Sheet.

Prof. René Anzionnat is a paid consultant for GE HealthCare and was compensated for participation in these testimonials. The statements by Prof. René Anzionnat presented here are based on their own opinions and on results that were achieved in their unique setting. Since there is no “typical” hospital and there are many variables, e.g., hospital size, case mix, etc., there can be no guarantee that other customers will be able to achieve the same results.

1. Embo ASSIST AI solution includes FlightPlan for Embolization with AI Segmentation option and requires AW workstation with Volume Viewer, Volume Viewer Innova, Vision 2, VesselIQ Xpress, AutoBone Xpress. These applications are sold separately. FlightPlan for Embolization with AI Segmentation may not be available in all countries.

2. 3D CT HD is an option sold separately. Includes 3DXR. Requires AW workstation and Volume Viewer.

3. Vessel ASSIST solution includes Vision 2, VesselIQ Xpress and AutoBone Xpress, and requires AW workstation with Volume Viewer and Volume Viewer Innova. These applications are sold separately. Not available for sale in all countries.

4. Integrated Registration requires an AW workstation with volume Viewer and Volume Viewer Innova. These applications are sold separately.

5. Virtual Dilution is a GE HealthCare created customized protocol which requires Volume Viewer and Integrated Registration. These applications are sold separately.

6. Hassan AE, et al. Visualization of flow diverter stent wall apposition during intracranial aneurysm treatment using a virtually diluted cone beam CT technique (Vessel ASSIST). *Neuroradiology*. 2021;63(1):125-131.

7. MAR is an optional feature of 3DXR, which is included in 3D CT HD, a 3D application of the Allia™ systems and Innova™ IGS 6 and Discovery™ IGS 7, and removes metal artifacts generated by coils in the CBCT field of view.

8. AW workstation - As compared to previous AW system. Based on CPU specifications, memory speeds and PassMark® Software CPU Performance Test benchmark results ([www.cpubenchmark.net/high\\_end\\_cpus.html](http://www.cpubenchmark.net/high_end_cpus.html)). Not all applications may achieve this improvement.

