

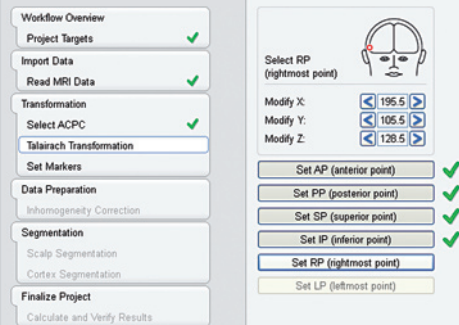


## **BESA MRI**

**CE-certified clinical software to coregister  
EEG / MRI data and to create realistic FEM  
models for EEG source analysis**

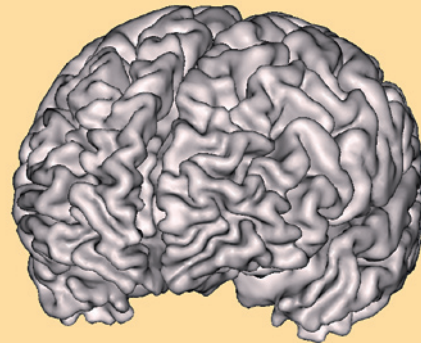


## Easy, intuitive user interface



Workflow for segmentation, coregistration, FEM model generation

## 3D surface reconstruction



Reconstruction of high quality 3D surfaces

### BESA MRI 2.0 – new features

- Readers for DICOM, Analyze, and Nifti files
- FEM model generation
- export of leadfield, surfaces and FEM meshes

### Workflow

- Fully integrated workflows are guiding the user step by step
- Automatic finalization after setting up the MRI of single or multiple subjects
- Review each step of the complete workflow at any time

### Data input and output

- Subject-based data management
- Data are stored in projects that can be saved and re-opened at any time

**NEW** - Easy import of MRI data in DICOM, Nifti and Analyze format

**NEW** - T1 and T2 data (optional)

**NEW** - FEM leadfield, meshes and surface are exportable

### Registration

**NEW** - Automated registration of T1 / T2 data

### Coordinate space transformation

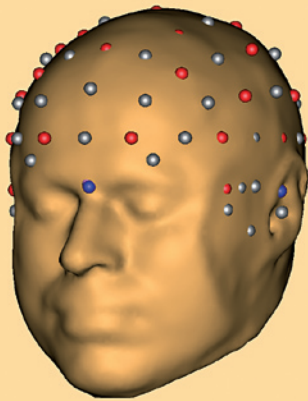
- Fast and easy work steps to set AC / PC and Talairach points
- Intuitive and fast selection of 3D positions and rotations by clicking and dragging in visualized MRI data

### Inhomogeneity correction

- An automated, robust inhomogeneity correction is computed as a precursor for highest quality segmentation of brain tissues

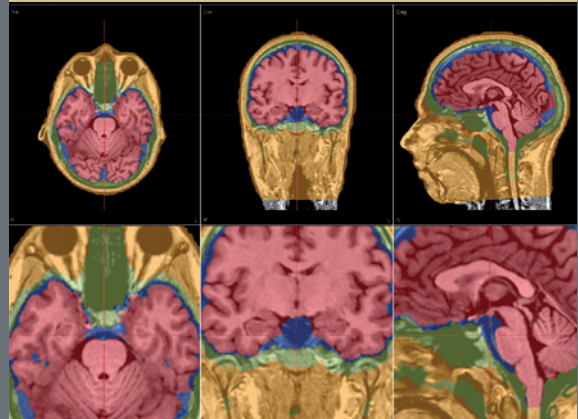
NEW

## Electrode coregistration



Easy coregistration of standard or digitized electrodes with MRI data

## FEM model



Automatic setup of 4-layer FEM model

### Segmentation

- Automated segmentation procedures employing advanced algorithms
- Segmented scalp surface optimally suited for electrode coregistration and visualization of scalp potential maps
- Automated cortex segmentation, optimized for cortical current density reconstruction (CDR) methods in BESA® Research

**NEW** - Automated segmentation of scalp, skull, CSF and brain for FEM model generation

### FEM model

- NEW** - Automatic setup of 4 shell model including CSF layer gaining critical precision over BEM models
- Geometry-adapted hexahedral meshes

### Coregistration

- Coregistration of electrodes, MEG sensors, and fiducials with individual scalp surface

- Accurate coregistration of digitized electrodes with individual scalp surface

**NEW** - Automatic and manual surface point fit

- Morphing of 10-10 standard electrodes including inferior electrodes and coregistration with individual MRI

- Coregistered electrode coordinates are immediately available in BESA® Research

- Thus, source images / localization can be displayed in the individual MRI even with standard electrode placement

- Direct import of scalp and cortical surfaces into BESA® Research

**NEW** - FEM model directly available in the source analysis module of BESA® Research

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The CE marking certifies that this product fulfills the basic requirements of the Medical Devices Directive MDD 93/42/EEC. The number 1275 represents the identification number of the Notified Body which carried out quality assessment and certification.

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