From images to
insights

Imalytics at a glance

Imalytics Research Workstation

PHILIPS

Flexibility and performance

meet medical imaging research

Imagine the perfect research workspace for medical imaging: A single multimodality workstation, offering a full set of state-of-the-art tools that can be easily customized to all your clinical research workflows. Of course, it also has to be very easy-to-use and so fast and efficient that the translational time becomes considerably shorter.

Philips makes this dream come true with Imalytics, the most powerful and flexible workstation for medical-imaging-based research at the market.

The Imalytics workstation can easily adapt to your needs thanks to its modular approach. In its standard configuration, Imalytics includes a whole spectrum of advanced tools for image visualization, registration, segmentation, quantification and analysis. Additionally, it offers a full portfolio of specialized modules, targeting specific research requirements:

- computation of volume-of-interest statistics on multimodal data
- multimodal, multi-parametric data analysis
- longitudinal analysis
- quantification of time-dependent distribution of imaging agents
- extraction of biological parameters from medical images
- simplification and automation of repetitive workflows
- calculation of brain metabolism patterns
- calculation of regional and voxel-wise SUV ratios for Amyloid PET images
- 3D voxel-wise dose calculation for targeted radionuclide therapy
- partial volume correction for PET data and many more …

Imalytics is so flexible that your own algorithms can be easily integrated in the application. And not only that, you can also maximize the value of your research results by exporting your data to your favorite statistics tool, in case you require to continue the analysis.

Additionally, the adaptability and ease-of-use of Imalytics guarantees a smooth integration in any existing clinical research environment, saving time and efforts while offering a very short learning curve.

We would like to invite you to review our key features, benefits and key applications of Imalytics throughout the following pages.

Imalytics at a glance

The core of Imalytics is composed of a series of advanced clinical research functionalities for the preparation of studies, including related examinations from different modalities. These functionalities are part of our "Guided Workflow" concept, which allows to review and evaluate images in a logical and efficient way, featuring:

- advanced image visualization
- automatic rigid and non-rigid co-registration
- advanced segmentation tools
- time-saving image processing tools
- quantitative measurements
- multiparametric analysis
- C++ programming interface for the integration of your own algorithms
- state-of-the-art research algorithms

Imalytics provides valuable pre-set scripts as well as the possibility to adapt them for the automation of your specific workflows. This way, saving time and ensuring consistency in repetitive procedures.

In addition, Imalytics offers supplementary modules* that target complex requirements of specific research areas, offering advanced tools, for the proper analysis of specific cases:

- **VOXULUS** – pharmacokinetic modeling
- **STRATOS** – dosimetry solution based on 3D images
- **STRATOS+** – dosimetry solution based on a combination of 2D and 3D images
- **CAD4D FDG** – brain metabolism evaluation for FDG PET
- **CAD4D AMYLOID** – brain metabolism evaluation for Amyloid PET
- **PVC** – partial volume correction
- **MULTIVIEWER** – multimodality and multiple time-point viewer
- **MODEL BASED SEGMENTATION** – framework for the adaptation of generic organ models to patient-specific images

Given the complexity associated with the processing of medical images, we also provide dedicated tools to solve specific compatibility issues. These tools include, among others:

- special importers for non DICOM compliant data
- special importers and exporters for DICOM RT structure sets
- many other dedicated file conversion and image manipulation tools (e.g. Analyze, Nifti)

Additional tools can be developed upon request in collaboration with you, based on your specific requirements.

All these modules combined allow you to compare and extract quantitative information from any image in a systematic way. This accelerates the interpretation and understanding of the data used in clinical translational research and drug discovery. Therefore, you can keep your focus on your research tasks and transfer the bulk of routine work to your research assistants, who will process the images and data in a standardized way.

You can find detailed information on the core functionalities and every advanced module on the respective product sheets.

*Supplementary modules are sold separately

Use cases
A state-of-the-art solution for every research case

- pharmacokinetic modeling of dynamic data (Voxulus)
- oncology (metabolism, hypoxia, apoptosis, proliferation, angiogenesis)
- neurology (brain receptor density, binding potential)
- cardiology (myocardial perfusion, absolute blood flow, coronary flow reserve, viability)
- biodistribution studies of new drug candidates (Voxulus)
- dosimetry in targeted radionuclide therapy (Stratos)
- radio-iodine therapy, SIRT, radio-peptide therapy, antibody therapy
- dementia evaluation with FDG or amyloid tracer (CAD4D)
- serial analysis (MultiViewer)
- therapy follow up analysis, disease progression
- multimodal and multipara-metric data analysis
- model based segmentation (organ specific models)
- partial volume correction (PVC) translational research

www.philips.com/imalytics