

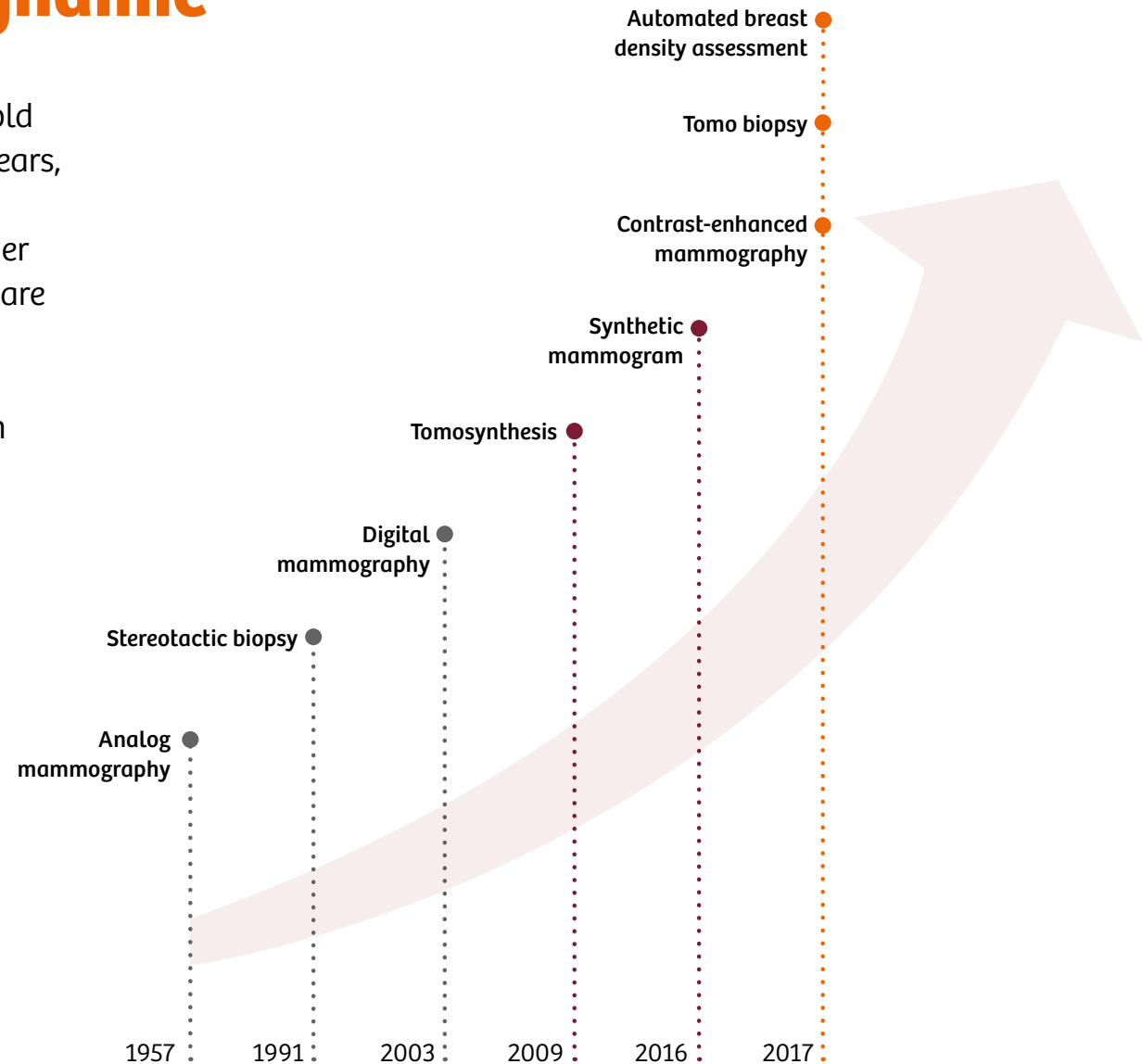
**See the difference.
Make the difference.**
MAMMOMAT Revelation



The breast care market has become highly dynamic

In breast screening, 2D mammography is the gold standard – but for how much longer? In recent years, many technologies have proven their potential: worldwide, digital breast tomosynthesis and other technologies are advancing. In addition, women are more informed and sensitive about dose.

