
Products and Services Catalogue



A Group of ENVltech Companies



ENVltech
Bohemia
the Czech Republic

ENVltech
the Slovak Republic

ENVlmonitor
Ukraine

ENVltech
Environmental
Services
Cyprus

ENVltech Bohemia
an organization branch
Lebanon

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Welcome to ENVltech s.r.o.

ENVltech s.r.o. has been providing a comprehensive solution of monitoring systems for environmental protection to customers since its establishment in 1992.

We offer solutions and complete supplies for automated air quality monitoring systems (AMS – AQ), automated emission monitoring systems (AMS – E), hazardous substance leakage warning systems, flood warning systems, autonomous warning and notification systems, automated weather stations.

ENVltech s.r.o. has also been focused on development of our own software products for monitoring systems, from the beginning allowing us to respond flexibly to legislative requirements in the area, as well as the specific requirements of our partners – customers.

The ENVltech work team also consists of experienced developers whose products are applicable in a wide range of our supplies

Warranty service and also post-warranty service is provided for all monitoring systems supplied. Services in the area of ambient air quality monitoring by our accredited air quality monitoring laboratory, design of monitoring systems and customer services are also an important part of our activities.

The company is certified according to ISO 9001:2015, as well as ISO 14001:2015.

Our company is certified by the Slovak National Security Authority - Industrial Safety.

**More than 30 years of experience in the area of
„environmental control systems“.**



History of the Company



- Start of the company
- First deliveries for the SHMU - Slovak Hydrometeorological Institute



- Stationary stations for the SHMU (Chopok, Starina, Topoľníky)
- AMS supplies
- Warning systems for chemical industry



- Development of AQM stations
- Deliveries of monitoring systems to the Czech Republic, Poland, Hungary
- First deliveries for Slovnaft
- Development of a public environment information system (light panels)
- SW Modim design
- Development of a mobile monitoring laboratory

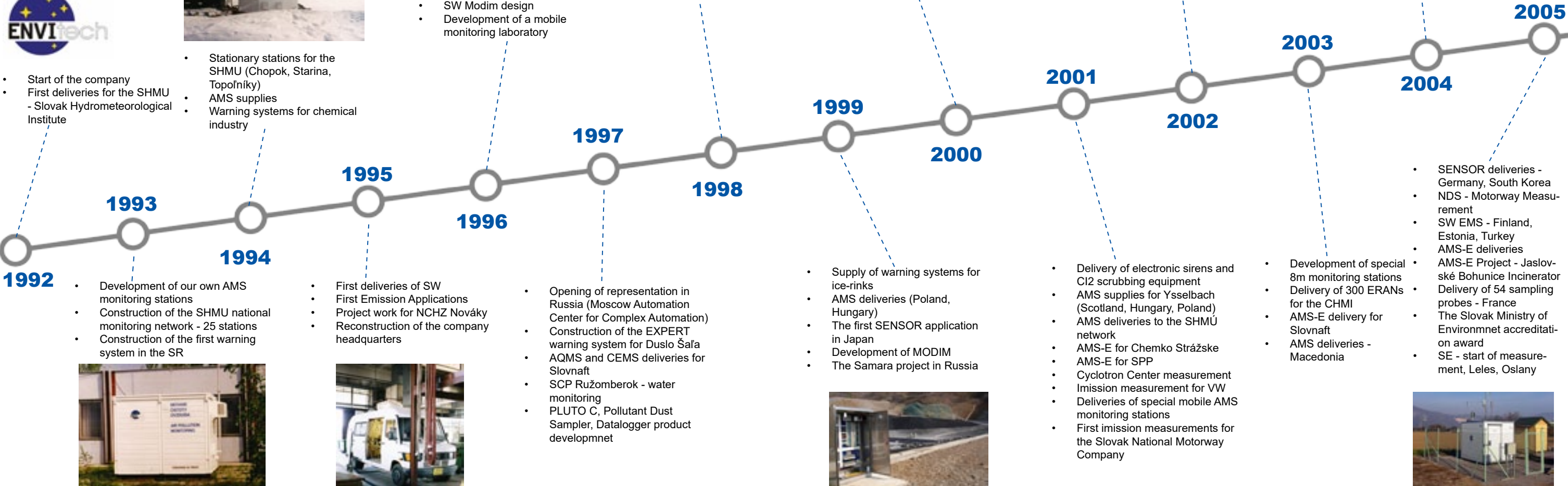


- Development of SW for the SHMU (a trajectory model for parts in the air)
- New Products: Metlog, Sensor, Pluto C +, ADEV 16, MARA 11

