Powerful Interplay – MIYABI Angio-CT
Siemens Healthcare
“With the MIYABI Angio-CT, we increased our patient volume by 20%. This using the same space of our old Angio lab, the same staff, and without additional overhead.”

Todd Kranpitz
Executive Director of Radiology,
Methodist Medical Center, Des Moines, Iowa, USA

Watch the complete interview:
siemens.com/youtube-miyabi-kranpitz

Read the QR code with the QR code reader on your mobile phone!
State-of-the-art image guidance for a broad spectrum of minimally-invasive interventions.

MIYABI Angio-CT combines an angiography system with a sliding-gantry CT – for hybrid imaging that truly leverages the strengths of each modality. MIYABI’s Angio system and the CT slide over the same patient table, so that users can quickly switch between modalities and use them when they need them most. This opens up new possibilities in therapy, interventions, and immediate assessment of treatment results.

In interventional radiology, MIYABI Angio-CT means quicker and easier needle-catheter-based procedures – and vascular guidance with reliable roadmaps free of breathing artifacts. In acute care, having both modalities at hand and not having to transfer the patient could save valuable time in stroke or trauma cases. MIYABI Angio-CT’s functional imaging capabilities even bring direct patient response monitoring and personalized treatment within reach.

MIYABI Angio-CT not only offers new and innovative approaches but also gives you a versatile workhorse with exceptional imaging capabilities – for an extra margin of safety and confidence in all procedures. Whether MIYABI Angio-CT’s two modalities help increase patient volume or minimize complications, they deliver a powerful interplay that feels right at first sight.

Siemens Healthcare –
Your partner for less invasive therapy.
MIYABI Angio-CT – unique features & benefits

Flexible room setup
MIYABI Angio-CT can be configured for single-room or dual-room use. In a dual-room setup, one CT may serve two rooms, so you can better deal with high case volumes and a multidisciplinary workload.

Full Angio and CT control at the table and near real-time 3D CT intervention
Remote control unit to operate the CT without having to leave the patient
- iControl – Remote control unit
- Adaptive 3D Intervention Suite

Whole-organ perfusion CT imaging
Quantitatively assess treatment response in oncology and salvagable tissue in stroke cases
- Adaptive 4D Spiral
  (smart and flexible 4D coverage from 2 cm–16.7 cm)
- syngo.CT Neuro Perfusion
- syngo.CT Body Perfusion
- syngo.CT Dynamic Angio
**Artis with PURE®**

**TwinBeam* Dual Energy**
Explore Dual Energy iodine images with TwinBeam*

**Easy registration**
Use only two fluoro shots for syngo 2D/3D Fusion to overlay image information from CT on live fluoro
- Artis with PURE
- syngo Fusion Package

**Vascular guidance without breathing artifacts**
Overlay vascular anatomy on live fluoro
- syngo 3D Roadmap

**Easy interplay between angiography and CT**
Easy registration and fusion between angiography and CT data for reliable roadmapping and embolization guidance enabled by Artis with PURE

**Target with confidence**
Procedure planning including automated target lesion segmentation and feeder vessel detection
- syngo Embolization Guidance

* This feature is 510(k) pending. Not available for sale in the U.S.
Image guidance technology must address an ever broader range of challenges as demand for minimally-invasive treatment keeps growing. Some problems interventionalists are now facing are no longer best resolved with just one imaging modality.

**Hybrid imaging solution**

This is where MIYABI Angio-CT comes in: a hybrid imaging solution that taps the strengths of the individual parts. The combination of an angiography system and a sliding-gantry CT makes each modality available exactly when you need it.

**Quick switching in needle-catheter-based procedures**

Both systems slide over the same patient table and let users quickly switch between modalities. In interventional radiology, this makes combined needle-catheter-based interventions less problematic, quicker, and easier. The angiography system is best equipped to guide 2D endovascular procedures with higher spatial resolution, while the CT delivers faster 3D needle guidance and higher soft-tissue contrast.

**Reliable roadmaps and fast interventions**

For catheter-based procedures that require vascular guidance, CT angiograms offer consistently reliable roadmaps free of motion artifacts – even if patients cannot hold their breath. Acute care patients equally profit from MIYABI Angio-CT’s versatility. In acute stroke management, valuable time can be saved with the system combination, as CT diagnosis and angiographic clot retrieval can be performed in the same room on the same table. In trauma cases, lives may be saved with a fast whole-body CT scan and rapid angiography-guided stabilization of the patient – without patient transfer.

**Expand what you can do**

Thanks to the overall better targeting abilities of the system, MIYABI Angio-CT is a true workhorse for day-to-day interventions. Not only can you take on more challenging cases, it also makes treating routine cases easier and potentially faster.

