

Release Notes

V1.7.0 (release on 2018-02-16)

Features and improvements

- An online interface to Neurofile/ITMed/Deltamed is introduced
- Seizure-Detection now possible with NeuroTrend (EMU and ICU license), providing a marker list displaying detected seizures, and further a new plot showing the markers over time
- new Seizure Detection plugin for reviewing detected seizures detected by NeuroTrend
- Removal of plugin EpiScan (as replaced by new seizure detection capability of NeuroTrend and Seizure Detection Review plugin)
- Introduced a spectrogram in encevis viewer, allowing a channel wise time frequency analysis of EEG data.
- encevis viewer supports now the EMS data format
- encevis viewer imports annotations stored within files automatically. The following data formats are supported: Micromed, ITMed/Neurofile/Deltamed, Xitek
- encevis viewer provides now the possibility to calibrate the screen for correct EEG display. This has also effect on the EEG display within plugins.
- encevis viewer provides now user defined montages stored within files of data format Xitek.
- vendor interface Micromed allows now jumping in traces which includes pauses in offline mode
- encevis viewer does now allow review of results of plugins during a running recording monitored by vendor interfaces Micromed and Neurofile/ITMed/Deltamed
- plugins are now storing their settings when closed over AITInterfaceDLL
- marker synchronization between encevis viewer and NeuroTrend and EpiSpike was improved
- vendor interface Micromed and Neurofile/ITMed/Deltamed uses now user name and password from the configured ODBC object
- encevis viewer and online interface to Neurofile/ITMed/Deltamed supports now pause and continue within Neurofile/ITMed/Deltamed files.
- a new plugin specific XML message was introduced, called "isFinished", allowing to tell plugins when they do not have to await more data
- Plugin EpiSpike deletes now empty clusters on recalculation
- GUIs of plugins started by vendor interfaces (Micromed, Neurofile/ITMed/Deltamed) are not opened automatically anymore
- reduced the minimum allowed sampling rate of plugins from 200Hz down to 100Hz
- optimized error handling within Micromed interface
- encevis EEG player scrolls now page wise instead of second wise in auto play mode
- speed up of license check
- new icons in encevis viewer and vendor interfaces (Micromed, Neurofile/ITMed/Deltamed)

Bug fixes

- Fixed issue with reading EDF EEG files, on long channel labels it could have happened that the reference label was

not correctly read in

- Fixed issue within NeuroTrend were it could have happened that some result data was not loaded and displayed
- Fixed issue where EEG data only containing zeros as values caused burst detections by NeuroTrend plugin
- Fixed issue with colormap normalization within EpiSource plugin
- Fixed issue which could cause a crash of EpiSource plugin caused due a wrong internal calculation
- Fixed crash in encevis viewer when user tried to open an defected EEG file
- Fixed issue of slow database insertions of markers within encevis viewer
- Misconfiguration of the database within the vendor interface can now be resolved by the user
- Fixed issue in encevis viewer, sometimes the configured database settings were not transmitted to the started plugins
- Fixed issue were it could have happend, that the control UI of a vendor interface gets outside the visible screen space
- Installer properly sets now properly user rights for Group of "Users" within %PROGRAMDATA%/AIT also in Windows 10
- Fixed distorted black triangle (indicating the currently selected marker) within encevis viewer if loaded EEG has very much channels
- Fixed an issue with PureEEG that could lead to a crash in case of electrode setups with very low electrode numbers and irregular configurations.
- Fixed issue with snap to marker functionality within NeuroTrend plugin
- Marker list in encevis viewer is now not loosing focus anymore on deletion of a marker
- Fixed issue in encevis viewer causing a crash when markers were highlighted
- Moving left/right with cursor keys withing the "Goto" field in encevis viewer is now possible again
- Fixed database delete and update issue on BLOBs (causing an query fail on prepared statements when the statement got to big)
- Fixed issue where auto start up could never be deactivated if no valid license was available
- Fixed issue in encevis viewer within the montage editor. Sometimes spaces were not handled correctly.
- Updated logging of operating system for Windows 10
- Fixed crash of vendor interface Micromed on file import in Micromed System Evolution Plus
- Fixed crash of Distributor caused by an opened "running plugins" debug widget
- Fixed issue within plugin EpiSource causing a abort of calculation when the input had an non integer sampling rate
- Fixed issue in encevis viewer where the plot in viewer always jumped back to the first EpiSpike/NeuroTrend marker during analysis of plugins
- Fixed issue where the "Associate files" dialog stayed opened in encevis viewer after adding a new patient/recording/file
- Fixed issue when a not apply able montage was set within plugin EpiSpike during analysis it could have happened that a warning dialog was appearing over and over again.
- It was not possible to add comments to spike markers generated by EpiSpike within the plugin during analysis. Adding comments is now not allowed anymore during analysis.
- Fixed issue which caused duplicate markers in a specific case on import of markers into a new database

V 1.5.6 (released on 2017-05-17)

- Fixed an issue were none-EEG data were were handled like EEG in MicromedInterface. Data read from the archive database is now filtered by the file ending "TRC", other files like video are ignored.

