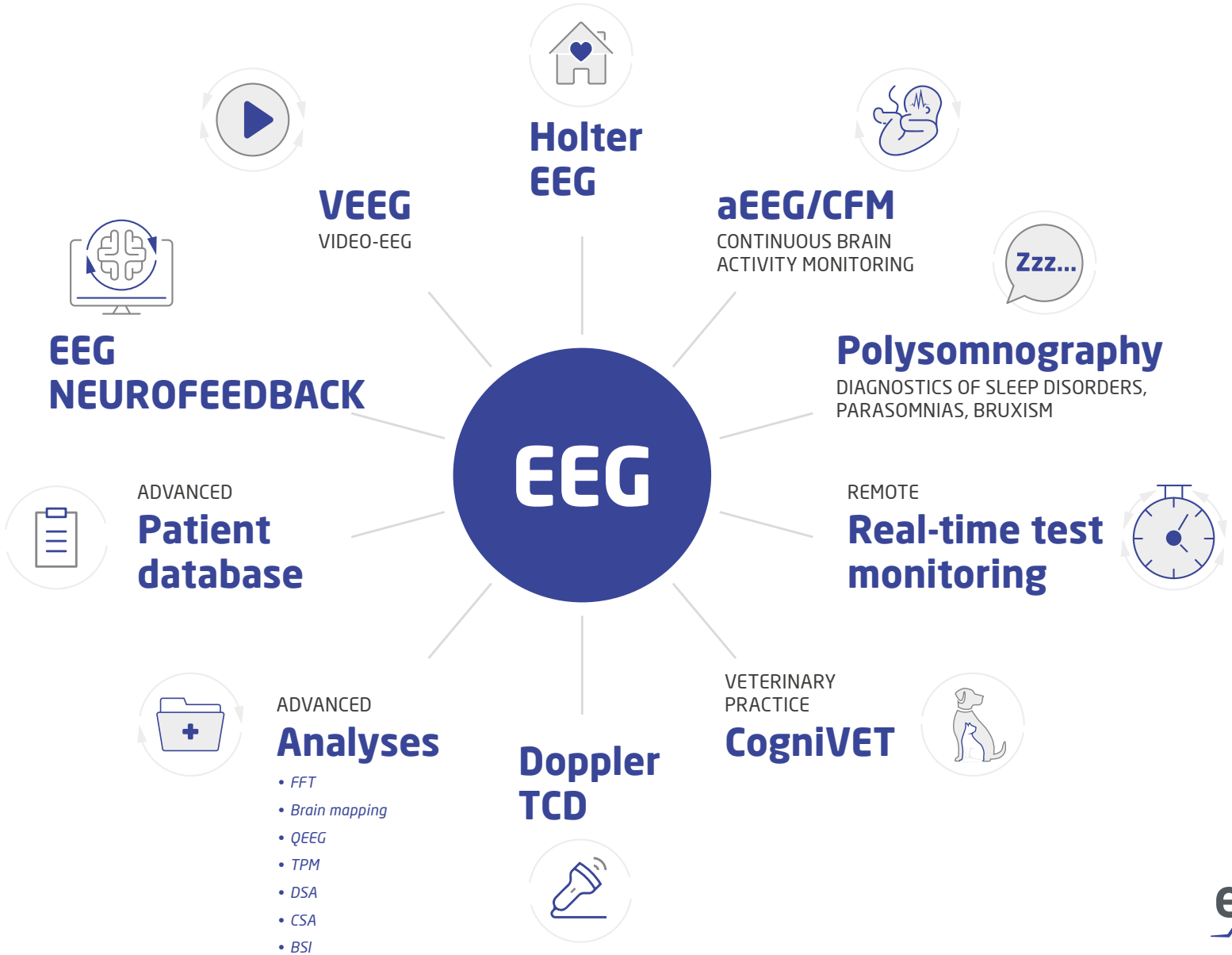
ELMIKO EEG SYSTEM

elMiko

Create to Help

Meet us

elmikogroup.com



elMiko

Tworzymy, żeby pomagać

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ELMIKO: POLISH EXPERT IN DIAGNOSTICS AND NEUROPHYSIOLOGICAL THERAPY

ELMIKO is a Polish technological and medical brand with over 40 years of experience in the design and manufacture of diagnostic and neurophysiological therapy devices.

Since our establishment in 1978, we have been continuously developing solutions that support doctors, technicians and scientists in better understanding of brain functioning.

We specialise in cutting-edge, proprietary electroencephalography (EEG) systems, amplitude-integrated electroencephalography (**aEEG/CFM**) methods, **EEG Neurofeedback** technology, and the distribution of complementary neurotechnologies (such as **EMG, TMS, tES, IOM**) from world-class manufacturers. Our technologies are used in hospitals and clinics as well as in scientific and research centres in Poland and abroad.

Many years of presence on the market have allowed us to build unique, advanced competences in the field of biological signals - from their recording and analysis to practical application in diagnostics and therapy. We cooperate with scientific institutions, medical universities and brands from the biomedical sector, supporting the development of modern neurotechnology in Europe, Asia and Africa.

ELMIKO is a team of engineers, neurophysiologists and specialists who combine technical experience with clinical medical knowledge. As a result, our innovative solutions cater to the needs of doctors and therapists as well as to the high demands of researchers involved in neurobiology, psychiatry and cognitive science.

STRUCTURE OF THE ELMIKO GROUP: MISSION TO HELP PEOPLE

ELMIKO GROUP is a rapidly growing Polish brand with a global presence, providing interdisciplinary support to doctors and therapists in neurology and related fields.

We believe that our common mission is to help people. By providing innovative equipment and modern diagnostic methods, as well as training specialists, we are committed to improving the overall well-being of patients.

The ELMIKO GROUP consists of:

ELMIKO – a manufacturer and distributor of modern medical equipment and innovative neurological and neurotherapeutic solutions, including EEG, CFM, EEG Neurofeedback, tES, TMS, EMG.

AKSON Education Centre – organises and conducts training in neurodiagnostics and neurotherapy for doctors, medical technicians, psychologists, pedagogues and therapists, in areas such as: EEG, EMG, QEEG, EEG Neurofeedback, tES, TMS.

NEURODIAGNOSTICS – a centre for neurological diagnostics and neurotherapy, providing services to individual patients, offering them on-site, in neurological clinics or at the patient's home, as well as providing diagnostic services and equipment rental for hospitals and clinics.

ELMIKO VET – a manufacturer of neurological veterinary equipment, offering advanced solutions to support the work of veterinarians in the field of animal neurology and neurotherapy, including EEG diagnostics, pain relief and treatment.

POLISH PRODUCTION,
GLOBAL QUALITY

ELMIKO is a Polish brand that was created out of the passion for modern technology and science. All our EEG systems are designed, assembled and tested in Poland, in accordance with the highest quality standards. Thanks to our own production facilities and team of programmers, we can control every stage of the device's development - from an innovative concept to the clinical implementation and training of its final users.

Thanks to many years of experience and a highly qualified team, ELMIKO is a renowned manufacturer of medical equipment in the international market. Our devices are present in laboratories and medical centres across Europe, as well as

in Asia and Africa. We work with distributors and scientific partners who implement our innovative systems in local diagnostic and research programmes. For these reasons, ELMIKO is now regarded as a reliable technology partner that combines European quality, Polish precision, and worldwide reach.

OUR **MISSION**

Our mission is to support specialists in the diagnosis, monitoring and treatment of neurological disorders. **ELMIKO's activities are based** on the belief that modern technology can significantly improve the quality of patient care and contribute to the advancement of modern knowledge about the brain. Every product we create is designed to

be not only precise and reliable, but also intuitive to use and adapted to everyday clinical practice.