Committed to supporting clinicians and women around the globe in their fight against breast cancer, we keep driving new technologies that make sense – to support fast, reliable decisions and also to make examinations comfortable for women.



Make the difference – today and tomorrow

There are moments in a woman's life that have the power to change its future course. In mammography, seeing the difference can make the difference to this future. Your patients put their trust in you – reveal all that matters with the new MAMMOMAT Revelation.

Reach the highest depth resolution on the market¹⁾ with the unique 50° HD Breast Tomosynthesis – for screening, diagnostic imaging, and 3D HD Breast Biopsy. And expand your diagnostic insights with titanium-filter contrast-enhanced imaging.

Leverage precision patient care with Insight BD direct breast density measurement allowing instant risk stratification – before the patient leaves.

Discomfort or pain are key reasons for avoiding potentially life-saving mammography exams. MAMMOMAT Revelation is designed to reduce discomfort with Personalized Soft Compression including SoftComp Paddles. And with PRIME you can perform your exam with up to 30% less dose.²⁾

Siemens Healthineers is your strong partner and the undisputed leader in imaging with 60 years of experience in breast care. Based on this expertise, MAMMOMAT Revelation is built to enhance diagnostic quality, process efficiency, and your patient's experience.

See the difference with MAMMOMAT Revelation – and make a difference in your patients' lives.

1) Maldera et al. (2016): Digital breast tomosynthesis: Dose and image quality assessment. *Physica Medica*, pp. 1-12.; Marshall N.W. and Bosmans H. (2012): Measurements of system sharpness for two digital breast tomosynthesis systems. *Phys. Med. Biol.* 57, pp. 7629-7650.; Rodríguez-Ruiz A. et al. (2016): Evaluation of the technical performance of three different commercial digital breast tomosynthesis systems in the clinical environment. *Physica Medica* 32, pp. 767-777.

2) Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness – L.B. Larsen, A. Fieselmann, H. Pfaff, T. Mertelmeier: Performance of grid-less digital mammography acquisition technique for breast screening: analysis of 22,117 examinations Presentation B-1025 ECR 2015



Discover MAMMOMAT Revelation

At a glance	4	Clinical gallery	12
Advance screening and diagnostic results	6	Additional products and services ..	13
Elevate patient experience	8	Technical specifications	14
Innovate care delivery	10		

MAMMOMAT Revelation at a glance

Improve diagnostic accuracy

Overcome diagnostic challenges with the highest depth resolution available based on our 50° wide-angle technology. The outstanding image quality is the foundation for fast and reliable diagnostic decisions.

Enhance daily performance

Accelerate your examinations by reducing unnecessary steps, giving you more time – with a convenient one-click philosophy. So your staff can fully concentrate on what really matters: your patients.

Make a safe investment

In breast imaging, legal guidelines can change quickly: for example, regarding the use of tomosynthesis for screening. Get all the technological developments you need to meet the challenges of today and tomorrow – including digital breast tomosynthesis, tomo biopsy, and contrast-enhanced mammography.





Elevate
patient
experience

Many women are worried that getting a mammogram will be painful. That's why it's our primary objective to make mammography screenings more comfortable. For example, by slowing down the compression speed and offering a patient-friendly design.

Experience
synergies
in reading and
reporting

Benefit from fast reading in screening and diagnostics to create accurate, high-quality reports. Our *syngo.Breast Care*¹⁾ supports you in every step of your workflow and seamlessly adapts to existing and growing IT landscapes.

Optimize system
availability

We are committed to being your trusted partner over the entire lifecycle of your system and beyond. Our service packages are designed to keep uptime high at predictable costs, lower risk, and greater efficiency.

1) *syngo.Breast Care* is not commercially available in all countries. Due to regulatory reasons its future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

Advance screening and diagnostic results – with high diagnostic accuracy

As radiologist, you're under pressure to reliably identify what you see in just seconds – while avoiding missing a lesion, overdiagnosing or making unnecessary recalls. To support you in efficiently making confident decisions, MAMMOMAT Revelation offers the highest depth resolution¹⁾ available combined with the latest technological trends.