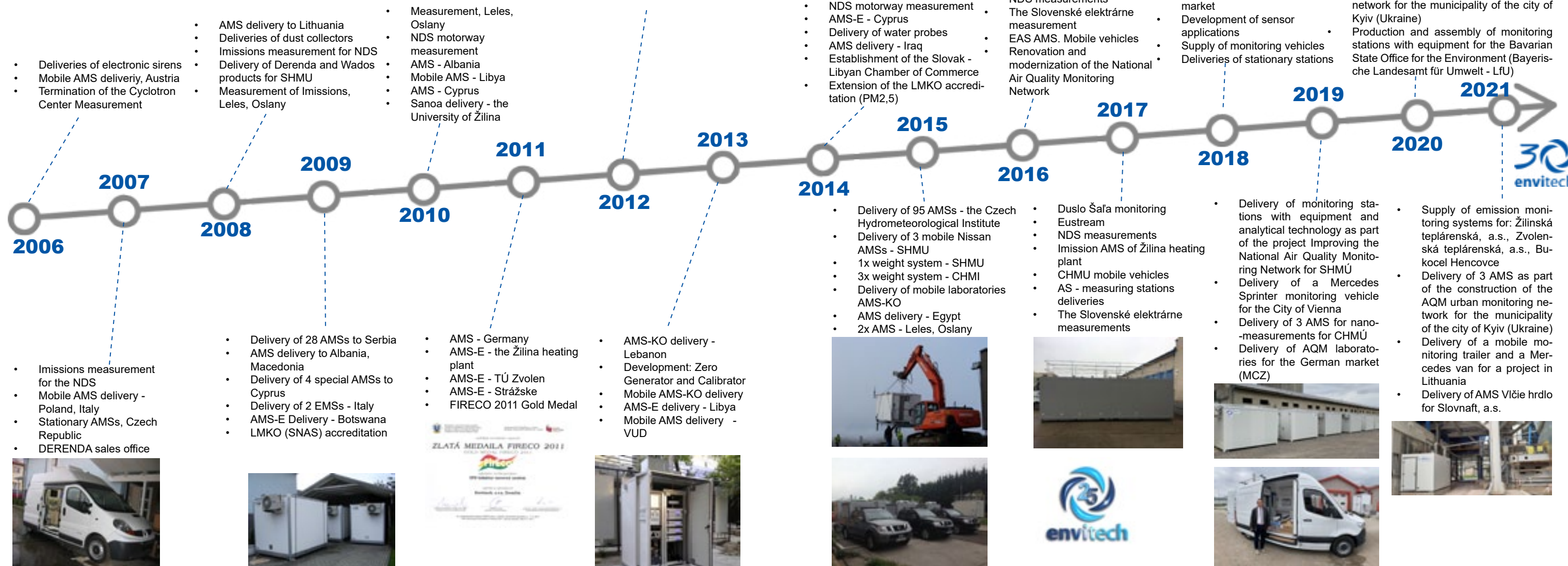
- AMS deliveries for SPP
- Completion of the Integrated Information System for Emissions, Emissions, Water, Waste
- AMS-E deliveries for the Slovnaft Heating Plant
- CAS deliveries to Romania
- First measurement by the station
- MODIM - the Slovak MoE - official methodology in the Slovak legislation
- ENVItech trademark award

- Duslo Šaľa - Trickling NH3 - expanding the population warning system
- AMS supplies - Hungary, Romania, Macedonia
- Delivery of 60 WinIMAGs for the CHMI
- Imission monitoring - Cyclotron Center, motorway measurement
- AMS deliveries to Croatia
- Delivery of electronic sirens

- AMS Deliveries, Macedonia
- AMS-E deliveries to the Czech Republic
- Deliveries of mobile AMS-E laboratories
- Delivery of warning systems, Duslo Šaľa
- AMS-E Slovnaft



History of the Company



Services and Activities

ENVltech s.r.o. provides comprehensive services in the area of environment protection from problem analysis and project development, to turnkey delivery of monitoring system, training of operators and long-time customer services.