We want our EEG systems to be used not only for diagnosis, but also for a better understanding of neural processes in neuroplasticity research, therapy, the development of BCI (brain-computer interface) technology, and the education of future specialists. To achieve these goals, we continuously invest in research, collaborate with experts from medical universities, and regularly update our software to meet the latest medical standards.

CREATE TO HELP

FOUR **PRINCIPLES OF ELMIKO**

What distinguishes the **ELMIKO** brand on the international market is the combination of four key pillars on which we rely: **Polish production, system reliability, specialist training and technological support.**

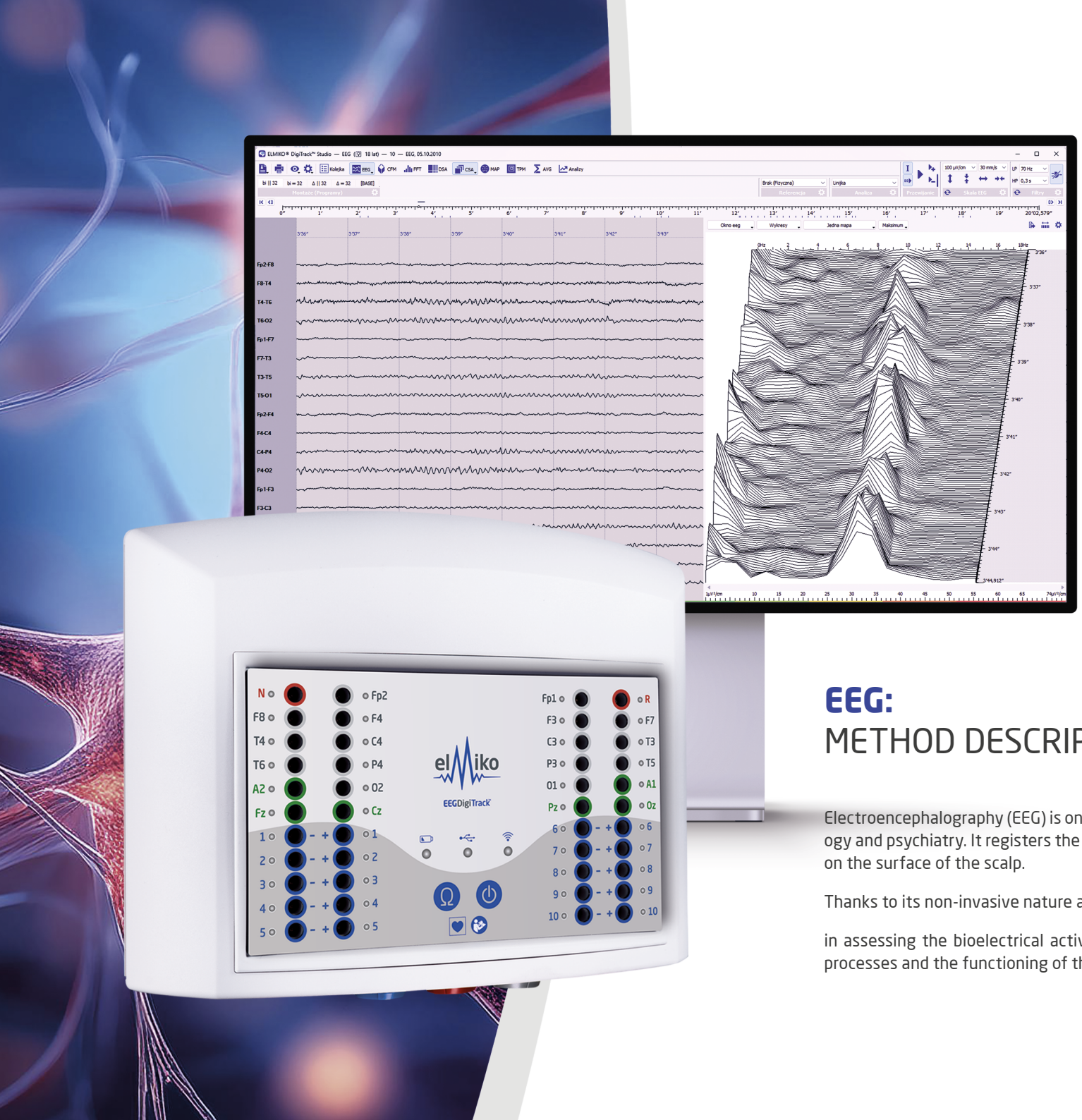
Polish production and quality – all our advanced EEG devices are designed and manufactured in Poland using the highest quality components in compliance with the requirements for medical devices, as confirmed by our certificates.

Reliability – our innovative systems are designed for 24/7 operation in demanding clinical environments. They ensure stable recording, exceptionally low noise levels and full compatibility with earlier versions of the equipment.

Education – as part of the AKSON Education Centre, we conduct professional training in EEG, aEEG/CFM and EEG Neurofeedback. We teach not only the practical operation of the equipment, but also the interpretation of recordings and therapy planning.

Support – we provide comprehensive system support, from installation and configuration, through necessary training, to fast service available locally in Poland.

The **ELMIKO** brand is not only a manufacturer of EEG devices, but also a partner that accompanies specialists throughout the entire diagnostic and educational processes. From the first EEG systems to today's advanced digital solutions, our mission continues to be to provide specialists with tools that help them better understand how the brain works and treat patients more effectively.



EEG:
METHOD DESCRIPTION AND HISTORY

Electroencephalography (EEG) is one of the most important diagnostic methods in neurology and psychiatry. It registers the electrical activity of the brain using electrodes placed on the surface of the scalp.

Thanks to its non-invasive nature and high sensitivity, it has become an essential tool

in assessing the bioelectrical activity of the brain, as well as in research on cognitive processes and the functioning of the nervous system.

DISCOVERY OF BRAIN WAVES

The origins of modern electroencephalography (EEG) date back to 1924, when German psychiatrist Hans Berger first recorded human brain activity on paper. Using simple devices, Berger made a breakthrough by identifying and naming the basic brain waves - alpha waves and, somewhat later, beta waves. He also introduced the commonly used abbreviation, EEG, into medical literature.

His EEG recordings became the foundation of clinical neurodiagnostics. Berger was the first to notice the connection between beta waves and concentration, and he demonstrated changes in EEG recordings in patients with epilepsy and neurological diseases. His work confirmed that EEG is a reliable indicator of brain activity, giving way to the development of precise diagnostic systems.

Source: National Digital Archive, public domain

DEVELOPMENT OF EEG IN NEUROLOGY AND PSYCHIATRY

The 1950s and 1960s were a period of rapid development of the EEG. The method began to be used in the diagnosis of sleep disorders, encephalopathy, epileptic states, and also in psychiatry - including research into schizophrenia, depression and bipolar disorder.

The following decades brought miniaturisation of equipment, digital signal analysis and the introduction of multi-channel recording. As a result, EEG became not only a clinical instrument, but also a research tool.

Today, modern EEG systems enable simultaneous recording, analysis and visualisation of data in real time. Integration with video recordings, FFT analysis, brain mapping, quantitative reports (QEEG) and long-term monitoring (aEEG/CFM) make electroencephalography one of the most advanced methods of diagnostics and neurophysiological therapy.

EEG: IN PRACTICE

EEG is a universal tool used in many fields of medicine and science. It allows for real-time assessment of brain activity, identification of functional disorders, monitoring of treatment progress, and evaluation of therapy effectiveness.