Make the invisible visible

Overcome diagnostic challenges like overlapping tissue with the highest depth resolution on the market. With our 50° wide-angle technology, MAMMOMAT Revelation makes anatomical details clearly visible – with up to 3.5 times higher depth resolution compared with a narrow-angled system¹⁾ – in HD Breast Tomosynthesis²⁾ and HD Breast Biopsy.²⁾

Standardize image quality

Variations in image quality can make reading more difficult and time-consuming. MAMMOMAT Revelation helps you achieve standardized, high image quality for each individual patient. It offers intelligent algorithms for automated and personalized parameter settings as well as unique system-guided compression.

Get more than just another view

Get unique synthetic visualization with Insight 2D and 3D²⁾. Because it looks similar to a mammogram, Insight 2D is ideal for easy comparison with prior images.³⁾ However, since it is created from the same dataset as the tomosynthesis slices, you reduce dose by 40%.⁴⁾ The same data can also be uniquely displayed in 3D to speed up tomosynthesis reading. Used as an adjunct

to tomosynthesis, Insight 3D provides superior diagnostic accuracy compared with a mammogram. And it supports easier analysis of microcalcifications at a glance.⁴⁾

Rely on precise density assessment

Visual classification of breast density according to BI-RADS standards can be challenging. In fact, more than 70% of radiologists⁵⁾ state that they are not always confident about their categorization in each and every exam. Insight Breast Density (Insight BD) offers you 100% objective classification⁶⁾ for instant risk stratification right at the acquisition workstation.

1) Maldera et al. (2016): Digital breast tomosynthesis: Dose and image quality assessment. *Physica Medica*, pp. 1-12.; Marshall N.W. and Bosmans H. (2012): Measurements of system sharpness for two digital breast tomosynthesis systems. *Phys. Med. Biol.* 57, pp. 7629-7650.; Rodriguez-Ruiz A. et al. (2016): Evaluation of the technical performance of three different commercial digital breast tomosynthesis systems in the clinical environment. *Physica Medica* 32, pp. 767-777.

2) Option

3) Up until now and independent of the manufacturer, the use of a synthetic mammogram is only approved in combination with 3D to substitute the digital mammogram in a tomosynthesis screening examination. It is not approved to replace a digital mammogram as a 2D standalone.

4) Uchiyama N. et al. (2016): Diagnostic Usefulness of Synthetic MMG (SMMG) with DBT (Digital Breast Tomosynthesis) for Clinical Setting in Breast Cancer Screening. Springer International Publishing Switzerland. IWDM 2016, LNCS 9699, pp. 59-67.

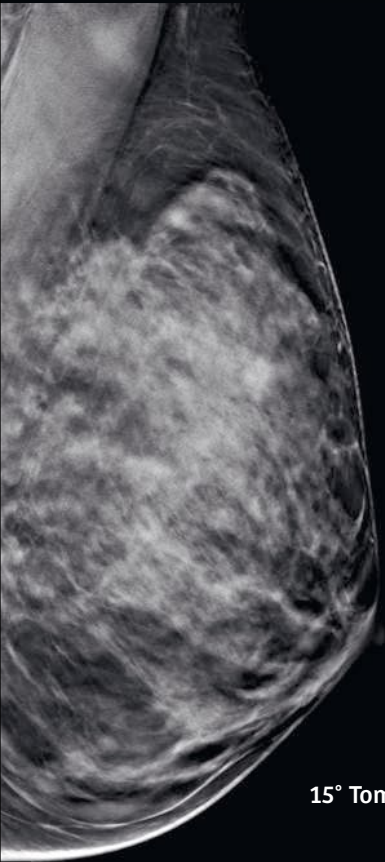
5) Data on file

6) Dr. Andreas Fieselmann, Performance Evaluation of Siemens Volumetric Breast Density Analysis Application (internal test protocol)