We provide our customers complex solutions in the area of air quality monitoring systems (imissions), automated emission monitoring systems, hazardous substance leakage monitoring warning systems with consequent public notification, flood warning systems, meteorological stations



Air Quality Monitoring Laboratory

Internet presentation of measured data

Monitoring systems implementation project

Warning and detection system project

Dispersion studies

Research and development works

Consulting services

Service work

The Air Quality Monitoring Laboratory

The Air Quality Monitoring Laboratory as a part of ENVItech s.r.o. is accredited by The Slovak National Accreditation Service as a competent authority to carry out ambient air quality monitoring, sampling of PM_{2,5} and PM₁₀ fraction of suspended particle, measurement of meteorological parameters, and expression of opinions and interpretations of test results.

Air quality Monitoring of is carried out by the LMKO testing laboratory by mobile laboratories - measuring stations equipped with analysers of individual pollutants in the air, meteorological masts with meteorological sensors, a control and evaluation system with remote transmission of measured data..

Air quality accredited measurement:

Pollutant :
concentration measurement (Carbon monoxide(CO), nitrogen dioxide (NO₂), nitrogen oxides (NO_x), sulphur dioxide (SO₂), PM_{2,5} and PM₁₀),sampling of PM_{2,5} and PM₁₀ particles, measurement of meteorological parameters:
(wind speed and direction, air temperature, humidity, atmospheric pressure)
details are shown in the Appendix to the SNAS Accreditation Certificate No. S-276 - Scope of Accreditation.

Determination of selected heavy metals or benzo (a) pyrene in suspended PM₁₀ particles can be subcontracted in an external accredited laboratory.

Accredited sampling of PM₁₀ solid particles, solid particle sampling on a filter for consequent heavy metal analysis in an external laboratory.

We offer ozone and benzene concentration measurement, summary precipitation and radiation balance measurement, transport intensity and composition measurement, other pollutant concentration and meteorological parameter measurement as supplementary non-accredited measurement in excess of the scope of the SNAS accreditation.



Mobile monitoring laboratory



Stationary laboratory - AMS (Automated Monitoring System)

The Monitoring System Implementation Project

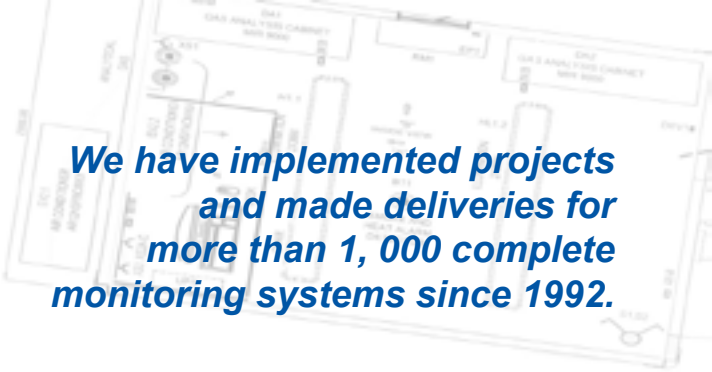
Specific solutions for a specific customer in accordance with current legislative requirements in the area of air protection. The project serves as a basis for an approval procedure by air protection authorities for permission of an Automated Monitoring System (AMS) project.

Automated Air Quality Monitoring Systems

Continuous Emission Measuring Systems

The Project covers the following:

- Design of a measuring station and its equipment
- Design of measurement methods, analysers, sensors, and devices
- A control system, data collection, processing and storage , remote data transmission or provision of data to can operator of the monitoring system and air protection authorities/the public
- Providing service after the monitoring system is set into operation



The monitoring station on Chopok



ENVltech production area



Manufactured air quality monitoring stations for dispatch to Serbia



The mobile monitoring vehicle delivered to the Czech Republic



The special monitoring vehicle for the SHMÚ



Themobile monitoring trailer



The CEMS station



The interior of a monitoring station



The AQMS station

The Warning and Detection System Project

Specific solutions for specific customer, in accordance with current legislative requirements in the area of population protection. The project serves as a basis for an approval procedure by civil protection authorities for permission of the autonomous system of population warning and notification project.