CLINICAL AND SCIENTIFIC APPLICATIONS OF EEG SYSTEMS

EEG is used, among other things, in:

- **Diagnosis of epilepsy** – localisation of seizure foci, classification of seizure types, monitoring of treatment effectiveness.
- **Sleep disorders** – analysis of sleep architecture, detection of parasomnia, sleep apnoea, narcolepsy.
- **Disorders of consciousness, traumas and encephalopathies** – assessment of comatose patients, diagnostics of post-traumatic brain disorders, toxic and metabolic encephalopathies.
- **Neurodevelopmental disorders** – diagnosis and evaluation of disorders, including autism spectrum disorder, attention deficit hyperactivity disorder (ADHD) and Tourette's syndrome.
- **Intensive care units (ICUs) and neonatal units** – continuous monitoring of brain activity in critically ill patients or premature babies.
- **Experimental research** – analysis of cognitive functions, research on neuroplasticity, development of brain-computer interfaces (BCI).

INDICATIONS AND CONTRAINDICATIONS FOR EEG TESTING

An EEG examination is safe, non-invasive and painless. Indications for the examination include:

- Episodes of consciousness loss or fainting,
- Epileptic seizures,
- Sleep and consciousness disorders,
- Head injuries and encephalopathies,
- Neurodevelopmental and mental disorders,
- Neurodegenerative diseases such as Alzheimer's and Parkinson's disease,
- Monitoring brain activity in people who are comatose or after cardiac arrest.

There are few contraindications to performing an EEG, and these mainly include fresh scalp wounds or inflammation at the electrode sites.

STANDARD EEG TESTING PROCEDURE

- **Duration:** 20-40 minutes.
- **Examiner:** doctor or EEG technician.
- **Describer:** neurologist or doctors of other specialisations who have undergone the necessary training in conducting and analysing EEG examinations.
- **Result:** EEG recording with clinical report (description + graph).

During the test, the patient remains in a sitting or lying position. Electrodes are placed on specific points on the patient's clean scalp (usually according to the international 10-20 system). The recorded signals are presented in the form of waves of varying frequencies, which allows evaluation of their rhythm and symmetry, and detection of any pathological changes in the recording.

THE IMPORTANCE OF EEG FOR PATIENTS AND CLINICIANS

For patients, EEG is a quick, safe and non-invasive diagnostic method that helps determine the causes of neurological symptoms and choose the right treatment.

For physicians, it is one of the simplest yet most important tools in the functional diagnosis of the nervous system, allowing them to monitor the patient's condition, assess the effectiveness of therapy and detect brain disorders at an early stage.

ELMIKO TECHNOLOGY

ELMIKO EEG AMPLIFIER

The ELMIKO EEG amplifier has been designed with maximum user comfort in mind. The device stands out on the market thanks to its:

- **Ergonomics** – the lightweight and precisely balanced design of the amplifier ensures easy adjustment to the individual needs of each patient.
- **Number of channels** – the ability to work on 22 reference channels and 10 bipolar channels.
- **Measurement precision** – high-quality amplifiers with exceptionally low noise levels.
- **Compliance with medical standards** – the amplifier meets ISO 13485 standards and CE directives for medical equipment.

The amplifier works with ELMIKO EEG DigiTrack software and additional modules: video EEG (VEEG), Holter EEG, aEEG/CFM, EEG Neurofeedback, offering stable recording, minimal signal interference and full system functionality.

ELMIKO EEG SOFTWARE

The innovative **ELMIKO EEG** software is the heart of every ELMIKO EEG system. It is a comprehensive diagnostic environment that combines intuitive operation with advanced tools for analysing bioelectrical brain activity. Thanks to its modular design and compliance with international medical standards, ELMIKO EEG software is used in clinical diagnosis, scientific research and teaching.

The system was designed in close cooperation with neurologists, neurophysiologists and EEG technicians, ensuring full functionality while maintaining simplicity of usability.

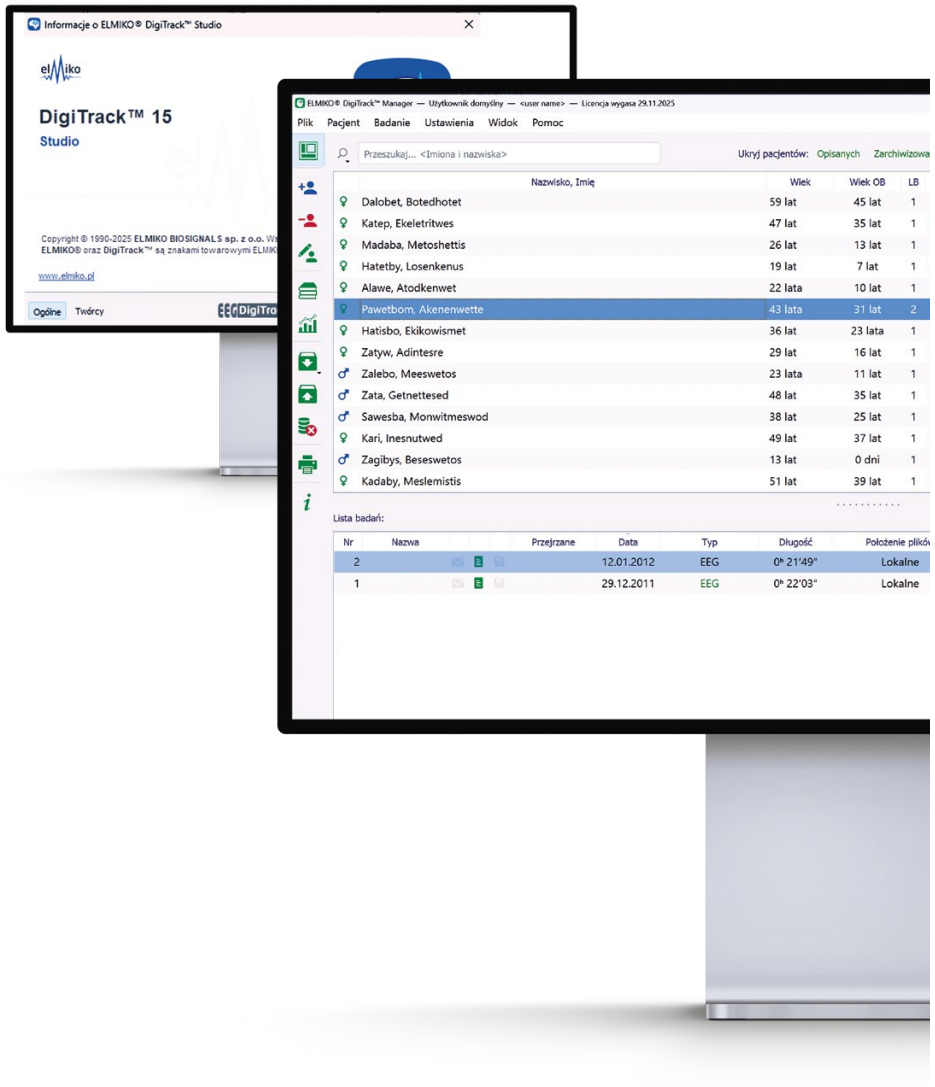
The software runs on Windows and is available in multiple languages, with full support for updates and network integration.