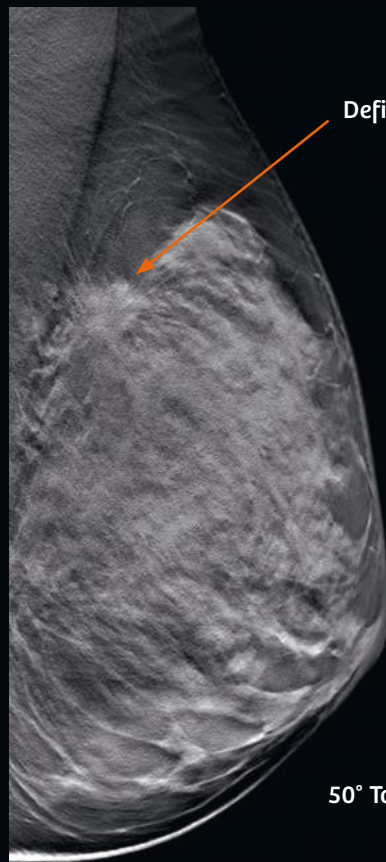


Dr. Wayne Lemish
Melbourne, Australia

“ The mammogram with the tomosynthesis taken on the narrow-angled system showed no obvious mass to correlate with the clinical findings. This was somewhat surprising. We expected to see some abnormality. So we repeated the tomosynthesis study on the wide-angled system. Now we could clearly see a spiculated mass posteriorly in the upper inner quarter of the left breast. ”



15° Tomosynthesis



50° Tomosynthesis

Definitive finding

Clinical case: Large palpable mass posterior in the upper quarter of the left breast in a 55-year-old woman. A biopsy later confirmed the mass to be invasive ductal carcinoma grade 2.

Elevate patient experience – with smart automation

Extremely high throughput and nervous patients are a big challenge, especially in screening. With relaxed patients, it's much easier to achieve high image quality with no motion artifacts. MAMMOMAT Revelation offers smart automation and a relaxing atmosphere – and allows you to fully focus on your patients.

Personalize compression for optimal results

Compression of the breast is typically user-dependent: Which can result in poor image quality and unnecessary patient discomfort. With our unique OpComp function, the optimal compression for each patient is adjusted automatically: When the paddle reaches the breast, speed is reduced. This gives staff time for proper positioning. As soon as the optimal compression for the best image quality is reached, the paddle stops – increasing patient comfort.

Enhance patient comfort

A proper paddle design is crucial for correct positioning and a positive patient experience. Featuring soft edges and a breast-optimized shape, SoftComp Paddles provide better access for easier positioning and support you in achieving both excellent images and high comfort.

Reduce unnecessary steps

MAMMOMAT Revelation allows you to focus on your patients instead of the system – thanks to our one-click philosophy. With just one click, you will select the patient and start the examination. All parameters are automatically set, and the procedure moves from step to step – with no additional clicks. Easily move the system with the Single-Touch button to the next predefined examination position.

Personalized
Soft
Compression



Astrid Reichelt, MTA
MVZ Prof. Dr. Uhlenbrock &
Partners, Dortmund,
Germany

“The rounded edges of the SoftComp Paddle significantly reduce the pressure on the area below the clavicle, which makes MLO imaging in particular much more comfortable for the patient. I also have better access to the breast, which is really helpful when it comes to positioning the patient. Especially for breasts with a very small volume, I can withdraw my hand more easily.”

Create a relaxing atmosphere

Mammography is often associated with pain and negative experiences, resulting in nervous patients. Our Personalized Soft Compression solution combined with the calming MoodLight¹⁾ support you in reducing discomfort and creating a better patient experience.

1) Option



Innovate care delivery – designed for excellence today and tomorrow

Patients expect individual, state-of-the-art treatment. With smart integrated features, MAMMOMAT Revelation supports you in offering personalized care. When you have the technologies of today and tomorrow, you remain at the forefront of clinical developments. And due to its modular design, the system can be adapted any time to meet your clinical needs – making it a safe investment.



Offer your patients certainty

Delivering excellent imaging for diagnostic accuracy, MAMMOMAT Revelation helps you provide greater peace of mind to both patients and referrers. In fact, 50° wide-angle tomosynthesis has been shown to provide an increased detection rate of invasive cancer of 41.5% in one of the largest studies worldwide conducted with more than 15,000 patients in screening – and with just a 1-view tomo scan.¹⁾

Attract more women for screening

Many women are afraid of mammography because of possible pain during compression and dose application. Drive away their concerns with our unique Personalized Soft Compression. Ease pain by reducing compression force by 50% with wide-angle tomosynthesis.¹⁾ Reassure patients that they're receiving optimal care by providing low-dose examinations with up to 30% less dose²⁾ in 2D, thanks to our unique PRIME Technology.

Streamline your clinical workflow

Biopsies are not just time-consuming, they can also be painful for the patient. Streamline your biopsy workflow with the one-click targeting of our HD Breast Biopsy. Using our integrated specimen scanner InSpect,³⁾

you can decompress the patient sooner: It delivers the specimen scan within 20 seconds, without the technologist having to leave the room. This eliminates the need for an additional, dedicated specimen scanner, making MAMMOMAT Revelation a safe investment.

