

# NX for Digital Radiography



*NX is the radiographer's image identification and quality control tool.*

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

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

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

### Extensive range of benefits

NX offers a broad array of benefits specifically developed with the radiographer in mind. With the **touch screen**, the radiographer can complete all standard tasks quickly and effortlessly. Thanks to the **intuitive interface**, easy access to the system is guaranteed, providing more **flexibility and efficiency** in the radiology department.

**Agfa's image processing** ensures that the radiographer spends much less time adjusting for faster image delivery to the radiologist. The in-room integration means a **more convenient workflow** for the radiographer throughout the imaging process. Offering improved interoperability with other systems within the hospital, NX delivers a **higher level of integration**.



*The Examination window touch screen is intuitive, comprehensive and easy to use.*

**Designed for intuitive use**

***Increased flexibility thanks to minimal learning curve***

The screen windows have been purposely designed to answer all of the specific needs of the radiographer: 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: any radiographer can make use of it, increasing the overall flexibility of the staff.

***The most frequent tasks are the easiest to do***

NX’s Worklist and Examination windows cover all of the radiographer’s daily tasks. In the **Worklist** window, the radiographer can enter patient data or select it from an RIS-based worklist (optional), while in the **Examination** window, he 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 the greatest efficiency***

When precision work is needed, the mouse provides access to a broad array of special tools through the **Editing** window, such as 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 processing

### **MUSICA ensures excellent image quality**

NX includes Agfa'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 results in an exceptional perceptibility, which visualizes every detail, whatever the size or contrast. Both the radiographer and the radiologist benefit from an improved workflow and higher productivity. From acquisition to reading, the entire process is quicker and more efficient.

## Convenient workflow at point-of-care

### **More efficient workflow reduces examination time**

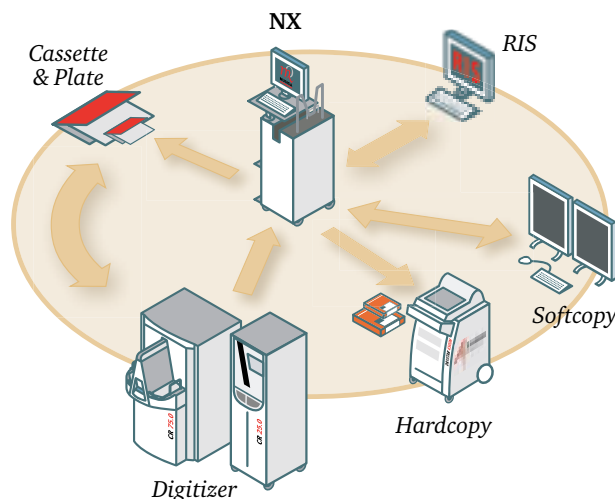
With NX, there is no longer a need for the radiographer to leave the patient to perform any ID or image quality control activities.

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

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



*An Agfa 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 maximum 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 ALL OF A RADIOGRAPHER'S DAILY NEEDS. WHEN A FACILITY HAS SPECIALIZED REQUIREMENTS, MULTIPLE AVAILABLE OPTIONS ENSURE THAT **NX** CAN PROVIDE EVERY SPECIFIC TOOL NECESSARY FOR THE RADIOGRAPHER.

## IMAGING OPTIONS

### NX Precision Tools

***NX Precision Tools** allows the radiographer 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;
- The radiographer can zoom in an image for a more detailed view or zoom directly to a specific Region of Interest;
- NX Precision Tools measures distances and angles and determines leg length differences and scoliosis.
- The radiographer can show histograms for image analysis;
- 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 prevent artifacts and optimize viewing quality for better 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.