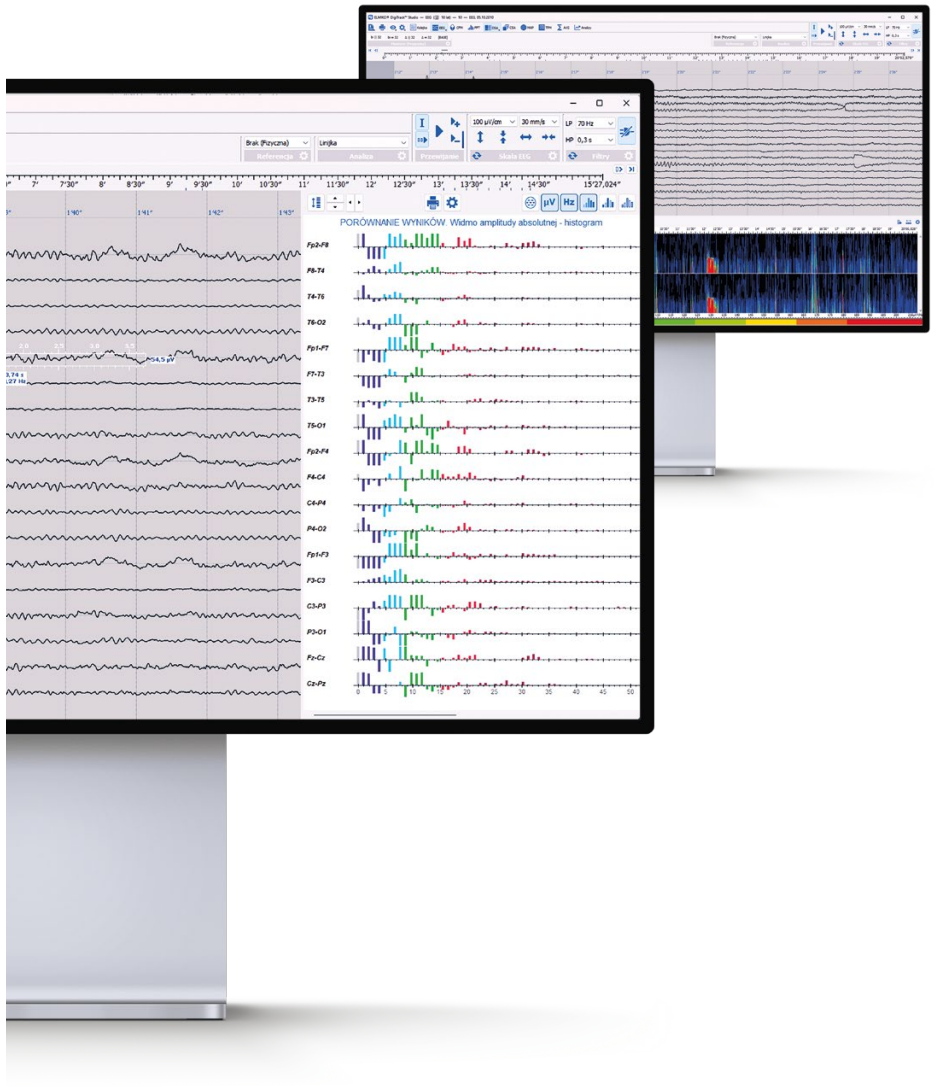
PATIENT DATABASE: PATIENT DATA SECURITY AND GDPR COMPLIANCE

One of the key elements of the ELMIKO EEG system is the **patient database**, designed to ensure data security and compliance with applicable **GDPR** regulations.

Each user of the system is assigned an individual account with a specific level of authorisation – from EEG technician to attending physician or system administrator. Access to patient data is protected by multi-level authorisation, transmission encryption and user activity logging history.

Patient registration is quick and intuitive, with the option to add demographic data, medical history, diagnostic unit and links to archived tests. Each EEG test can be assigned to a specific session or therapeutic programme, allowing you to track the patient's progress over time and compare subsequent recordings.





The database in the ELMIKO EEG DigiTrack software also enables:

- Searching data by patient name or examination date,
- Archiving EEG records in a local or network database,
- Integration with **HIS** hospital systems.

Thanks to these features, ELMIKO software provides full control over medical data while ensuring compliance with legal requirements and internal data protection procedures in medical facilities.

PERFORMING THE EXAMINATION: PRECISION AND REAL-TIME CONTROL

The ELMIKO EEG recording module has been designed for user convenience and to ensure the highest quality of data obtained. The programme interface is intuitive to use, with a logical distinction between measurement, signal quality control and test documentation sections. While preparing the patient for the test, the system automatically monitors the impedance of the electrodes and alerts the user to any abnormal measurements. The EEG technician can immediately correct the placement of the electrodes and ensure optimal contact with the scalp.

During recording, the software allows for:

- **Real-time preview of the EEG signal,**
- **Control of impedance** and signal quality,
- **Adding time stamps** and clinical comments,
- **Synchronisation with video recording** (with the VEEG module active),
- **Spectral analysis (FFT)** and signal mapping.

Each examination can be saved in the native ELMIKO (.eeg) format or in the universal EDF+ format, which facilitates cooperation with other analytical systems.

ADVANCED ANALYTICAL FUNCTIONS OF THE SYSTEM

The ELMIKO EEG DigiTrack analytical module is the heart of the entire EEG system developed by ELMIKO. Thanks to its advanced analytical functions, it enables comprehensive analysis of EEG recordings, offering a level of precision typical of top-class scientific and medical software.

The system allows for:

- **Real-time signal filtering** (bandpass, low-pass and high-pass filters, 50/60 Hz notch),
- **FFT (Fast Fourier Transform) analysis** – spectral transformation enabling the assessment of wave power and frequency in specific bandwidths (delta, theta, alpha, beta, gamma),
- **2D and 3D topographic mapping** – spatial visualisation of electrical brain activity,
- **A special type of TPM (Time Potential Maps) mapping**, showing the distribution of the power of individual brain waves on the surface of the head.
- **BSI (Brain Symmetry Index) analysis** – measurement of the symmetry of electrical activity between the right and left hemispheres of the brain in order to detect strokes, ischaemia or other asymmetrical alternations.
- **Use of DSA (Density Spectral Array) and CSA (Compressed Spectral Array) methods**, enabling compression of large amounts of data in order to highlight trends over time; typically used in long-term studies, and in the observation of patients in intensive care units (ICUs) and neonatology wards.
- **Detection of artefacts and automatic wave classification**,
- **Generation of quantitative reports (QEEG)** and export of data to PDF and text file formats,
- **Print queue feature** for optimised workflow.

The software works with additional modules:

- Video EEG (VEEG),
- Holter EEG,
- aEEG/CFM,
- EEG Neurofeedback,

creating a fully developed working environment for technicians, doctors and therapists.

INTEGRATION WITH MEDICAL SYSTEMS

Modern diagnosis requires full integration between apparatus and patient data management systems. ELMIKO EEG DigiTrack is compliant with international medical data exchange standards, enabling its implementation in any medical facility's IT structure.

The software is capable of working with digital medical record systems, automatically exporting EEG reports to the patient's medical history. This facilitates the management of patient results and allows the clinical team to access data instantly in order to make accurate and rapid decisions.

Thanks to its network functions, ELMIKO EEG DigiTrack is also particularly useful in **telemedicine**, allowing doctors to remotely access tests performed at other facilities and send fragments of EEG recordings for expert consultation.

INTELLIGENT SUMMARIES AND DATA EXPORT IN THE FORM OF AN EEG REPORT

The cutting-edge **EEG report** feature is a tool that allows you to generate a summary of the examination, including FFT analysis, mapping, and selected fragments of the EEG

recording. The user can select interesting fragments of the signal, compare their power spectrums, and then generate a comparative report covering signal changes during the examination.

The EEG report offers the following features:

- Summary of the most important test parameters,
- Quick comparison of FFT fragments (e.g. prior to and after therapy),
- Returning to selected EEG fragments added to the report without the need to search for them again,
- Export of data to a text document or PDF format,
- Attaching the report to the patient's electronic documentation.

The report function available in ELMIKO EEG systems reduces the time needed to describe the test and increases the consistency of clinical documentation. The report contains basic information about the patient, test settings, and analysis results such as mapping and FFT spectrum. The report can be saved in PDF format, in a text file or printed.

SUMMARY

ELMIKO EEG software is not only a diagnostic tool, but also **an integrated system supporting the entire process of patients' management** – from examination registration,

through signal analysis, to reporting and data archiving. Its modular design, high level of security and advanced analytical capabilities make it one of the most advanced EEG solutions available on the market.