Stay at the forefront of clinical developments

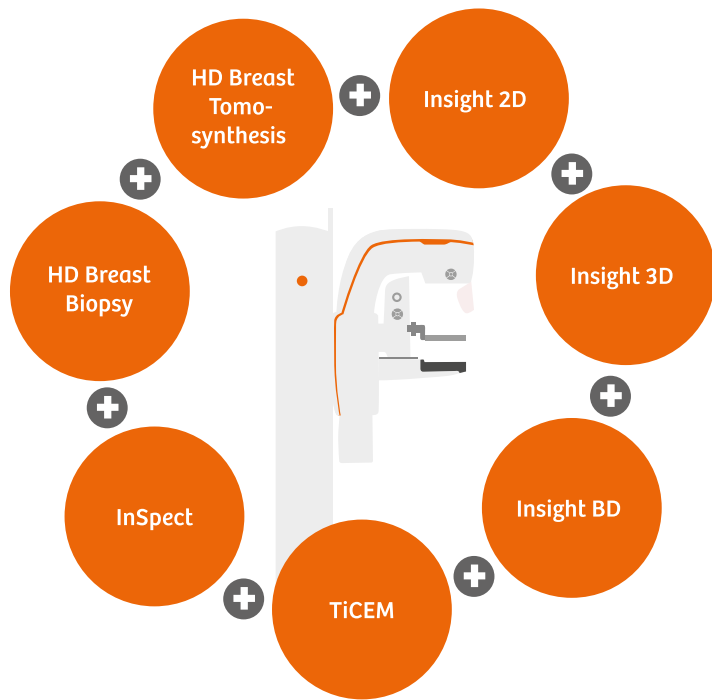
Some difficult cases require additional diagnostic information for confident decision-making. One possible adjunct examination is MRI. However, it is time-consuming, cost-intensive, and not always available. MAMMOMAT Revelation offers the option to integrate Titanium Contrast Enhanced Mammography (TiCEM)³⁾ as a cost-effective diagnostic alternative – reducing scheduling conflicts and the workload on other modalities.

1) Lång K. et al. (2016): Performance of one-view breast tomosynthesis as a stand-alone breast cancer screening modality: results from the Malmö Breast Tomosynthesis Screening Trial, a population-based study. *Eur Radiol* 26, pp. 184-190.

2) Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness – L.B. Larsen, A. Fieselmann, H. Pfaff, T. Mertelmeier: Performance of grid-less digital mammography acquisition technique for breast screening: analysis of 22,117 examinations Presentation B-1025 ECR 2015

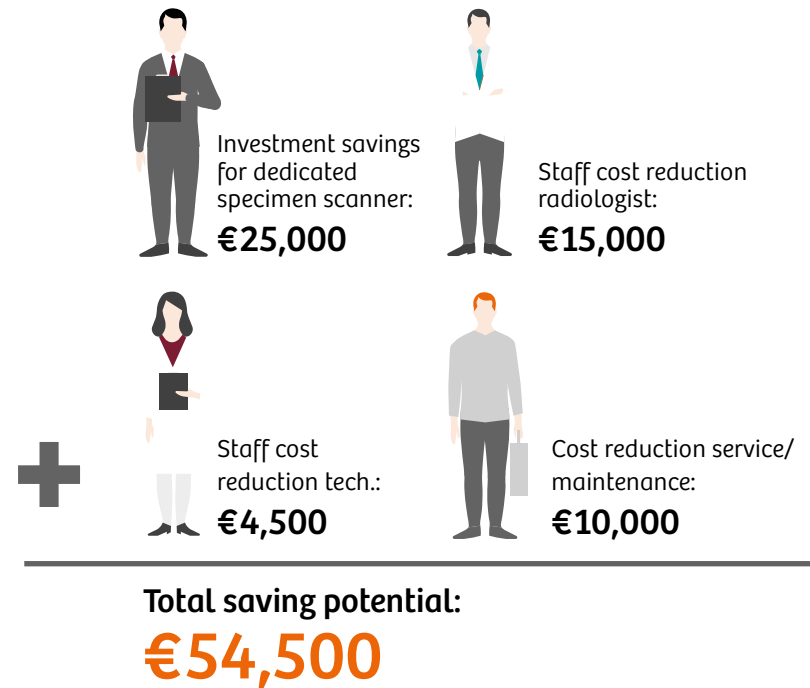
3) Option

Save time and costs with the integrated specimen scanner InSpect.
 Saving potential over 5 years:



Flexible investment to match your needs

Thanks to its modular system design, MAMMOMAT Revelation grows with your requirements. You can opt for a lower initial investment and easily make upgrades when your needs change or the institution expands. And having the latest technologies integrated in one device enhances investment security.



