AN EXCEPTIONAL TOOL FOR IMPROVED RADIOGRAPHY WORKFLOW AND EFFICIENCY, MADE FOR AND WITH THE TECHNOLOGIST IN MIND

• Designed for intuitive use
• Convenient workflow at point-of-care
• Facilitates hospital integration

NX is the technologist’s image identification and quality control tool.

NX has an intuitive interface that offers complete ease of use at the point-of-care.

Extensive range of benefits

NX offers a broad array of benefits developed with the technologist in mind. With the touch screen, the technologist can complete all standard tasks quickly and effortlessly. Thanks to the intuitive interface, easy access to the system is assured, providing more flexibility and efficiency in the radiology department. Agfa HealthCare’s image processing allows the technologist to spend much less time adjusting, for faster image delivery to the radiologist. The in-room integration means a more convenient workflow for the technologist throughout the imaging process. Offering improved interoperability with other systems within the hospital, NX delivers a higher level of integration.
Designed for intuitive use

*Increased flexibility thanks to minimal learning curve*

The screen windows have been purposely designed to answer the needs of the technologist: identifying patients, performing examinations, controlling image quality and transmitting the verified images. The touch screen makes the Worklist and Examination windows easy to use and quick to complete tasks.

With the intuitive GUI, only minimal training is needed to work effectively on NX: increasing the overall flexibility of the staff.

*The most frequent tasks are the easiest to do*

NX's Worklist and Examination windows cover the technologist's daily tasks. In the **Worklist** window, the technologist can enter patient data or select it from an RIS-based worklist (optional), while in the **Examination** window, he or she can identify a cassette, define the examinations to perform and take the necessary steps to prepare an image for diagnosis. The Examination window's Fast Preview allows correct positioning and exposure to be determined even while the final image is in the process of being completed.

*The hybrid touch screen/mouse provides greater efficiency*

When precision work is needed, the mouse provides access to a broad array of special tools through the **Editing** window, such as zoom, manual collimation, window leveling, burn and edited image saved as New.

The Editing window is optimized for hardcopy and softcopy viewing environments, with additional print tools available when images are displayed in the WYSIWYG print preview.

![The Editing window is optimized for soft- and hardcopy viewing environments.](image)

**Image processing**

*MUSICA™ provides excellent image quality*

NX includes Agfa HealthCare's technologically-advanced image processing as part of the standard package. The Multi-scale Image Contrast Amplification algorithm, MUSICA, composes the digital image in a number of different frequency ranges (or detail sizes) and modulates the signal amplitudes (or contrast) within each of these ranges. This single-dimension image processing delivers perceptibility and enhanced detail.

The optional, next-generation MUSICA² takes image processing even further, with two-dimensional image processing, for both frequency and density (or grey levels). Both the technologist and the radiologist benefit from an improved workflow and higher productivity, while patients and healthcare facilities also gain from the substantial advantages (see 'Optional features').
Convenient workflow at point-of-care

**More efficient workflow reduces examination time**

With NX, there is no longer a need for the technologist to leave the patient to perform any ID or image quality control activities. Plus, when NX is completely integrated with the X-ray system, there is no need to enter data into the X-ray console.

**More comfort and less waiting increases patient satisfaction**

The improved patient proximity allows greater efficiency and workflow for the technologist, with more comfort and a shorter waiting time for the patient.

An Agfa HealthCare digitizer placed in the same room as NX to achieve a perfect workflow at the point-of-care.

An essential part of hospital integration

**Connectivity between hospital systems and networks means better patient care**

NX plays a significant role in the hospital's goal of providing patient comfort and care and improving communications throughout the facility via a total integration of systems. It supports the latest evolutions of hospital integration philosophy for improved interoperability.

NX is DICOM compliant and in accordance with IHE guidelines:

- DICOM images can be easily transmitted to a display station or imager for diagnosis. When sending to a PACS system, NX receives the message that images have been securely stored. Export of DICOM images to a CD-ROM for creating referral handouts is also included.