The system, which is constantly being developed by Polish engineers, supported by local technical service and regular updates, provides a reliable technological background for medical and research facilities around the world.

COMPLETE **ELMIKO EEG SYSTEM**

ELMIKO EEG systems are complete diagnostic kits built around the high-tech **ELMIKO EEG** (ExG-32) **amplifier**, designed to meet a range of user needs - from mobile field studies to multi-station clinical hospitals and large diagnostic centres.

Each variant has been developed to the highest quality standards in line with **ISO 13485**, incorporating ergonomics and compliance with **medical standards and EU regulations** for CE-marked products.

A common feature of all configurations is the ability to work with **ELMIKO EEG DigiTrack** software, which ensures full functionality of the systems – from examination recording through signal analysis to results reporting.

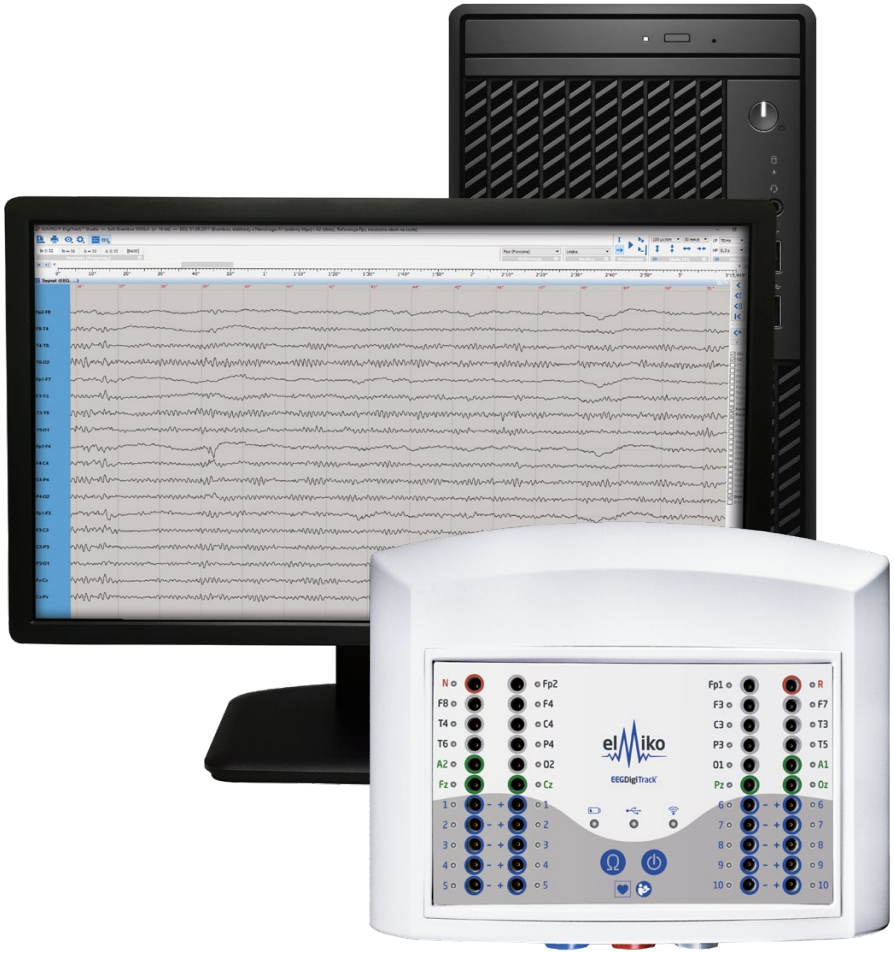
MOBILE ELMIKO EEG SYSTEM

A fully portable EEG station designed for use on site, at the patient's bedside or at home.

The standard equipment of the ELMIKO EEG Mobile System includes:

- Advanced **ELMIKO EEG amplifier** with the ability to work on 22 reference channels and 10 bipolar channels, supporting wireless (WIFI) or USB port operations,
- High-performance **laptop** (Intel Core i5, 1 TB SSD, 8 GB RAM, nVidia 2 GB),
- Wheeled **case** for the transport of equipment,
- Freely programmable **diode photostimulator**,
- **ELMIKO EEG** DigiTrack software,
- Manfrotto **tripods** and professional **mounts** for the stimulator and amplifier,
- **EEG cap** with a set of cap electrodes and cables,
- User **manual** in Polish.

Equipment can also be freely adapted to the individual needs of EEG laboratories and clinics, e.g. by adding optional modules: video EEG (VEEG), Holter EEG, aEEG/CFM, EEG Neurofeedback, or connecting additional channels, e.g. blood saturation level (SpO_2), photostimulator, photodetector or patient button.



SINGLE-STATION ELMIKO EEG SYSTEM

A compact EEG diagnostic station designed for stationary use in practices, clinics and smaller medical centres.

The standard equipment of the ELMIKO EEG Single-station System includes:

- Advanced **ELMIKO EEG amplifier** with the ability to work on 22 reference channels and 10 bipolar channels, supporting wireless (WIFI) or USB port operations,
- **High-performance PC** (Intel Core i5, 1 TB SSD drive, 8 GB RAM, nVidia 2 GB),
- **LCD colour monitor** with a minimum diagonal of 23",
- **Laser printer** for printing test results and EEG recordings,
- **ELMIKO EEG** DigiTrack software,
- Freely programmable **diode photostimulator**,
- Console with **overvoltage filter**,
- System **cabling**,
- Manfrotto **tripods** and professional **mounts** for the stimulator and amplifier,
- EEG cap with a set of cap electrodes and cables,
- User **manual** in Polish.

Equipment can also be freely adapted to the individual needs of EEG laboratories and clinics, e.g. by adding optional modules: video EEG (VEEG), Holter EEG, aEEG/CFM, EEG Neurofeedback, or connecting additional channels, e.g. blood saturation level (SpO_2), photostimulator, photodetector or patient button.

MULTI-STATION ELMIKO EEG SYSTEM

The ELMIKO EEG Multi-station System system is designed for high-throughput EEG laboratories, such as large clinical hospitals, diagnostic centres and research units.

The standard ELMIKO EEG Multi-station System includes:

- Advanced **ELMIKO EEG amplifier** with the ability to work on 22 reference channels and 10 bipolar channels, supporting wireless (WIFI) or USB port operations,
- **2 x high-performance PCs** (Intel Core i5, 1 TB SSD drive, 8 GB RAM, nVidia 2 GB),
- **2 x LCD colour monitors** with a minimum diagonal of 23",
- **Laser printer** for printing test results and EEG recordings,
- **Emergency power supply** to maintain system operation in the event of a power failure,
- Freely programmable **diode photostimulator**,
- **2 x ELMIKO EEG** DigiTrack **software**,
- **2 x** consoles with **overvoltage filter**,
- System **cabling**,
- Manfrotto **tripods** and professional **mounts** for the stimulator and amplifier,
- **EEG cap** with a set of cap electrodes and cables,
- User **manual** in Polish.

Equipment can also be freely adapted to the individual needs of EEG laboratories and clinics, e.g. by adding optional modules: video EEG (VEEG), Holter EEG, aEEG/CFM, EEG Neurofeedback, or connecting additional channels, e.g. blood saturation level (SpO_2), photostimulator, photodetector or patient button.

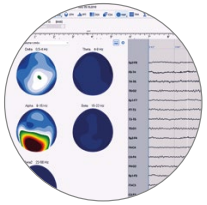
SUMMARY OF THE ELMIKO EEG SYSTEM SERIES

Each of the three variants of the ELMIKO EEG systems offers:

- Recording on **22 reference channels** and **10 bipolar channels**,
- **Full compatibility** with **ELMIKO EEG** DigiTrack software,
- Advanced **analytical tools** and the ability to work with additional modules,
- Compliance with international medical and legal standards.