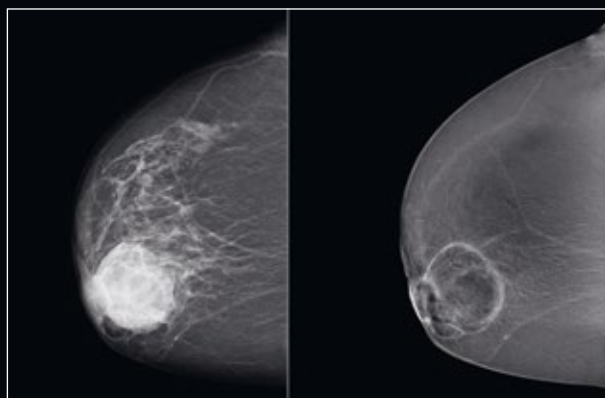
Numbers are based on the following assumptions:

- Time frame: five years
- Investment in dedicated specimen scanner: €25,000
- Service costs/year for specimen scanner: 10% (free first-year warranty included)
- Biopsies/month: 20
- Time savings with InSpect/biopsy: 10 minutes
- Labor cost/year radiologist: €150,000
- Labor cost/year radiographer: €45,000
- Work days per year: 250

IN NO EVENT DOES SIEMENS HEALTHINEERS MAKE (I) ANY EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO ANY USE OF THIS DEVICE (II) ANY GUARANTEES REGARDING ACTUAL RESULTS (E.G., PROFITS, CASH FLOW, OR RETURN ON INVESTMENT), WHICH WILL VARY BASED ON NUMEROUS FACTORS OUTSIDE THE CONTROL OF SIEMENS HEALTHINEERS.

Expand your diagnostic insights

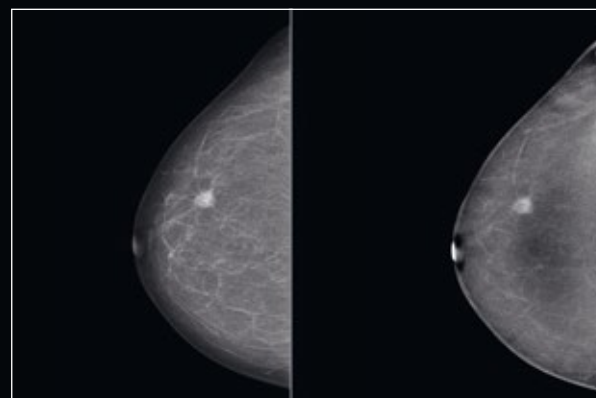
To make fast and confident diagnostic decisions, you need high image quality. Whether Titanium Contrast Enhanced Mammography (TiCEM), Insight 2D or Insight 3D: with MAMMOMAT Revelation you can see more diagnostic information that can be relevant to make a reliable diagnosis your patients can trust.



FFDM

Insight CEM

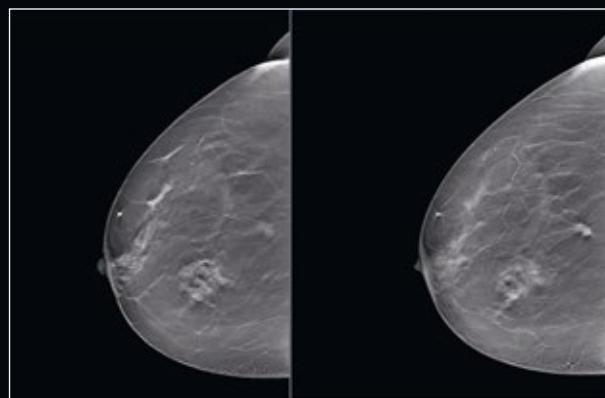
TiCEM – benign: big round indistinct lesion, suspicious for abscess



