



Evolve.Express Upgrade to the future—now

Biograph mCT Family

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System
Services

Biograph mCT Family Evolve.Express Upgrade

The Evolve.Express upgrade for the Biograph™ mCT family delivers the latest computer hardware and/or PETSyngo® VG60 software package, depending on your unique specification. The software includes upgrades to existing Biograph mCT features, such as HD Field of View Pro, to expand utilization to new service lines like radiation therapy treatment planning. Improvements in usability and reconstruction time enhance departmental productivity.

Protect your investment with an Evolve.Express Upgrade!

Evolve.Express

Upgrade to the future—now

With Evolve.Express, you can protect your investment by making your Biograph mCT more efficient and cost-effective.

Expand the clinical imaging services performed on your Biograph mCT with new features and performance enhancements.

Standardize your Biograph mCTs across your department or hospital network on a single platform/version level to facilitate implementation of common imaging protocols to standardize care.



**Longer life cycle—
optimize your investment**

**Stay innovative—expand
into new service lines**

**High standard of care—
without impacting your
workflow**

Highlights

Enhancements available in the Evolve.Express upgrade:

- **Integrated Cross Calibration**
Cross calibration can now be easily accessed from the main user interface, simplifying QA/QC.
- **Whole body Count Rate Curve**
In addition to the single list mode bed, a count rate curve for whole body imaging can be shown to facilitate treatment monitoring.
- **Improved Overall PET Reconstruction Performance**
Improved workflow efficiency with faster reconstruction performance provides an approximate 50% reduction in reconstruction times.

CT features:

- **Improved Visualization with HD-FoV Pro**
High Definition Field-of-View Pro enables more reliable visualization of the body outline located outside of the diagnostic field-of-view and HU unit consistency inside and outside the field-of-view—thereby facilitating the imaging of bariatric patients and supporting radiation therapy treatment planning.
- **Improved Visualization of the Extent of Tumor Movement with tMIP**
Customers with CT and/or PET/CT respiratory gating capability enabled on their Biograph mCT will receive tMIP with Evolve Express at no additional cost. tMIP provides the ability to expand clinical imaging services to radiation oncology by displaying the full range of tumor movement in a single image, simplifying the radiation therapy planning process for lung cancer.



Standard Enhancements

PET features:

- **DailyQC report in PDF** export and print the daily QC reports in PDF format to simplify archiving.
- **Cross calibration** is now integrated and can be run as a protocol from the main interface to simplify archiving.
- **Whole body Count Rate Curve** can be displayed in addition to the single list mode bed to simplify archiving.
- **Stitched HD-Chest and static Whole body feature** creates a single image series that contains HD chest¹ images integrated within whole body static images. This improves the reading physician's workflow, reducing the number of image files needing review.
- **Whole body dynamic summing** generates comparable clinical whole-body "static" images from dynamic¹ data. Dynamic passes can be summed by checking the entry on the PET reconstruction software to enhance research protocols for PET imaging.

CT features:

- **HD-FoV Pro** provides intelligent contour and attenuation estimation on large FoV for accurate body outline and tissue density—bringing excellent image quality even for large patients.
- **Knowledge Gateway** provides help online, which includes instructions for use as well as language preference settings.
- **tMIP respiratory gating** is available with CT respiratory¹ gating and eases the contouring tasks for radiation therapy planning for lung cancer treatments. A CT dataset is built such that the voxel value for a certain position is the maximum (or minimum) from the selected breathing phases for that position.

Hardware Improvements

- **Acquisition Workplace**
Image Control System, also referred to as the "Navigator" or "syngo Acquisition Workplace," is the primary console and user interface for scanning and viewing patients.
 - Fujitsu Celsius M720
 - 8 GB RAM
 - 3 x 300 GB hard drives
 - NVIDIA Quadro K2000 graphic card
 - Integrated DVD-RW
- **Acquisition Control System (ACS)**
The ACS is the interface with the PET gantry and used to acquire PET data, forwarding the raw data to the PET reconstruction system for processing.
 - HP z820 workstation,
Dual Xeon E5-2630v2 2.6 GHz
 - 64 GB RAM
 - 500 GB SATA + 1 TB SATA hard drives
 - Integrated DVD-R RW
- **PET Reconstruction System**
The PET reconstruction computer is responsible for delivering the final PET images. The PRS improves reconstruction performance enabling greater patient throughput.
 - HP z820 workstation,
Dual Xeon E5-2630v2 2.6 GHz
 - 16 GB RAM
 - 500 GB SATA + 1 TB SATA hard drives
 - NVIDIA Quadro K600 GFX graphic card
 - Integrated DVD-R RW
- **Advanced Workflow MIWP²**
Image Evaluation System, also referred to as the "wizard" or "syngo CT workplace," is a secondary viewing station for viewing and processing patient data.
 - Fujitsu Celsius M720
 - 12 GB RAM
 - 300 GB hard drive
 - NVIDIA Quadro K4000 graphic card
 - Integrated DVD-RW

4 ¹Features are standard with the required optional software.

²Just for customers with already existing MIWP.