An implementation project of Local Warning Systems (LWS).

An implementation project of warning and detection systems

The project covers the following:

- Analysis of the area, assessment of risks and sources of threats,
- Modelling of potential threats, the evaluation of the area threats
- Determination of boundaries of reliable warning signal sound effects
- Proposal of optimum solution of a warning system (detectors of hazardous substances, a control system with data transmission, electronic sirens with links to civil protection authorities).



A hydrometric measuring station



An electronic siren for public alert



A percipation measuring station

We provide comprehensive solutions for monitoring, detection, follow-up notification and warning.



An electronic siren for public alert



A warning and detection system



A warning and detection system - monitoring station

Dispersion Studies

Mathematical modelling of pollutant discharge in the air - calculation of expected air pollution with the WinMODIM dispersion model.

The calculation may include emissions from stationary sources of air pollution (point, area, volume sources) and from line sources of air pollution (motor-vehicle traffic).

Maps of isolines of concentrations of pollutants and concentration values in nodal points of the area considered, or selected reference points, respectively are an output of calculation. The WinMODIM is a product by ENVltech, s.r.o created in co-operation with the SHMU and the GfÚ SAV.

Due to its quality and reliability, it is recommended by the Slovak Ministry of Environment for air pollution modeling.

Air Pollution Mathematical Modelling :

- Stationary sources
- Line sources
- Stationary and line sources



A diffusion study is a document that assesses the impact of existing or planned sources of air pollution on an existing level of pollution in the site.



WinMODIM



Visualization of pollution calculation

Internet Presentation of Measured Data

Air protection legislation establishes an obligation for a monitoring system operator to provide data to air protection authorities and the public.

As a service, ENVltech, s.r.o. provides presentation of data from a monitoring system in a form of a Web presentation as a comprehensive solution from data acquisition from a measuring system, data conversion into a suitable format, up to creation and management of a Web page displaying the required data .

Measured data can also be presented using light panels located on measuring laboratories, facades of buildings or free-standing ones.



Comprehensive web presentation created based on customer requirements



Data presentation on LED panels



Research and Development Activities

In the area of environment monitoring systems, including control system software, we offer development activities according to customer's requirements - development of new products, as well as modifications of existing products. In spite of a wide portfolio of ENVltech, s.r.o. products, a large part of which comes from our own development, it is not possible to meet all specific customer's requirements with products delivered as standard. In this case, we can modify existing products or develop new products according to specific customer's requirements.

Consulting Services

In the area of environment monitoring systems, we provide comprehensive advisory services from legislative requirements concerning the monitoring systems, approval procedures up to implementation, operation and maintenance.

The experience of our employees, both theoretical and practical, and being well up in legislation allow us to provide consulting services from various areas of environment monitoring.

Service Work

We provide both operational and prophylactic warranty and post-warranty service for all monitoring systems and products delivered by us. Our knowledge and experience, permanent specialised training of personnel and high-quality technical equipment and facilities enable us to provide service at a high professional level.

- Development activities and modification of existing units and products
- Development activities in the area of monitoring system software



Development of arrangement of instrumentation in a monitoring laboratory

Monitoring Systems

Our solutions and complete deliveries are offered for automated air quality measurement systems, automated emission measurement systems, hazardous substance leakage warning systems, flood warning systems, autonomous warning and notification systems, automated weather stations.

Monitoring laboratories

Air quality monitoring systems

Automated emission monitoring systems

Warning and detection monitoring systems

Local warning systems

Meteorological systems



Monitoring Laboratories



Isothermal measuring stations of our production feature structural characteristics providing the following:

- Mechanical and electrical conditions for location of a measuring system
- Stable, defined climatic and thermal conditions
- Protection against electrical and mechanical damage to the system
- Conditions for safe and comfortable operation of a measuring system by operators

We offer dimensionally standardized solutions for monitoring stations:

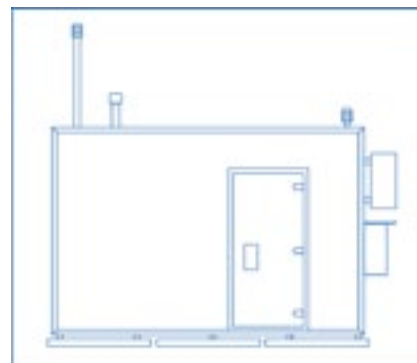
Modules:

- 2 m x 2 m x 2.2 m
- 3 m x 2 m x 2.2 m

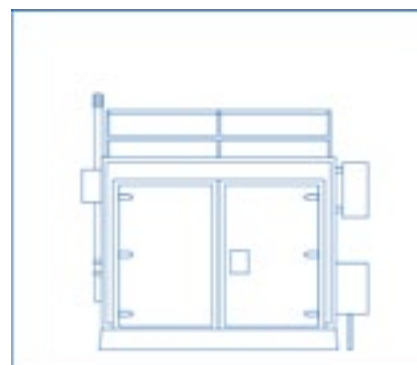
Stations of any size can be delivered based on your requirements.

According to the purpose of use of a monitoring laboratory, stations are divided as follows:

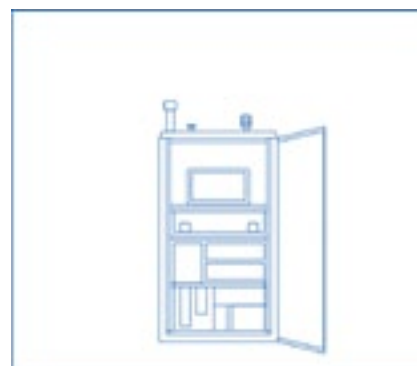
AQMS APPLICATIONS
CEMS APPLICATIONS



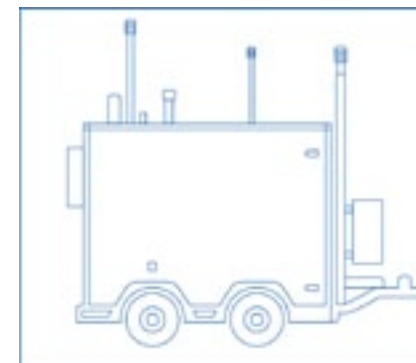
A stationary station



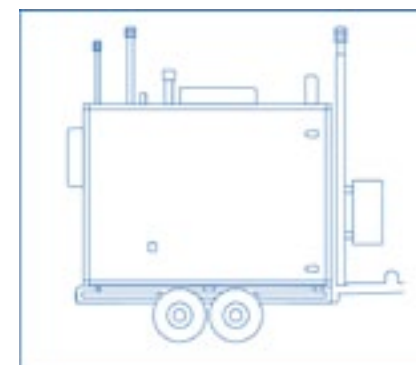
A stationary station - HOTSPOT



A stationary station - HOTSPOT mini



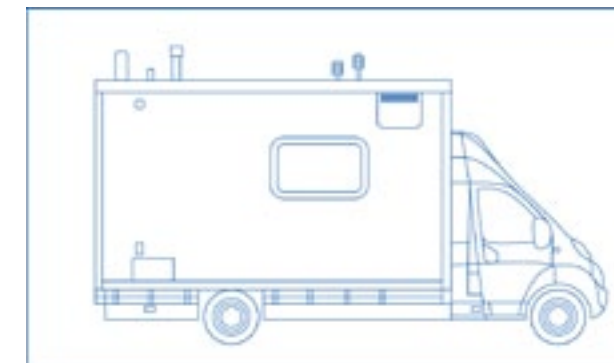
A mobile trailer with a fixed chassis



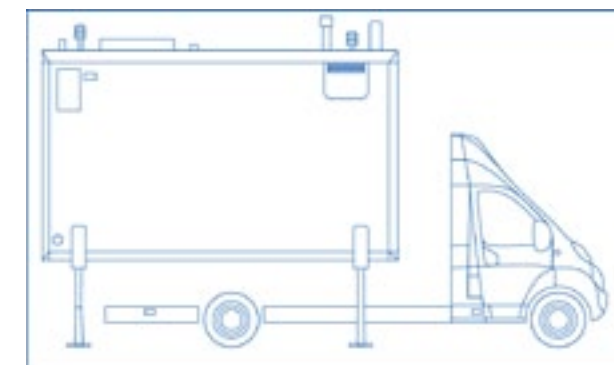
A mobile trailer with a removable chassis