The choice between the **Mobile**, **Single-station** and **Multi-station ELMIKO EEG systems** depends on the nature of the examinations performed at the facility. The systems can be configured to suit the specific workflow - from mobile on-site examinations to multi-channel EEG laboratories in clinical hospitals and research institutes.

1.
ELMIKO EEG
Amplifier



2.
ELMIKO EEG
Software

3.
Photostimulator
ELMIKO EEG System

4.
LAN camera
ELMIKO EEG System

Comparison table of the most important features and equipment of the three ELMIKO EEG Systems

	GENERAL CHARACTERISTICS	SYSTEM MOBILITY	INTENDED USE	COMPONENTS OF THE KIT
 **Mobile ELMIKO EEG System**	**Fully mobile set** with a battery power supply and a transport case	Fully portable EEG set with a **laptop** and a **transport case**	Mobile, **home** and **bedside examinations** (ICU, neurology, rehabilitation)	**ELMIKO EEG amplifier** (ExG-32), laptop, transport case, EEG cap with cap electrodes and cables, diode photostimulator, Manfrotto tripods and mounts for the stimulator and amplifier
 **Single-station ELMIKO EEG System**	Compact, single-station EEG system designed for **stationary use**	Stationary set: **PC + monitor**, system cabling	**Neurology practices**, **clinics**, smaller medical centres	**ELMIKO EEG amplifier** (ExG-32), PC, LCD monitor, laser printer, console with overvoltage filter, system cabling, EEG cap with cap electrodes and cables, diode photostimulator, Manfrotto tripods and mounts for the stimulator and amplifier
 **Multi-station ELMIKO EEG System**	Multi-station system designed for **high-throughput** EEG laboratories	Stationary set: **2 x computer + 2 x monitor** (either PC + monitor or laptop), system cabling	**Hospitals**, clinics, diagnostic and academic centres	**ELMIKO EEG amplifier** (ExG-32), two computers + two displays (either PC + monitor or laptop), emergency power supply, two consoles with overvoltage filter, system cabling, EEG cap with cap electrodes and cables, diode photostimulator, Manfrotto tripods and mounts for the stimulator and amplifier

	SOFTWARE	AVAILABLE ADDITIONAL MODULES	REPORTING AND DATABASES	LEGAL AND MEDICAL STANDARDS	TYPE OF RECOMMENDED FACILITY
 **Mobile ELMIKO EEG System**	**ELMIKO EEG** DigiTrack	Video EEG (**VEEG**), **Holter EEG**, **aEEG/CFM**, **EEG Neurofeedback**	Export of reports to **PDF**/text documents, integration with **HIS** systems, remote evaluation of tests, report generation including **FFT** analysis, mapping and selected fragments of EEG recordings	Compliance with **CE**, **ISO 13485**, **GDPR standards**	**Home care**, **ICU**, neonatal wards, mobile diagnostic teams
 **Single-station ELMIKO EEG System**	**ELMIKO EEG** DigiTrack	Video EEG (**VEEG**), **Holter EEG**, **aEEG/CFM**, **EEG Neurofeedback**	Export of reports to **PDF**/text documents, integration with **HIS** systems, remote evaluation of tests, report generation including **FFT** analysis, mapping and selected fragments of EEG recordings	Compliance with **CE**, **ISO 13485**, **GDPR standards**	Neurological clinics, **private practices**, therapy centres
 **Multi-station ELMIKO EEG System**	**ELMIKO EEG** DigiTrack	Video EEG (**VEEG**), **Holter EEG**, **aEEG/CFM**, **EEG Neurofeedback**	Export of reports to **PDF**/text documents, integration with **HIS** systems, remote evaluation of tests, report generation including **FFT** analysis, mapping and selected fragments of EEG recordings	Compliance with **CE**, **ISO 13485**, **GDPR standards**	**Clinical hospitals**, universities, neurodiagnostic clinics, research laboratories

ADDITIONAL **MODULES**

ELMIKO EEG systems can be extended with **additional modules**, which allow the functionality of the device to be adapted to the needs of a specific facility - from neonatal and intensive care units (ICUs) to research laboratories.

Each module is fully compatible with ELMIKO EEG software and can be activated at any time without the need to replace the equipment.

VEEG: EEG WITH VIDEO RECORDING

The **videometry module (VEEG)** enables simultaneous recording of EEG signals and video camera images. Due to precise time synchronisation, each fragment of the brain wave recording can be linked to the corresponding moment in the video recording, which significantly aids clinical analysis, especially in the diagnosis of epilepsy, sleep disorders and epileptic seizures.

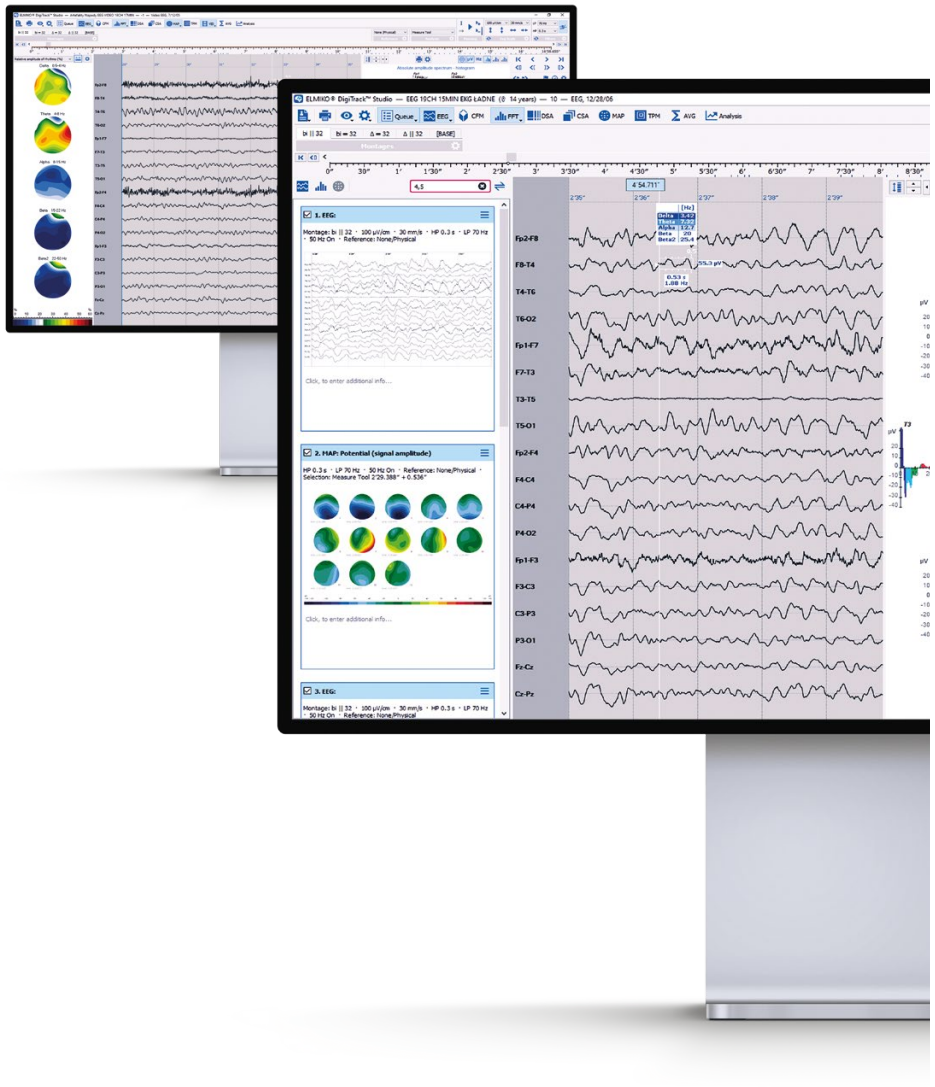
The system supports one or two high-resolution cameras, of which the recordings can be replayed and analysed in sync with the EEG signal.