Make routine cases easier and complex cases possible
Artis with PURE®

Artis with PURE – Let PURE facilitate the interplay between angiography and CT. It offers easy registration and fusion between angiography and CT data for reliable roadmapping and embolization guidance.

syngo 2D/3D Fusion – Easily fuse CT data with angiography. Only two fluoro projections are needed to fuse 3D CT volumes for live image guidance.

syngo Embolization Guidance – Plan your embolization procedure with automated segmentation of tumor and feeder vessels.

syngo 3D Roadmap – Overlay 3D data-based roadmap and segmented feeders onto collimated live fluoroscopy during guidewire and microcatheter navigation.

“MIYABI Angio-CT’s overall better targeting capabilities provide me with an extra level of safety and confidence.”

David L. Lacey, MD
Department of Interventional Radiology, Iowa Methodist Hospital, Des Moines, Iowa, USA

Watch the complete interview: siemens.com/youtube-miyabi-lacey

Read the QR code with the QR code reader on your mobile phone!
Evaluate response and personalize treatment

Each patient is different – and so are individual responses to treatment. Functional imaging offers valuable information in order to tailor the right treatment to each individual.

Bring in functional imaging

MIYABI Angio-CT not only lets you expand what you can do, it also lets you monitor what you did – directly, while the patient is on the table. MIYABI Angio-CT brings functional imaging to your interventional suite, and with it the potential for intraoperative treatment response assessment and personalized therapy.

Assessment of treatment in interventional oncology

Minimally invasive interventional procedures, such as TACE and RFA, are becoming more relevant in the management of cancer patients. These patients do not respond equally to treatment, and reliable endpoint determination remains an elusive goal for many interventionalists. MIYABI Angio-CT allows you to start exploring this topic.

For example, whole-organ perfusion CT can give you immediate clues about a patient’s response – enabling you to adjust treatment correspondingly. The adaptive 4D Spiral technology extends dynamic coverage beyond detector width, and offers smart and flexible 4D coverage from 2 – 16.7 cm.

syngo.CT Body Perfusion offers in-depth quantitative assessment of a tumor’s viability by letting you look into its perfusion and vascularization. Dual Energy imaging delivers iodine maps to assess tumor contrast retention – which may serve as surrogate marker of treatment response.

Reduce “picture-to-puncture” time in stroke care

MR CLEAN\textsuperscript{1} and other clinical studies have demonstrated that timely interventional clot retrieval improves the outcome for certain stroke patients, and that timely reperfusion is critical. Unfortunately, time is often lost transferring patients from the CT room to the angio suite. Let MIYABI Angio-CT eliminate transfer time as CT scan and intervention take place in the same room on the same table. Careful patient selection is required as not all patients necessarily benefit. MIYABI Angio-CT can help here, too. CT perfusion imaging can visualize core infarct and penumbra, while (4D) CT-angiography provides insights into collateral status and occlusion length.

Prof. Michael J. Wallace, MD
Department of Interventional Radiology,
Division of Diagnostic Imaging, The University of Texas
MD Anderson Cancer Center, Houston, Texas, USA

“Cone-beam CT has made the IR community aware of the importance of 3D imaging in the Angio suite. Now we must build on both 3D and potential 4D imaging to improve efficacy and safety. We can also begin to tackle the topic of endpoint assessment for interventions. Hybrid Angio-CT suites offer the multimodality imaging tools to address the evolving needs of the interventional radiologist/interventional oncologist going forward.”

TwinBeam* Dual Energy – The new benchmark in single source Dual Energy, acquiring body imaging at two different energy levels in a single scan.

Whole-organ perfusion CT – Visualize core infarct and penumbra with syngo.CT Neuro Perfusion.

Pre-/post-TACE – Assess tumor response with syngo.CT Body Perfusion before ... and after trans arterial chemo embolization.

* This feature is 510(k) pending. FAST DE Results for TwinBeam Data is Under FDA review. Not available for sale in the U.S.
Healthcare systems worldwide are facing cost pressures and declining reimbursement rates. This drives the need for higher throughput and optimal reimbursement while keeping operational costs down. MIYABI Angio-CT is designed with these issues in mind.

**Higher throughput and better case mix**

Thanks to its excellent targeting capabilities, MIYABI Angio-CT makes routine cases easier and delivers higher throughput. By making complex cases possible (e.g. TACE followed by RFA), it also contributes to an optimized case mix with the potential for better reimbursement.

**Low training and space requirements**

Further benefits of MIYABI Angio-CT are its low training and space requirements. Training costs can be kept to a minimum because interventionalists already know how to operate a CT and how to handle an angio system. In terms of room size, the smallest configuration of a MIYABI Angio-CT suite requires as little as 5 m x 7.5 m (16 ft x 24 ft). MIYABI Angio-CT thus makes more efficient use of hospital square footage. It can, for example, replace existing angio suites without needing to increase room size.