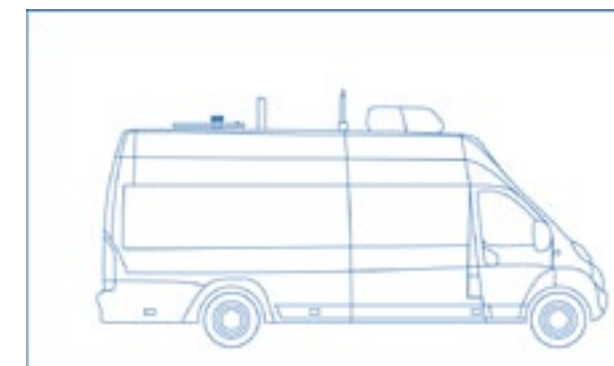
A mobile trailer - cart



A fixed vehicle body
A removable vehicle body



A removable vehicle body with mechanical supports
A removable vehicle body with hydraulic supports



A special monitoring vehicle - modification

Air Quality Monitoring Systems

Air quality monitoring systems have been the most prominent group of products offered by ENVltech s.r.o. for long time.

The company has been specializing in air quality monitoring systems since its establishment in 1992, with an emphasis on continuous upgrade of the products offered.

The ENVltech designs and delivers comprehensive „turnkey“ systems and stations for continuous automated air quality monitoring, as well as individual measuring devices, automatic analysers in most cases.

Monitoring systems may include gaseous pollutant analysers , as well as suspended particle concentration measurement systems.

Monitoring stations can be delivered both in stationary and mobile versions.

In addition to automatic monitoring systems, the company is focused on dust aerosol and gas pollutant sampling devices. These samples are intended for subsequent laboratory processing.

In connection with air quality measurement, we provide complete deliveries of measuring stations with accessories and equipment as per customer’s requirements, analysers, technical support, as well as warranty and post-warranty service.



Special monitoring vehicles



The monitoring station in Turkey



The stationary station on Chopok



A stationary station



HOTSPOT stationary station



We have got experience with a wide range of laboratory instruments by world manufacturers



A mobile monitoring trailer



The interior of a monitoring vehicle



A removable vehicle body with hydraulic supports



A special monitoring vehicle



Continuous Emission Monitoring Systems

We offer comprehensive solutions for continuous emission monitoring. Deliveries include world-class analysers, including all system-related services.

ENVltech, s.r.o. provides following in the area of emission AMS :

- Design of a Continuous Automated Monitoring System (AMS)
- Preparation of an AMS implementation project for approval by air protection authorities to permit installation of the AMS
- Delivery of individual pollutant analysers and software for continuous emission monitoring in accordance with current legislation
- Deliveries of isothermal containers for the AMS placement
- Turnkey deliveries of complete AMS including provision of measured data to air protection authorities and the public (AMS data web presentation)
- Deliveries of process AMS unit to control technological processes
- Development of AMS software in accordance with legal requirements and on the based on specific customer's requirements
- Ensuring that the AMS function test is carried out in accordance with legislative requirements.

In addition to deliveries, ENVltech also provides professional service to ensure quality measurement of emissions.



A special monitoring station for emission measurement 8 m long

Our rich experience gained in AMS deliveries for various industries create a prerequisite for providing high quality AMS deliveries to customer's satisfaction.

For simple system operation, our own proprietary, user-friendly and custom-made software is prepared to meet the customer's needs.



A monitoring station for continuous emission measurement



The interior of a CEMS station



We have got experience with a wide range of laboratory instruments by leading manufacturers



Stationary CEMS stations



Monitoring of Industrial facilities



Monitoring systems for chemical industry

Warning and Detection Monitoring Systems

Services provided in the area of warning and detection monitoring systems:

- Delivery of integral systems for businesses in the area of warning systems
- Delivery of gas technological leakage sensors, their detection, localization, warning, prognosis, alarm, mathematical modelling of a prognosis of gas propagation in the air
- Delivery of small technological warning systems for businesses
- Delivery of electronic sirens for warning of population against threats in compliance with CO (civil protection) legislation
- Preparation of noise intensity measurement projects for installation of electronic sirens

The Autonomous Warning and Notification System Project

Our emergency systems reveal occurrence of unusual situations of a production facility before an actual accident occurs, thus ensuring so called emergency prevention. An emergency system usually consists of a set of sensors spread in a protected zone, connected to an automatic control and evaluation system - a control panel issuing emergency signals (acoustic, optical, action for technological closures, ...) located in an immediate vicinity of the production facility. A common visualization system of one or more PBX units is located in a central control room. First of all, such toxic and explosive gases as hydrogen, methane, phosphine, silane, diborane, germanium, chlorazine, hydrogen chloride, hydrogen fluoride, chlorine, ammonia, hydrogen sulphide, ozone, etc. are detected.