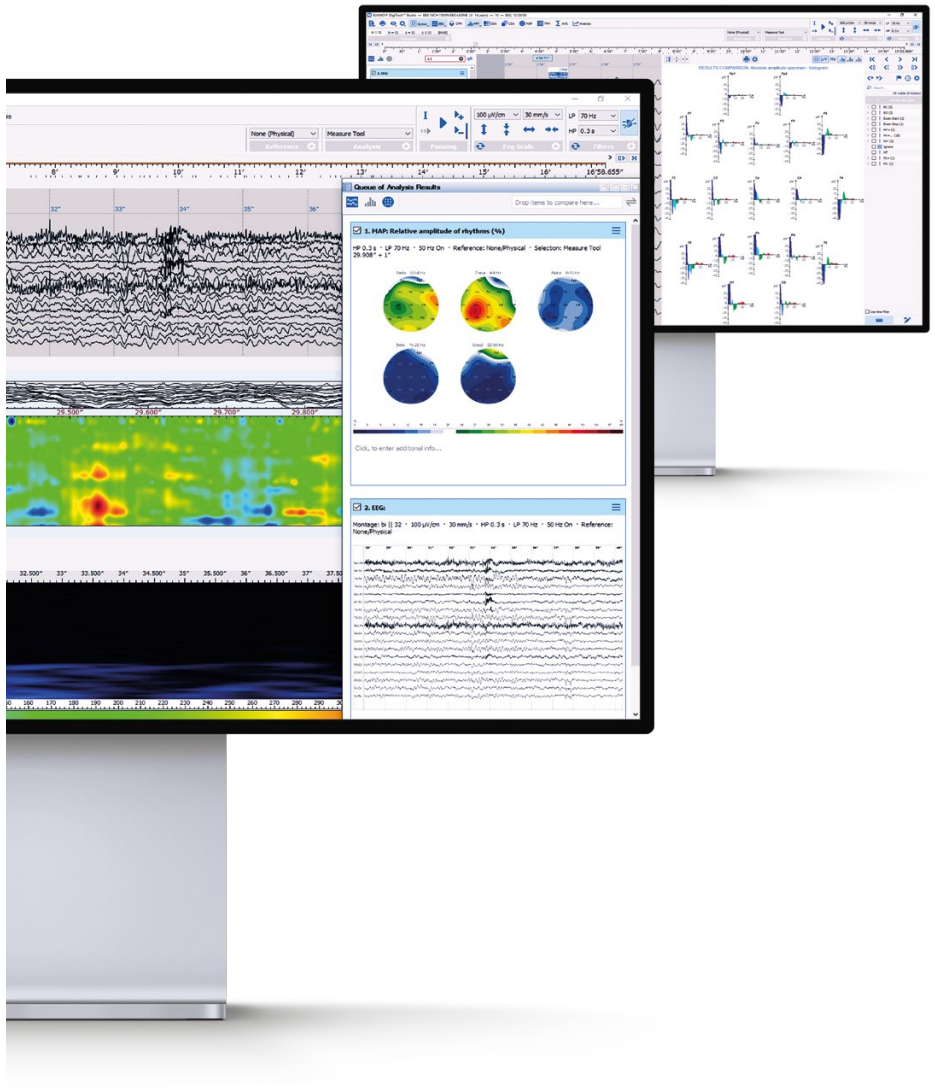
AUTOMATIC FFT ANALYSES AND QUANTITATIVE QEEG REPORTS

The **automatic analysis module** uses algorithms assisting in the evaluation of EEG recordings. The system automatically recognises artefacts, classifies wave types and flags sections requiring detailed analysis.

The ability to compare **FFT** recordings allows physicians to observe changes in signal dynamics over time, which is particularly important in monitoring the effects of long-term treatment (e.g., pharmacological) or therapy using neuromodulation techniques.

An **additional QEEG module** generates quantitative reports, frequency band power maps and comparative summaries that can be exported to text documents or PDF files. This solution saves time and increases diagnostic precision, helping the physician maintain full control over the process of interpreting the results.





USE OF REMOTE TEST DESCRIPTION FUNCTION IN TELEMEDICINE

The rise of telemedicine nowadays makes it possible to analyse EEG recordings from any location. The **remote test description function** allows doctors and technicians to access patient results from different facilities via a secure network connection.

EEG and video recordings can be sent in their entirety or in selected fragments, enabling effective cooperation between institutions. This solution significantly speeds up the diagnostic process, especially in establishments that do not have their own EEG system.

The system complies with GDPR requirements and enables data encryption, ensuring full confidentiality of patients' medical records.

PRINT QUEUE

The **print queue** is a feature that automates the process of generating and printing EEG reports. It allows you to create a list of tests awaiting printing and then process them in the background without the need for constant user supervision.

This solution is particularly useful in large research and diagnostic centres where many tests are performed every day.

AEEG/CFM MODULE

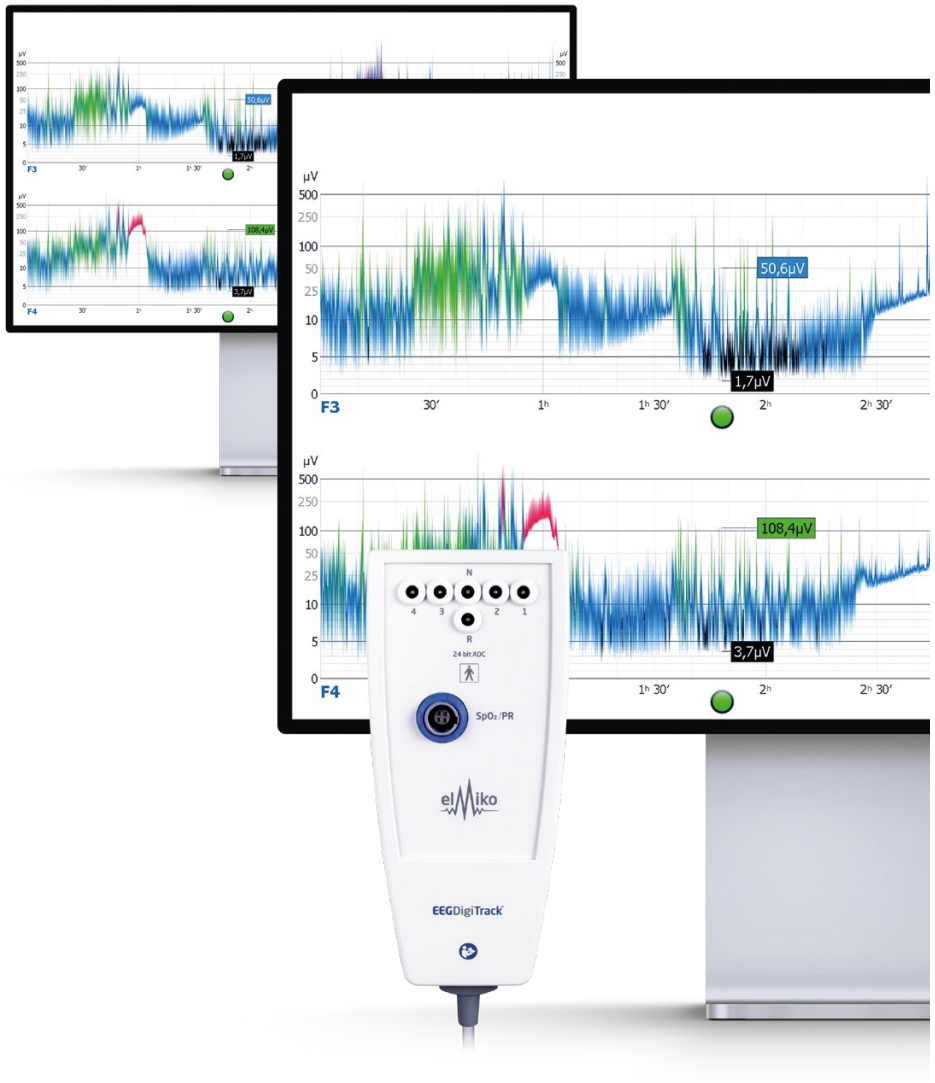
The **aEEG/CFM module** enables long-term recording and analysis of brain bioelectrical activity in amplitude-integrated EEG (aEEG) mode. This solution is particularly useful in neonatology and intensive care units, where continuous monitoring and rapid assessment of brain function in premature babies and critically ill patients is crucial.