- Fixed an issue when reading Xltek files that could lead to the wrong start time shown in encevis viewer if a file contained more than one study entry.
- Fixed a crash of encevis Viewer when importing data into a new database was canceled by the user.

V 1.5.5 (released on 2017-04-27)

- Height of encevis NeuroTrend GUI elements was optimized.
- Fixed an issue where NeuroTrend showed BG Frequency and burst suppression when zero-data were sent to the plugin.
- A numerical instability in PureEEG for data with high dynamic range was solved.
- EpiSpike GUI now adapts the review time range automatically to the moving analysis end during online processing.
- Fixed an issue where detection results were not equal when produced with encevis Viewer and MicromedInterface.
- Improved support of EEG data with large DC components.
- Found a bug in micromed's SCORE interface when EEG files contain a pause. This bug causes Micromed SystemPlus Evolution to show the wrong time point in the EEG viewer. encevis now detects if EEG files contain a pause and blocks the "jump to EEG" command. The user gets informed when this case occurs.
- Sigma and Xltek files can now be opened by double click or drag and drop in encevis Viewer.
- Montage editor in encevis Viewer is now blocked when plugins are running.
- The recording date read in by a recording in encevis Viewer is now the default value for the Recording label.
- An issue was fixed in AITDistributor causing an unexpected error send to the caller when sending EEG data.
- Montage editor in encevis Viewer now allows the definition of electrode names that contain any ASCII characters.
- A mechanism was implemented which checks the calculation flag for all plugins and all recordings in a regular interval.
- Improved an error message in encevis Viewer if Nicolet COM objects are not properly registered.
- Fixed an issue in AITInterfaceDLL which prevented plugins from starting properly.
- Markertypes defined in encevis Viewer are now deletable.
- encevis NeuroTrend now loads the background frequency results if other license than the full NeuroTrend license is present.
- encevis MicromedInterface is not creating a new recording when a patient is moved in Micromed SystemPlus Evolution.
- Fixed issue when encevis MicromedInterface was running in offline mode and the user started settings immediately after startup of encevis MicromedInterface.
- BSF files below file format version 1.04 are now supported again.
- Fixed an issue where encevis MicromedInterface was not able to reliably detect if the encevis Distributor is still reachable.
- Montage editor in encevis Viewer now does not allow the creation of a montage without name.
- Editing a marker gets aborted if the user changes a setting in a plot.
- "Jump to EEG"-messages from plugins are now ignored while the user is editing a marker.
- A crash was fixed when editing a marker in encevis Viewer.
- Fixed an issue where deletion of results did not work when sending a BeginTime message after startup of a plugin.
- Improved analysis time range suggestions in encevis Viewer when starting encevis EpiSpike.
- Fixed an error message in encevis EpiSource when the first electrode in the channel setup is not an EEG channel.
- Marker selection triangle in encevis Viewer works now properly for markers near the end of a recording.

- Fixed an issue in encevis AITInterfaceDLL which returned an invalid pointer when a plugin was already exited.
- Name of reference electrode in encevis Viewer is now restricted to 15 characters.
- Fixed an issue during patient deletion in EEG file management when the user closes the dialog with the window closing cross
- Fixed a crash occurring when the user tries to close EpiSpike before the GUI is fully initialized.
- Improved validation of selection time range in encevis EpiSpike GUI.
- Fixed a crash in encevis Viewer when a file was removed from the list of files while adding a patient.
- Fixed an issue which caused a jump of the timeline in encevis EpiSpike when calculating online.
- Fixed an issue in encevis MicromedInterface that caused jumps to wrong time points in Micromed SystemPlusEvolution.
- Fixed a query in encevis EpiSpike which did not work properly when using a MS SQL database.
- Fixed an issue in encevis EpiSpike if no EEG electrodes are available after building the montage.
- Close button off split plot in encevis Viewer is now aligned with the remaining menu items.
- Fixed issue which caused a freeze of encevis Viewer when inserting a patient using MS SQL database.
- Changed default reference sent by encevis MicromedInterface from "Remote" to "Unknown".

V 1.5.4 (released on 2017-03-14)

- Fixed an issue with micromed online interface that could lead to instabilities of encevis
- Path to EEG files in micromed online interface now does not expect "micromed archive" in path name.
- Fixed issue where raised license warning dialog was blocking micromed interface
- Issue fixed in NeuroTrend which sometimes caused a crash on start up of the plugin when GUI was enabled

V 1.5.3 (released on 2017-03-06)

- Improved the process of adding new bundle licenses.
- Changes in the database handling of Micromed SystemPlus Evolution, based on the experiences in a hospital.
- Fix an issue that plugins might show "active" state after disconnection of network.