Requirements of chemical industry for monitoring of hazardous gas and waste leakage are met by delivery of expert systems, dealing with requirements for security and protection of employees in a complex way, including preparation of chemical risk analyses and implementation of warning information systems in accordance with current legislative requirements in the area of population protection.



We offer you a wide range of warning and detection instruments



WinModim - software for warning and detection systems

Local Warning Systems

The LWS (Local Warning System) serves to warn the population against floods, first of all against storm rainfall (e.g. in storms). It consists of several separate measuring stations and a central station.

According to the measured quantity, they are as follows:

- A precipitation measuring station
- A water measuring station

The water measuring station measures a water level in a stream in front of a town. A measurement interval is 5 minutes, i.e. a level height in a stream is measured once in 5 minutes and the measured value is compared with four different limits. When any limit is exceeded, the station sends a warning message.

A precipitation measuring station measures a rainfall volume. Every 5 minutes, the station evaluates whether the limit was not exceeded. The station evaluates four limits ; summary precipitation for the last 5 minutes, 30 minutes, 60 minutes, 12 hours. If the limit is exceeded, the station sends a warning message.

The central station is usually located at a municipal office. The central station is a computer with WinCentral and SQL-View (Visualis) running on it.

The WinCentral communicates with stations, downloads data and limit exceeded warnings from them, checks functionality of the stations; the SQLView presents the measured data. The stations communicate with the central station via GSM, dialled lines or via a radios.



Percipitation measuring station of the LWS

Meteorological Systems

For correct interpretation of air quality measurement results, it is also important to know meteorological conditions during the measurement. Therefore, we implement individual meteorological sensors or compact weather stations into monitoring systems as a part of air quality monitoring systems.

Wherever it is necessary to measure meteorological parameters, whether in agriculture, industrial operations, transport or energy industries, we can offer our customers fully autonomous automatic weather stations. High quality sensors and development of our own software and dataloggers enable us to respond dynamically to specific customer's requirements and provide reliable measurement and accurate data to them. Of course, a project and technical support is provided.

- Comprehensive solutions:
- Meteorological sensors, sensor mounts, a meteorological mast, cabling, connection to a power supply or solar panel
 - Datalogger for data collection, processing and storage
 - Central data transfer station
 - SW for visualization in a form of charts, tables, data export to spreadsheets.



The monitoring vehicle roof with sensors for meteorological measurements

*Variable sets of weather stations.
Measurement of meteorological parameters
as recommended by the World Meteorological
Organization (WMO).*

**air temperature - relative air humidity - atmospheric
air pressure - wind speed and direction - solar
radiation - atmospheric precipitation**



