BESA incorporates expert know-how in CE-certified software tools for Neuroscientists and Neurologists

BESA GmbH was founded as MEGIS Software GmbH in 1995 by Dr. Michael Scherg. It is the leading company in the field of EEG / MEG analysis and a home base for highly skilled people. Our team is a thriving mixture of researchers from different disciplines, skilled software engineers and highly motivated young professionals.

We believe that the interaction between experienced researchers and young, creative and dedicated people is the key to success. This helps us in developing the most innovative software for data analysis in the field of EEG / MEG.

The CE marking certifies that the BESA products as shown here fulfill the basic requirements of the Medical Devices Directive MDD 93/42/EEC.

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Experience the future of EEG and MEG analysis in human brain research and clinical work

Visit our website www.besa.de

■ BESA Research 6.1
The most comprehensive signal processing toolbox for EEG / MEG source localization

■ BESA MRI 2.0
Creating individual 4-layer FEM models made easy – improving source analysis by considering individual anatomy

■ BESA Statistics 2.0
State of the art cross-subject cluster permutation statistics for ERPs, source waveforms, images, and coherence results

■ BESA Epilepsy 2.0
CE-certified clinical software for efficient EEG review and automatic detection of spikes and seizures
BESA Research 6.1
The most comprehensive signal processing toolbox for EEG / MEG source localization

- Source montages for:
  - standard review, epilepsy review, ERP / ERF
  - rest-neuro networks
- ISC / ITC
- Dipole fitting / regional, single dipoles
- Volume imaging (jLDORETA, CLARA, LAURA, SLORETA) user-defined
- Source Imaging:
  - Minimum Norm:
  - Cortical LORETA, Cortical CLARA, cortical methods computed on individual or standard cortical surface, co-registration
  - Multiple or single source beamforming
- Realistic head models (FEM) in combination with:
  - Multiple or single source beamforming
- Realistic children's and adult's FEM head models for:
  - Creating individual 4-layer FEM models made easy – individual realistic FEM models sent to BESA® Research
- FEM model generation for both EEG and MEG
- Automatic inhomogeneity correction within-group or between-group testing
- Quick navigation to facilitate decisions on clinical findings
- Automatic spike detection
- Detection and clustering on children and adults
- Detection requires less than 3 hours for a 24-hour EEG
- Easy, intuitive workflow to set up detection during EEG data collection
- Automatic seizure detection
- Detection on adults requires less than 5 minutes for a 24-hour EEG
- Rapid spike evaluation of long-term EEG data base on hyperclusters. Spend 5 minutes every morning to evaluate the preceding 24 hours of EEG
- Your EEG / seizure report is created automatically during the review. It includes screenshots, waves, 2D maps, and more

BESA MRI 2.0
Creating individual 4-layer FEM models made easy – improving source analysis by considering individual anatomy

- Integrated workflow:
  - MEG-related interface and user-friendly
  - Context-related help
- Automatic inter-modality correction
- For the best segmentation results
- Automatic segmentation
- Scalp, skull, CSF, brain
- Reconstruction of scalp, cortex, and inflated cortex (used in visualization of BESA® Source Analysis)
- FEM model generation for both EEG and MEG
- Automated setup of FEM model including CSF layer
- Geometry-adapted hexahedral meshes
- All FEM meshes, surfaces, and lead fields are exportable
- Coregistration:
  - Individual realistic digitized electrodes and MEG sensors or standard electrodes
- Using individual anatomy:
  - Individual realistic FEM models sent to BESA® Research
  - Instant projection of cortical source reconstructions on the individual anatomy in BESA® Research

BESA Statistics 2.0
State of the art cross-subject cluster permutation statistics for ERPs, source waveforms, images, and coherence results

- Cross-subject statistics of:
  - Event-related potentials / fields
  - Volume image data, e.g. LORETA, beamforming; 4D data also supported (3D+time)
  - Time-frequency data, e.g. temporal-spectral evolution, coherence, inter-hemisphere locking
- Source waveforms
  - F-test for comparing two groups (e.g. patients, controls) or conditions within the same group of subjects (e.g. target, control)
  - One-way Analysis of Variance (ANOVA) and Analysis of Covariance (ANCOVA)
  - t-test for comparing two groups (e.g. patients, controls)
- Time-frequency data, e.g. temporal-spectral evolution, 4D data also supported (3D+time)
- Volume image data, e.g. LORETA, beamforming
- State of the art cross-subject cluster permutation statistics
- All statistical parameters can be exported, and pictures saved as vector graphics suitable for publications

BESA Epilepsy 2.0
CE-certified software for efficient EEG review and automatic detection of spikes and seizures

- Review EEG data of many different EEG data formats in one program
- Advanced review features:
  - Create your own montages and filters or choose from a large predefined set. Select different montages and filters by only one click
  - Add, delete and classify events in EEG review and seizure review
- Rapid spike evaluation of long-term EEG data base on hyperclusters. Spend 5 minutes every morning to evaluate the preceding 24 hours of EEG
- Automatic seizure detection
  - Detection and clustering on children and adults
  - Detection requires less than 3 hours for a 24-hour EEG
  - Intuitive workflow to set up detection during EEG data collection
- Automatic seizure detection
  - Detection on adults requires less than 5 minutes for a 24-hour EEG
  - Quick navigation to facilitate decisions on clinical findings