FFDM

Insight CEM

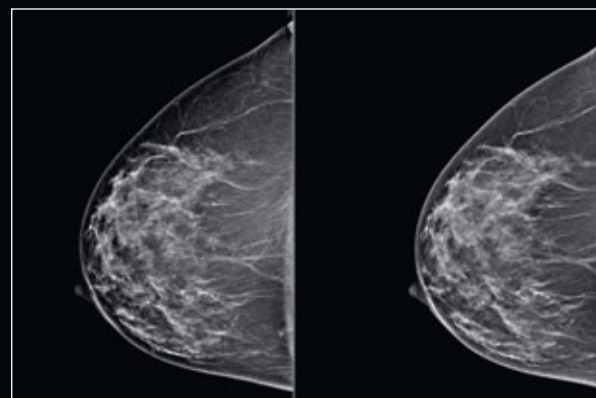
TiCEM – malignant: BIRADS 5b, ductal-invasive carcinoma



Tomo slice 24

Tomo slice 15

Tomosynthesis: BIRADS 5, ACR2, radial lesion, highly suspicious for malignancy



Insight 3D (rotating)

Insight 2D

Synthetic view

See the difference and get the real 3D feeling with Insight 3D. Visit the MAMMOMAT Revelation website: siemens.com/mammomat-revelation

Additional products and services

To help you tap the full potential of your systems, IT, and staff, we offer you a broad range of matching products and services.



syngo.Breast Care

Combine MAMMOMAT Revelation with our intelligent imaging software for multimodality reading. When you are managing high data volumes from different sources every day, process efficiency and intuitive usage is key. Boost your reading performance with advanced tools and impressively intuitive utilization. So you can view, interpret, and share images anywhere throughout your clinical enterprise for fast and comprehensive results.¹⁾ The highly flexible modules adapt to any existing IT landscape and grow with your clinical needs, by simply adding powerful new applications.

1) Prerequisites include: Internet connection to clinical network, DICOM compliance, meeting of minimum hardware requirements, and adherence to local data security regulations.

2) Subject to country-specific availability

Service and maintenance

Protect your investment over its entire lifecycle and enjoy optimized system availability, consistent image quality, and transparent total cost of ownership. For MAMMOMAT Revelation, we offer you a dedicated service package including:

- Preventive maintenance to increase system uptime
- Remote diagnosis and repair to help keep service costs down
- Corrective maintenance and comprehensive parts coverage, including tube and detector

LifeNet

LifeNet²⁾ is our web-based portal that lets you manage the performance and maintenance of all your Siemens Healthineers systems 24/7. Whether you want to plan maintenance activities, monitor the status of your systems and service requests, or document service history, LifeNet gives you full control and confidence at all times. Ease your workday and stay calm, no matter what's happening around you.

PEPconnect – your smarter connection to knowledge

Staffing shortages, cost constraints, greater workloads – and all the while, you have to deliver an ever higher quality of care. One key to overcome these challenges is further education. With our online e-learning experience PEPconnect²⁾, you can boost your learning – anytime, anywhere, and from any device.



Technical specifications

Discover how you can see the difference and make the difference with MAMMOMAT Revelation.

HD Breast Tomosynthesis

Make confident diagnostic decisions using our unique 50° wide-angle tomosynthesis. It provides the highest depth resolution on the market¹ – which is key for tissue separation in 3D mammography.

Insight 2D and 3D

Reduce dose by up to 40% when using Insight 2D instead of FFDM as an adjunct to tomosynthesis.² Because it looks similar to a mammogram, it is ideal for easy comparison with prior images. Our unique Insight 3D provides you with the real 3D feeling: see microcalcifications at a glance and easily communicate findings to peers and patients.²

HD Breast Biopsy

Profit from our unique 50° wide-angle technology that results in a target accuracy of +/- 1mm and reduce your biopsy procedure time thanks to easy one-click targeting. And stay flexible: because you can use the biopsy device you prefer.

InSpect – Integrated Specimen Tool

Save time and costs: get your specimen scan within just 20 seconds right on the mammography system.

Insight BD – Breast Density assessment

Benefit from instant risk stratification right at the acquisition workstation with 100% objective, volumetric breast density assessment – for FFDM and tomosynthesis.