New Purchasable Options

PET features:

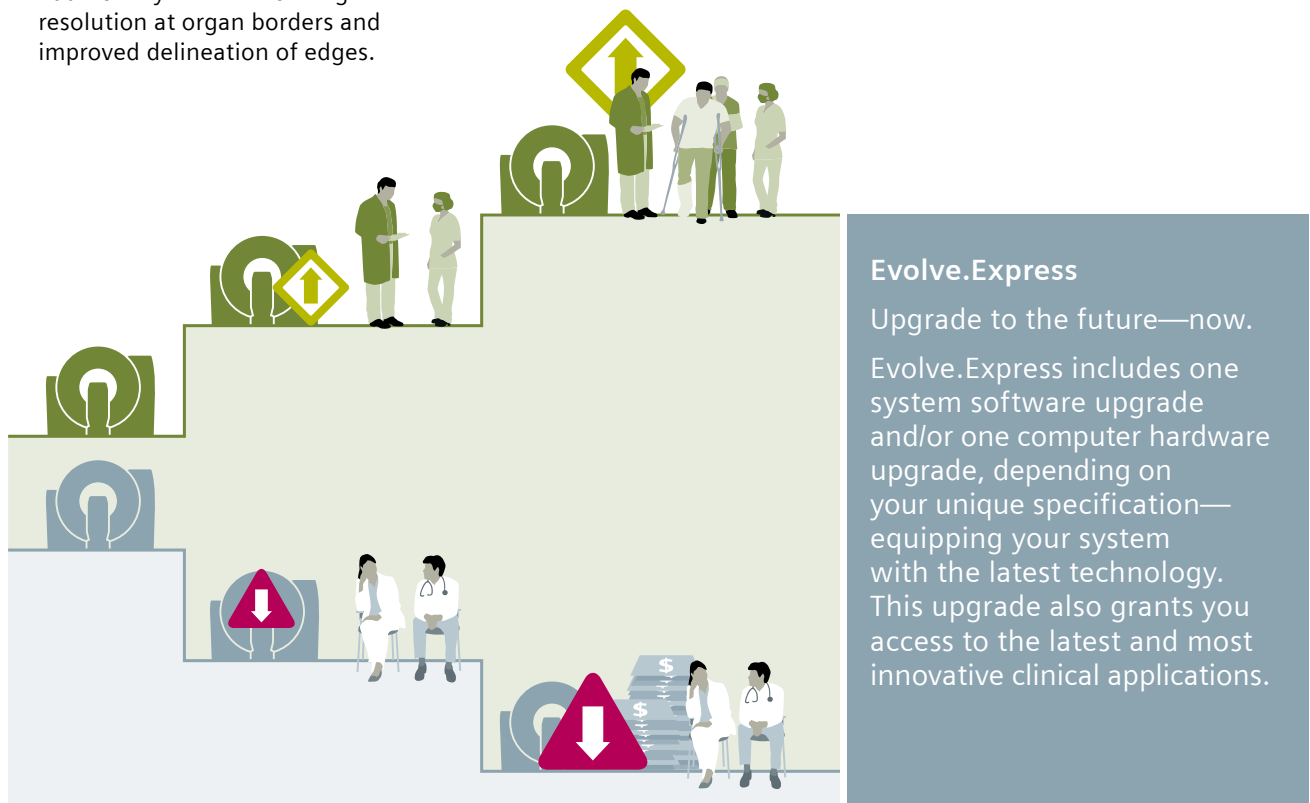
- **SMART Body AC** provides the ability to merge more than one CT series for PET attenuation correction for a wholebody scan. This can lead to less CT scans and potentially dose savings.
- **Dynamic Speed** improves workflow with on-the-fly dynamic reconstruction during list mode acquisition.

CT features:

- **Iterative Metal Artifact Reduction (iMAR)³** reduces metal artifacts in various body regions. iMAR is designed to yield images with a reduced level of metal artifacts compared to conventional reconstruction if the underlying CT data is distorted by metal being present in the scanned object.
- **ADMIRE⁴** Advanced Modeled Iterative Reconstruction (ADMIRE) is the newest generation in iterative reconstruction. Clinical images will additionally benefit from higher resolution at organ borders and improved delineation of edges.
- When reconstructing thick slices, the use of the ADMIRE algorithm can result in a higher noise reduction performance compared to SAFIRE.
- **>100sec CT spiral respiratory gating** requires the CT respiratory gating option. This feature provides the ability to more easily image lung cancer patients with impaired breathing by increasing the scan range and exceeding 100 seconds of scan time.
- **FAST 3D Align** offers automatic centering and alignment of a scanned volume. The results are displayed in the 3D Reconstruction segments. It displays the complete aligned body region without black images.
- **VSim (virtual simulation of radiotherapy treatment planning)** supports target and critical structure delineation with isocenter localization for radiation therapy planning and is now available on the Biograph mCT system.

Evolve.Express for Biograph mCT provides additional opportunities to purchase new imaging applications.

Please contact your local Sales Representative for more information about the features.



³Features are standard with the required optional software.

⁴In clinical practice, the use of ADMIRE may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

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