- An administrative tool is available to configure access rights for different users. With its password protection, NX provides security for patient information.
Optional Features for NX

**NX COVERS THE TECHNOLOGIST’S DAILY NEEDS. WHEN A FACILITY HAS SPECIALIZED REQUIREMENTS, MULTIPLE AVAILABLE OPTIONS PROVIDE THE SPECIFIC TOOLS THE TECHNOLOGIST NEEDS.**

**IMAGING OPTIONS**

NX Precision Tools

*NX Precision Tools allows the technologist to fine-tune the image and deliver more specific information to the radiologist.*

- Annotations can be added to an image, such as: markers, predefined text, drawing lines or geometrical shapes, applying shutters to mask areas of the image, etc.

- NX Precision Tools measures distances and angles and determines leg length differences and scoliosis.

- Manual adjustment of the MUSICA image processing parameters allows fine-tuning for specific purposes.

*NX Precision Tools indicates scoliosis and other measurements.*
**NX Optiview**

**NX Optiview features minimize artifacts and optimize viewing quality for improved reading by the radiologist.**

- The area outside the diagnostic area is automatically made black or grey, even when multiple exposures are made on one plate.
- Detected repetitive patterns, caused by anti-scatter grids, are removed.
- A square marker is automatically placed in the top left corner of all images. As the image is rotated and/or flipped, the marker also moves, indicating a manual change.

**With NX Optiview’s top-left corner marker, image rotation or flipping is apparent.**

**NX Quality Assurance**

**NX Quality Assurance helps the hospital maintain consistent image quality and minimize patient doses by monitoring dose variation on every exposure and analyzing rejected images.**

- With the dose indicator, the technologist easily sees how much the exposure dose deviates from the reference value for the examination. The indicator compares the median absorbed dose (LgM) in each digitized image with a stored reference dose value for that type of exam, to monitor the dose consistency.
- NX Quality Assurance can also use the exposure index for digital X-ray imaging systems defined in the draft standard IEC 62494-1.
- A formatted summary report of the essential repeat statistics is provided as a basis for the department’s quality monitoring.
- A report with details on rejected images (e.g. rejection reason, technologist’s name and date) can be created for further analysis.
MUSICA² Next Generation Image Processing

*MUSICA² provides two-dimensional image processing for digital X-ray images, offering higher image quality, autonomy and robustness, while enhancing the productivity of radiologists and technologists.*

- Two-dimensional (frequency and density) processing means bone and soft tissue are available in one image, but analyzed separately, eliminating the need to compromise on either contrast or density. The greater detail and improved image quality allow the radiologist to extract fast and secure diagnostic information, while decreasing time to view the image.

- The intelligent processing software automatically analyzes the characteristics of each image and optimizes the processing parameters, independent of user input (e.g. body part) and dose deviations, saving time and effort and increasing usability.

- The augmented robustness of the image quality reduces the need for window leveling and post processing for both radiologist and technologist.

*MUSICA² Platinum processing is available for hospitals with specialty areas that need increased emphasis on soft tissue or bone structure depending on body parts such as the chest, abdomen and musculoskeletal, and/or on patient groups such as paediatrics.*

*MUSICA² Neonatal Processing is optimized for the generally difficult conditions of examining premature and full term newborn babies.*

Even with the low doses appropriate for neonatal exams, or when using portable X-ray units, this processing provides optimal visualization of both lung and abdominal areas in a single image, while keeping the required focus on bone structures.
NX RIS Connectivity

By decreasing typographical errors and allowing easy access to patient data, NX RIS Connectivity provides more consistent patient data and reduces identification time, resulting in improved technologist workflow.

- NX connects with existing information systems, such as Hospital Information Systems (HIS) and Radiology Information Systems (RIS).
- Direct access is available to patient data stored in the RIS, such as patient demographics, exam types and exposures. RIS Protocol codes can also be supported.