TiCEM – Titanium Contrast Enhanced Mammography

Receive additional diagnostic information in order to confidently detect or rule out lesions. TiCEM can be used as a cost-effective diagnostic alternative to MRI, while it reduces scheduling conflicts and workload on other modalities. The optimized titanium filter reduces X-ray tube load for seamless examinations.

Personalized Soft Compression

Reduce patient discomfort and achieve consistent image quality with Personalized Soft Compression: the optimal compression is automatically adjusted for each woman. The soft edges and breast-optimized shape of the SoftComp Paddles provide better access for easier positioning and higher patient comfort.

PRIME Technology

Reduce dose by up to 30%³ without compromising image quality using the world's first software-based anti-scatter solution for mammography. Sliding back the mechanical grid means there is no longer a fixed object absorbing radiation between breast and detector, so you can utilize 100% of the primary radiation – and achieve lower overall dose levels.

System specifications

Detector technology	Amorphous selenium (aSe)
Detector size	24 cm x 30 cm (9.5" x 12")
X-ray tube anode material	Tungsten
Filter	Anode filter combinations: W/Rh, W/Ti
Swivel range	+180° to -180°, motorized, isocentric rotation with preselectable rotation angle
Swivel range of tomosynthesis mode	-25° to +25° with 25 projections
Weight of biopsy unit	< 5 kg
X-ray release options	Control desk, hand switch, and footswitch options



1) Maldera et al. (2016): Digital breast tomosynthesis: Dose and image quality assessment. *Physica Medica*, pp. 1-12.; Marshall N.W. and Bosmans H. (2012): Measurements of system sharpness for two digital breast tomosynthesis systems. *Phys. Med. Biol.* 57, pp. 7629-7650.; Rodríguez-Ruiz A. et al. (2016): Evaluation of the technical performance of three different commercial digital breast tomosynthesis systems in the clinical environment. *Physica Medica* 32, pp. 767-777.

2) Uchiyama N. et al. (2016): Diagnostic Usefulness of Synthetic MMG (SMMG) with DBT (Digital Breast tomosynthesis) for Clinical – Setting in Breast Cancer Screening. Springer International Publishing Switzerland. IWD 2016, LNCS 9699, pp. 59–67.
3) Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness – L.B. Larsen, A. Fieselmann, H. Pfaff, T. Mertelmeier: Performance of grid-less digital mammography acquisition technique for breast screening: analysis of 22,117 examinations Presentation B-1025 ECR 2015

Why Siemens Healthineers?

At Siemens Healthineers, we enable healthcare providers to achieve better outcomes at lower cost by expanding precision medicine, transforming care delivery, improving patient experience, and digitalizing healthcare.

Healthcare providers around the world have long relied upon our engineering excellence – leading-edge, high-quality medical technologies across a broad portfolio. Our technologies touch an estimated 5 million patients globally every day.* At the same time, they help hospital departments to continuously improve their clinical, operational, and financial outcomes.

We now consolidate this unprecedented volume of data and insights and turn them into pioneering enterprise and digital health services. With those, we maximize opportunities and share risks of your entire health system.

Partnerships are built on people. With Siemens Healthineers there is no team more committed and more connected than we are to realize your success together.

* Siemens AG, "Sustainable healthcare strategy – Indicators in fiscal 2014", page 3 4



MAMMOMAT Revelation is not commercially available in all countries. Due to regulatory reasons its future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

On account of certain regional limitations of sales rights and service availability, we cannot guarantee that all products/services/features included in this brochure are available through the Siemens Healthineers sales organization worldwide. Availability and packaging may vary by country and are subject to change without prior notice.

The information in this document contains general descriptions of the technical options available and may not always apply in individual cases.

Siemens Healthineers reserves the right to modify the design and specifications contained herein without prior notice. Please contact your local Siemens Healthineers sales representative for the most current information.

In the interest of complying with legal requirements concerning the environmental compatibility of our products (protection of natural resources and waste conservation), we may recycle certain components where legally permissible. For recycled components we use the same extensive quality assurance measures as for factory-new components.

Any technical data contained in this document may vary within defined tolerances. Original images always lose a certain amount of detail when reproduced.

The statements by Siemens Healthineers' 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.

.....
Siemens Healthineers Headquarters

Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen, Germany
Phone: +49 9131 84-0
siemens.com/healthineers