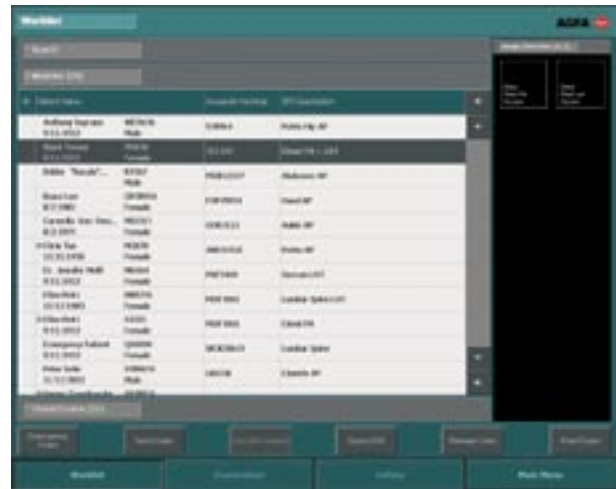
*With NX Optiview's top-left corner marker, image rotation or flipping is immediately apparent.*

## NX Quality Assurance

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

- With the dose indicator, the radiographer 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.
- A report with details on rejected images (e.g. rejection reason, radiographer's name and date) can be created for further analysis.

## CONNECTIVITY OPTIONS



## 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

### NX Radiotherapy

NX Radiotherapy provides easy-to-use, radiotherapy-specific support.

- Dedicated radiotherapy study groups are pre-defined: Simulation, Low Dose portal imaging and High Dose portal imaging.
- Erase settings and exposure class settings, as well as a set of enhanced algorithms and MUSICA parameter settings, are preset.

### NX Full Leg/Full Spine Application

With NX Full Leg/Full Spine, images are automatically and accurately assembled, and any 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.

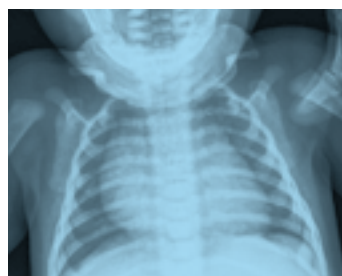


*NX Full Leg Full Spine automatically stitches images for a seamless body view.*

### NX Paediatric

NX Paediatric optimizes paediatric images with fewer manual adjustments and provides clearly superior results, even for difficult exposures of premature newborns.

- NX Paediatric automatically selects the paediatric age group, depending on the patient's birth date.
- Each age group contains enhanced algorithms and fine-tuned MUSICA settings specially adapted to that age group, for optimized visibility of fine details.



*Specially-adapted MUSICA settings ensure perfect detail visibility for even the youngest patients.*

# technical

## SPECIFICATIONS

### INSTALLATION

- Carried out by a qualified Agfa application engineer
- To ensure an optimal performance of this software, it will only be installed on PCs delivered by Agfa

### SECURITY

- HIPAA compliant (Health Insurance Portability and Accountability Act)
- Secure profiles for key users

### COMPLIANCE

- NX 1.0 supports enhanced features such as RIS Protocol Codes, RIS Mapping, Modality Performed Procedure Step (MPPS), Storage Commit, Grayscale Softcopy Presentation State (GSPS), Grayscale Standard Display Function (GSDF), CR or DX SOP Class for storage, presentation or processing.
- For a complete list of the DICOM conformance statements, please visit [www.agfa.com/healthcare/dicom](http://www.agfa.com/healthcare/dicom)
- For a complete list of the IHE integration statements, please visit [www.agfa.com/healthcare/ihe](http://www.agfa.com/healthcare/ihe)

Agfa and the Agfa rhombus are trademarks of Agfa-Gevaert N.V., Belgium or its affiliates. All other trademarks are held by their respective owners and are used in an editorial fashion with no intention of infringement. The data in this publication are for illustration purposes only and do not necessarily represent standards or specifications which must be met by Agfa. All information contained herein is intended for guidance purposes only, and characteristics of the products described in this publication can be changed at any time without notice. Products may not be available for your local area. Please contact your local sales representative for availability information. Agfa diligently strives to provide as accurate information as possible, but shall not be responsible for any typographical error. Agfa-Gevaert N.V. has been awarded the ISO 9001 certificate by Lloyd's Register Quality Assurance. The business group HealthCare has been awarded the ISO 13485 certificate for design, development and production of imaging and communication solutions for healthcare applications.



© Copyright 2006 Agfa-Gevaert N.V.

All rights reserved

Printed in Belgium

Published by Agfa-Gevaert N.V.,

B-2640 Mortsels-Belgium

NGJYW GB 20060502