NX Integrated Workflow

NX Integrated Workflow maximizes the potential of RIS/PACS integration for dealing with emergencies, sending feedback on examinations status and of patient history consultations.

- In emergency situations, the priority of emergency exams is increased. A customized emergency name can be automatically generated for the patient, whose name might not be known at the time of arrival, to speed up administrative procedures. A trauma protocol can be configured and activated.
- The MPPS (Modality Performed Procedure Step) sends the examination status – scheduled, in-process or completed – to the RIS. With this feedback, the RIS system can start certain status-related activities, such as changing the worklist, billing, etc.
- Consulting a patient’s radiographic history is quick and easy. By checking the details on prior images, follow-up images can be exposed in the right position, for better comparison.
SPECIAL EXAM OPTIONS

Dedicated NX for Mammography (*)

The dedicated NX for mammography is optimized for the specific mammography screening or diagnostic imaging workflow of the technologist.

- The MUSICA image processing for Mammography ensures consistent and optimal image quality.
- Soft tissue and skin boundary, masses and microcalcifications are appropriately rendered.
- NX Mammography includes a robust window/level algorithm and enables CNR (Contrast to Noise Ratio) improvements.
- Exposure settings can be retrieved when NX is interfaced with X-ray modalities.
- The pre-defined examination tree saves time and improves ease of use.
- Specialized exams include Spot Magnification, Stereotaxy, Needle Biopsy and Surgical Biopsy.

NX for Mixed Mammography/General Radiology Usage (*)

NX Mammography for Mixed Usage makes it possible to use a single workstation for different types of exams, for a more flexible and cost-effective use in GenRad departments.

- Both General Radiology and Mammography exams can be performed on the same NX workstation.
- An ideal and cost-effective option for General Radiology departments performing a very small number of Mammography exams, where a dedicated NX for Mammography is not appropriate.

NX Full Leg/Full Spine Application

With NX Full Leg/Full Spine, images are automatically assembled, and misalignments corrected, with minimum manual interaction. Images are created using MD4.1 Full Leg Full Spine plate and cassette sets in the CR Full Body Cassette Holder.

- The sub-images are identified, rotated, repositioned and put in the right order.
- Misalignments such as overlap, shift or perspective foreshortening are recognized and corrected if necessary. Images can then be post processed, printed and transmitted like any other CR image.

Specifically-defined layout settings provide improved workflow for greater user satisfaction.

(*) Outside US
Main new features in NX 3.0

All features provided by the previous product (NX 2.0) are available within NX 3.0. In addition, the NX 3.0 offers the extended features listed below.

• **Support of 2MP or 3MP diagnostic monitors**
  The NX 3.0 supports Barco’s NIO 2MP or 3MP diagnostic display systems. The landscape greyscale display system has been medically approved. They are not suited for diagnostic mammography reading.

• **Mammography improvements**
  Improvements for mammography usage include a smoother screening workflow, with an auto select feature for thumbnail images, support of 2 RISs and the possibility to add 10 mammo markers. The split screen mode allows 2 views to be compared. For greater viewing comfort, the background can be darkened, and the image can be inverted with the dark background. Mandatory patient data fields can be programmed, and multiple DICOM export destinations configured (for QC). Technical images can be exported to hard disk, and the system offers a Store/Apply window level.

• **Automated export to DVD**
  Using the ‘close & send’ button places images ready for DVD into the buffer. The user can easily see if there are sufficient data in the buffer to fill a DVD, and can select and burn a DVD at any time. When the buffer is full, the user is automatically informed, to ensure that no data are lost.