V 1.5.2 (released on 2017-02-24)

- Increased stability of file loading (problem with open file handles fixed, solved possible crash when loading Nicolet files)
- Fixed an issue where the scrollbar in encevis NeuroTrend could stop working
- Fixed an issue where encevis viewer sent two times the same data block to plugins
- encevis EpiSpike is now only setting the reference electrode for channels which are declared as EEG type
- Changing multiple values of a marker in encevis viewer works now properly
- Nicolet files can now be opened via drag and drop from the explorer onto the plot area of encevis viewer
- Significant performance increase for high number of results in the database. This was especially an issue on a heavy use of encevis EpiSpike
- Acknowledge for exitPlugin is now always properly sent by encevis Distributor

- In the montage editor of encevis viewer the order of montage chains can now be properly changed
- Fixed an issue, where it might happen that encevis NeuroTrend was sending its acknowledge for the plugin initial config message before sending the result info message
- Fixed an issue in encevis MoberInterface where the plugins where not properly exited on patient change

V 1.5.1 (released on 2017-01-30)

- Autostart mode of MicromedInterface can now be disabled
- Distributor can now locate plugins when MicromedInterface is started in autostart mode
- All NeuroTrend results will now be deleted in case of recalculate
- A bug was fixed causing a crash of NeuroTrend in connection with MySQL databases
- In case of database loss, EpiSpike displays a proper process range in the GUI

V 1.5.0 (released on 2017-01-23)

- Introduced encevis MicromedInterface, for real time calculation of EEG data currently recorded with Micromed System Evolution Plus
- User Interface for MicromedInterface providing information about the current calculation state of encevis plugins
- Added support for Nicolet EEG files
- encevis EpiScan can now be started with a user interface
- encevis Help is now provided as convenient PDF
- If a license is missing, encevis Viewer provides now a direct way to register a license
- Significant performance improvements on high amount of spike markers detected with EpiSpike
- EpiScan is now not dependent anymore on reference electrode Pz
- Introduced a database loss mechanism, allowing to continue calculation of plugins without any interruption during runtime when the database is not reachable.
- NeuroTrend provides now a heart rate plot (only in NeuroTrend full version)
- The user interface of the LicenseTool was improved
- It is now possible to license and start plugins explicitly for purpose of calculation or for review or for both
- Bugfixes

V 1.4.1 (released on 2016-10-24)

- Bugfix, black cursor was not correctly displayed when starting NeuroTrend first without shown GUI and then later show GUI

V 1.4.0 (released on 2016-06-21)

- NeuroTrend aEEG plot improved
- Windows 10 now supported
- Performance significantly improved on high amount of markers in the marker list in EpiSpike and encevis Viewer
- Improved runtime of EpiSource in spike mode
- added XLTEK EMU40 headbox support

- Bugfixes

V 1.3.2 (released on 2016-05-19)

- Fixed error, when artifact removal was not working properly on EEG including DC component

V 1.3.1 (released on 2016-04-26)

- Bugfix LicenseTool

V 1.3.0 (released on 2016-04-11)

- Improved EpiSpike
- GUI for EpiSpike
- Neurofile (ITMed/Deltamed/Coherence) dataformat support
- Network licenses (floating licenses)
- encevis Viewer supports import of data from encevis databases
- encevis Viewer supports MS SQL
- Bugfixes

V 1.2.2 (released on 2016-02-12)

- NeuroTrend supports now new flags in configureWindow message
- Bugfixes (keep alive MySQL, table creation MySQL)

V 1.2.1 (released on 2015-11-11)

- DatabaseMigrationTool for transferring data between encevis databases of type Firebird Embedded, MySQL and MS SQL Express
- AITInterfaceDLL allows now string concatenated database configuration
- NeuroTrend has now MS SQL Express support

V 1.2.0 (released on 2015-09-07)

- overworked user interface in encevis
 - Markerlist in encevis
 - Main UI in encevis
 - added possibility for montage editing
- Introduced Burst Suppression feature in NeuroTrend
- overworked user interface in NeuroTrend
- Moberg Online Support
- Xltek file format support (beta version)
- allowing usage of central MySQL Server
- Bugfixes (increasing stability)

V 1.1.1 (release on 2015-08-27)

- Bugfixes (increasing stability)
- added CE

V 1.1.0 (released on 2014-10-03)

- Bugfixes (improving stability)
- general performance improvements
- Sigma file format support
- Moberg file format support
- Introduced BG EEG features in NeuroTrend

V 1.0.0 (released on 2014-02-24)

- first release of encevis