**Avoid complications and liability**

Given the shift from “fee-for-service” to “pay-for-performance”, it becomes crucial to decrease the risk of complications and liability – not only for adequate patient care, but also for the sake of economical considerations. Key factors here are MIYABI Angio-CT’s excellent targeting capabilities and a design that emphasizes hygiene. On the one hand, its targeting abilities help avoid undesirable non-target treatment. On the other hand, its water-cooled system and spill-resistant stainless steel rail covers help you meet high hygiene standards – and minimize the possibility of hospital-acquired infections. This is good for your patients and your reputation.

*It’s all about value – and that’s what MIYABI Angio-CT delivers.*
Anticipate higher patient throughput

MIYABI Angio-CT fits into a room as small as 37.5 m²

“Because our complication rates are so low, we don’t express them as a percentage. Of 600 cases, we have 1 to 2, maybe 3, complications per month.”

Todd Kranpitz
Executive Director of Radiology,
Methodist Medical Center, Des Moines, Iowa, USA

Watch the complete interview:
siemens.com/youtube-low-complications-kranpitz

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Single- & dual-room setups

MIYABI Angio-CT can be configured for single-room or dual-room use. In the dual-room setup, one CT system on rails serves two rooms that are separated by a lead-shielded door. Alternatively, a setup is possible where the CT is parked in a “garage” between two such doors, maintaining sterility in surgical rooms.

Watch fly-through animations:
siemens.com/miyabi

Get started with this affordable all-rounder –
a single-room solution with Artis zee, SOMATOM Emotion 16 slice, and Artis table

Evaluate response and personalize treatment with functional imaging –
dual-room Artis zee, Artis table with SOMATOM Definition Edge and CT table

Read the QR code with the QR code reader on your mobile phone!
Covering a broad spectrum of routine and complex interventions with the Artis zee, Artis table, and SOMATOM Definition AS 20 Open in a single room.

Get surgical with the Artis zeego and SOMATOM Definition Edge and Maquet Magnus surgical tables in a dual-room configuration and CT garage.

Save time in stoke care – perform diagnosis and intervention in one room with the Artis Q biplane, SOMATOM Definition Edge, and an Artis table.
We help you find the ideal solution. MIYABI Angio-CT hybrid suites offer flexible options that are tailored to your institution and your specific needs. Choose from a broad portfolio of angiography systems, sliding gantry CT scanners, and tables.

Please contact our sales representatives for a customized solution that fits your needs.

- SOMATOM Emotion 16
- Angio tables
- Artis zee**

- SOMATOM Definition AS/AS+*
- CT tables
- Artis Q & Q.zen**

- SOMATOM Definition Edge
- 3rd party surgical tables
- Maquet Magnus, TRUMPF TruSystem 7500

- ** Possible with floor-mounted, ceiling-mounted, and biplane systems.

* AS: 20(Open)/40/64(Open)-slice config., AS+: 128 slice config.
Frequently asked questions

What can MIYABI Angio-CT add to angiography?

Angiography is very useful in many cases, but procedures can be even more successful with MIYABI Angio-CT. Adding a CT into the angio suite delivers an extra margin of safety and confidence. CT can play its strengths in soft-tissue contrast, fast 3D reconstruction, speed of needle guidance, not to mention breathing artifact reduction.

In needle-catheter-based interventions in particular, being able to switch between angiography and CT is very helpful. Quantitative functional imaging aspects, such as Dual Energy imaging, 4D CT angiography, and perfusion CT, permit immediate intraoperative assessment of treatment response – which would not (or only partially) be possible with an angiography system alone. In acute care, the fact that CT diagnosis and angiography-guided intervention are performed in the same room on the same table saves essential time, for example in stroke cases or traumatic injuries.

Is a MIYABI Angio-CT combination in my OR expensive?

For institutions planning to purchase an angiography system and CT scanners separately, the additional cost is minimal – especially considering that expensive hospital square footage is saved if angiography and CT are combined in one room. While a large capital expense is required to purchase these systems, they provide real value. As routine cases can be performed with more ease and complex cases become possible, a better case mix and reimbursement can be anticipated. At the same time, MIYABI Angio-CT has the potential to minimize complication rates.

Is a MIYABI Angio-CT combination complicated to use?

MIYABI Angio-CT is actually quite easy to use. Most users will probably be already familiar with its two separate modalities, so MIYABI Angio-CT requires very little training. Users will quickly become familiar with the system and be able to work efficiently and effectively with it in no time.

How much space do I need?

You don’t need much space. In many cases, old angiography labs can be used to install new MIYABI Angio-CT suites without the need for additional space. The smallest MIYABI Angio-CT combination fits into a room as little as 5 m x 7.5 m (16 ft x 24 ft).
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The statements by Siemens' customers described herein are based on results that were achieved in the customer’s unique setting. Since there is no “typical” hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption), there can be no guarantee that other customers will achieve the same results.

MIYABI Angio-CT is a customized solution and not commercially available in all countries. Due to regulatory reasons, future availability cannot be guaranteed. Please contact your local Siemens organization for further details.

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