• **Functional improvements**
  The NX 3.0 includes
  • A full screen mode, for improved visibility of images on-screen.
  • A configurable UI button that makes it easy to call up third party applications, such as an RIS client, procedure book, etc.
  • Enhanced security, by requiring an operator ID before use (configurable).
  • Configurable mandatory patient fields, for better data consistency.
  • Technical images can be exported to hard disk, for import into AUTO QC².
  • Multiple DICOM export destinations are available.
  • The study can be printed in its entirety with a single click of the F7 button, even without automation, for occasional printing jobs.
Optional Central Monitoring System (CMS) for NX

**THE CMS IS AN ADDITIONAL WORKSTATION THAT PROVIDES TECHNOLOGISTS AND SUPERVISING STAFF WITH THE FLEXIBILITY TO CENTRALLY ACCESS AND EDIT EXAMINATION DATA AND IMAGES OF IN-ROOM NX WORKSTATIONS. USING CMS, SUPERVISING STAFF CAN MONITOR ALL CR IMAGING FROM A CENTRAL LOCATION.**

**CENTRAL MONITORING SYSTEM (CMS)**

Digital images from up to five in-room NX workstations can be easily viewed centrally. Using the same user interface, CMS will be immediately familiar to all NX users, providing functionality to centrally search for exams performed on any of the connected X-ray rooms.

- CMS allows supervisors and technologists to discuss imaging problems at a central location, away from the exam room.
- CMS allows teachers to monitor students work from a central location.
- CMS gives technologists the flexibility to complete their QC tasks either on the in-room NX or on the centralized CMS workstation.
- CMS allows advanced quality monitoring tasks to be performed centrally, such as dose monitoring and reject analysis, without interrupting technologists working in the exam room.
- CMS also allows for more technical tasks like queue management to be performed centrally.
Optional Office Viewer for NX

THE NX OFFICE VIEWER IS AN IDEAL SOLUTION FOR THE PRIVATE PRACTICE THAT WANTS TO BE ABLE TO DISTRIBUTE NX DIGITAL IMAGES THROUGHOUT THE FACILITY.

WITH THE OFFICE VIEWER, PATIENTS CAN BE SHOWN THEIR IMAGES IN THE COMFORT OF THE RADIOLOGIST’S OFFICE OR THE EXAMINATION ROOM.

OFFICE VIEWER

• Up to 6 Office Viewers can connect to maximum 2 NX workstations, thus distributing images to the main exam areas or offices of the private practice.
• Basic zoom and window leveling tools are available for ideal image presentation. The radiologist can make changes to the images on the Office Viewer without changing the original images stored on the NX.
• Office Viewer can be used to compare images to previous studies stored on the NX, allowing discussion of the progression with the patient.
• Office Viewer can be installed on any available PC that meets the minimum requirements.
technical
SPECIFICATIONS

INSTALLATION

• Carried out by a qualified Agfa HealthCare application engineer.
• NX software is only installed on PCs delivered by Agfa HealthCare.

Office Viewer can be installed on any PC that fulfils these minimum requirements:
• Free disk space: 5GB
• Memory: 512 MB minimum, 1 GB recommended
• Windows XP SP2 or SP3
• Windows Vista (SP1)
• Minimum screen resolution: 1024 x 768

SECURITY

• Secure profiles for key users to help facilitate your compliance with HIPAA (Health Insurance Portability and Accountability Act).

COMPLIANCE

• NX supports enhanced features such as RIS Protocol Codes, RIS Mapping, Modality Performed Procedure Step (MPPS), Storage Commit, Greyscale Softcopy Presentation State (GSPS), Greyscale Standard Display Function (GSDF), CR, DX or MG SOP Class for storage, presentation or processing.
• For a complete list of the DICOM conformance statements, please visit www.agfa.com/healthcare/dicom
• For a complete list of the IHE integration statements, please visit www.agfa.com/healthcare/ihe

VERSION

• Release of NX X.0.8000.
• NX X.0.8000 is the maintenance track for all previous NX versions.
• ‘X’ can be ‘2’ or ‘3’ depending on licensing purchased.