The system automatically displays the recording in the form of an aEEG trend, allowing real-time observation of changes in brain activity. Our devices also allow simultaneous measurement of patients' ECG and SpO2, which is crucial in critical medical conditions. We are the only company in the world to offer the ability to monitor rSO2 (regional tissue saturation) on a single trend with SpO2 values, aEEG trend and impedance. This unique feature aids in assessing whether reduced brain activity is the result of hypoxia or whether brain inactivity leads to respiratory failure, enabling a more accurate understanding of the relationship between respiratory condition and brain function.

The device allows connection to up to 4 rSO2 channels, allowing simultaneous monitoring of regional saturation, e.g. of brain and intestinal tissue, which is particularly important in preterm infants. Impedance is displayed throughout the entire scan, not just at selected points, and the values are presented in different colours, which speeds up the interpretation of results and facilitates everyday use of the device. In addition, it is possible to set specific audible and visual alarms when the displayed impedance value is exceeded.

The combination of these features allows for early detection of seizures in newborns, functional disorders, or hypoxia, as well as ongoing monitoring of treatment effectiveness.

These advanced features of our aEEG/CFM module not only increase diagnostic accuracy, but also improve therapeutic effectiveness, supporting medical staff in providing the highest quality of care.



EEG NEUROFEEDBACK MODULE

The **EEG Neurofeedback** module expands the ELMIKO EEG system by adding a neurotherapeutic function, empowering patients to actively participate in the therapeutic process and improving their self-control over cognitive and emotional functions.

EEG Neurofeedback training involves providing real-time feedback on brain activity. Patients learn to consciously influence their brain wave parameters by completing tasks related to visual displays shown by the system, which results in improved concentration, reduced tension, and emotional stability.

The module allows for flexible creation and adjustment of training protocols, thereby enabling the therapy to be tailored to the individual needs of the patient. EEG Neurofeedback is particularly relevant in the treatment of patients with neurodevelopmental, neurological and psychiatric disorders, as well as in professional sports and rehabilitation after injuries and strokes.

As a tool used for diagnosis and therapy, the ELMIKO EEG Neurofeedback module is a medical device that complies with all regulations for certified medical equipment.

TRAINING AND POST-SALES SUPPORT

In the dynamically developing world of MedTech, investment in advanced diagnostic and therapeutic technologies, such as ELMIKO equipment, requires equally advanced support. We are convinced that maximising the return on investment in equipment is possible due to the excellent technical and clinical competence of the entire team. That is why **AKSON Education Centre** provides specialised, certified training in the handling, calibration and interpretation of data from EEG, aEEG/CFM and neuromodulation systems. All this is complemented by our **complex after-sales support**, from regular software updates to prompt service located in Poland, guaranteeing operational reliability and continuity of medical services.

TRAINING AT THE AKSON EDUCATION CENTRE

At ELMIKO, we believe that properly trained personnel are the foundation of effective therapy and treatment. That is why, as part of the **AKSON Education Centre**, we train technicians, doctors and specialists in the theoretical and practical application of EEG, aEEG/CFM, neurofeedback and many other neuromodulation methods.

The training is primarily aimed for:

- **Doctors** (neurologists, psychiatrists, paediatricians),
- **Technicians** and people with **medical education**,
- **Students** of medical, psychological and cognitive sciences,
- **Medical and administrative staff** of medical facilities.

The courses combine theory with practice, focusing on the handling of apparatus, interpretation of recordings and analysis of clinical cases. They are conducted by highly experienced professionals. Upon successful completion of the courses, participants receive certificates confirming their professional qualifications.

COMPREHENSIVE POST-SALES SUPPORT FROM ELMIKO

Our product support does not end with the sales process. At ELMIKO, we offer a comprehensive package of after-sales services, guaranteeing support and continuity of work for our customers. Our services include:

- **Regular software updates:** We provide continuous access to the latest software versions, guaranteeing the highest functionality, security and compliance with current standards.
- **Reliable service:** Our service centre located in Poland provides professional assistance and/or repairs, minimising operational downtime.
- **Technical support hotline:** Our specialists offer expert technical assistance for quick problem solving.
- **Remote assistance:** You receive support without leaving your office. We provide remote assistance with system start-up and optimal use of hardware and software.
- **System configuration and expansion:** We assist in the calibration, configuration, planning and implementation of ELMIKO's system expansion.
- **Equipment rental:** In the event of a malfunction or for testing purposes, we offer the possibility of renting replacement equipment or additional devices.
- **Wide range of accessories:** We provide a full range of accessories and spare parts, guaranteeing full compatibility with our systems.
- **Consultations:** Our experts are available for individual consultations, assisting in equipment configuration and optimisation.
- **Training (AKSON Education Centre):** As part of the ELMIKO GROUP, we offer specialised training courses.

Our goal is to ensure that ELMIKO hardware and software always perform at the highest level.

ELMIKO GROUP **MISSION**

ELMIKO GROUP is a Polish brand that has been developing EEG technology for decades, supporting doctors, scientists and therapists in gaining a better understanding of how the brain works.

Our motto is at the very core of our business:

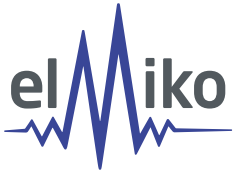
Create to Help.

We achieve this goal through:

- **Precision in measurement** – providing innovative technology that combines reliability, intuitiveness and modularity.
- **Comprehension in diagnosis** – offering tools that can be used from basic diagnostics to advanced scientific research.
- **Development in education** – providing training and service support that embodies our mission of continuous development.

Our advanced solutions and comprehensive technological and educational support assist specialists in the diagnosis, monitoring and treatment of neurological disorders, bringing our mission to reality.

elMiko GROUP



ELMIKO

Manufacturer and distributor of modern medical equipment and innovative solutions for neurology and neurotherapy, including EEG, CFM, EEG Neurofeedback, tES, TMS, and EMG.

AKSON Education Centre

Organises and conducts training courses in neurodiagnostics and neurotherapy for doctors, medical technicians, psychologists, educators and therapists, including: EEG, EMG, QEEG, EEG Neurofeedback, tES, TMS and others.

NEURODIAGNOSTICS

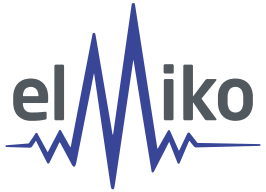
A centre for neurological diagnostics and neurotherapy, providing services to individual patients. It offers these services on an in-patient basis, in neurological clinics and at the patient's home, as well as providing diagnostic services and equipment rental in hospitals and clinics.

ELMIKO VET

Manufacturer of neurological veterinary equipment. It offers advanced solutions to support the work of veterinarians in the field of animal neurology and neurotherapy, including EEG diagnostics, pain relief and treatment.

Meet us

elmikogroup.com



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Create to Help