A meteorological garden in the High Tatras



Meteorological systems for monitoring stations



We offer a wide range of products for monitoring of meteorological variables



A meteorological mast on the AMS Chopok

ENVitech Products

E-log datalogger

Aures

ENC 2000 calibrator

EG7 zero air generator

E-com protocol translator

Sampling system

RegFlow14 flow regulator

EAPM2

E-mam hydrological datalogger

HVS connection leakage tester

High voltage power supplies

Meteorological Masts

enviDUST

EMISSION MONITORING SYSTEMS

- Samplers
- Weight systems
- Analysers

EMISSION MONITORING SYSTEMS

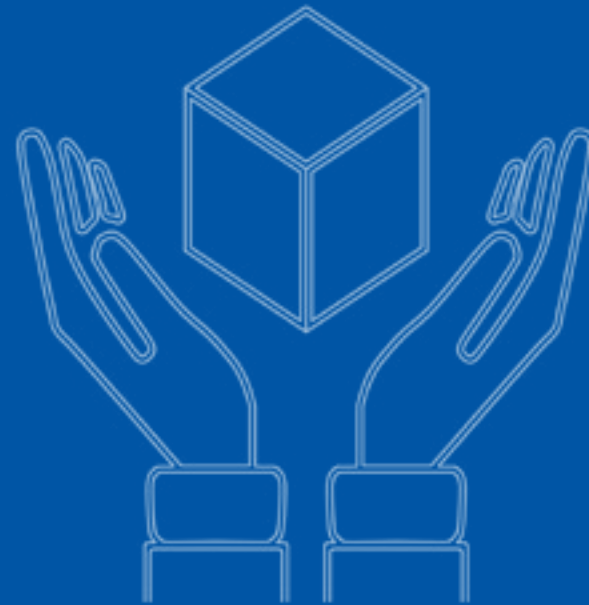
- Analysers

DETECTION AND WARNING SYSTEMS

- Detectors
- Sensors

METEOROLOGICAL SYSTEMS

- Dataloggers
- Pluviometers
- Air temperature and relative humidity sensors
- Atmospheric pressure sensors
- Wind speed and direction sensors
- Solar radiation sensors
- Masts



Datalogger E-log



Intelligent system for monitoring and operation of monitoring stations.

Versatile and robust tool intended first of all for measured data acquisition and processing as well as for remote control of system components.

Due to its versatility, it can be used for almost all measurement of variables. A 16-megabyte internal memory or an external micro SD card can be used for storage for data collection. Data storage can be set in any intervals as needed. Data can be stored on an external memory using a micro SD card. The E-log uses communication via an integrated GSM GPRS modem with a slot for a SIM card of any operator to communicate with a central station. A 3 V battery is used in case of power supply outage for real time backup.

The product is designed for stations with low power take off. An overall concept of the product is set to save energy while maintaining maximum performance and device options. It brings savings in operating energy costs while maintaining comfortable control. Remoted control of the product using user-friendly software saving costs necessary for operation of datalogger is a major benefit. The whole station can be operated remotely in comfort without having to travel. Reliable operation and performance of the E- LOG datalogger is provided by the CPU with the ARM 32-bit core, running on 96MHz. Thus, the product is suitable very much for measurement on stations in less accessible areas without a sufficient power supply or for remote stations the operation of which is not very accessible.

Main applications:

- Communication with connected analyzers and weather sensors
- Analysis of measured values from sensors and analyzers
- Record measurement data in the selected interval
- Remote control system elements
- Measurement of process variables
- Communication with central station

Benefits:

- Modular device
- Small energy intensity and energy consumption
- Easy to operate with remote access
- Up to 16 analog inputs and 6 digital outputs
- Robust and light concept with small overall dimensions
- Reliable measurement with optional data storage capabilities



Convertor of communication protocols

E-com



Data acquisition device

CPU 32-bit ARM:	max. frequency 36 MHz
RTC backup Li battery:	error time at 25°C ±10 ppm
Internal memory 8kB FRAM:	high durability 10 ¹⁴ inscription, data storage for minimally 30 years
Communication interface:	<ul style="list-style-type: none">• 1. RS-232• 2. RS-422 alebo RS-485 (double line or quadruple line)• 3. Ethernet
RS-232/485 communication:	<ul style="list-style-type: none">• Modbus • Bayern • Hessen • Thermo • Horiba • Teom• API • BAM • Derenda • Environnement • Gill • Vaisala
Ethernet:	10 / 100Mb RJ45 implicit IP:192.168.1.5 protocols IP, UDP, TCP, http, EnviNet
Digital outputs:	contact relays optionally NO/NC –indication of error
Magnetic sensor:	contactless control of programming mode up to 5 cm range
Signalization:	4 × LED signaling states
Power supply:	8 VDC - 26 VDC
Consumption at 12 VDC :	0,3 A
Protection:	polarity protection
Operating temperature range:	- 20°C - + 60°C
Operating humidity range:	5...95%
Dimensions:	125 × 80 × 25 mm
Ingress protection:	IP40 material Al 6063
Weight:	0,45 kg

E-Dat



Device for data reading from measuring devices and sensors via serial communication and analog inputs.

Functions of E-Dat:	
<ul style="list-style-type: none">- communication with sensors and devices via 3 serial lines (RS232/RS485)- reading of 8 analog inputs- communication with sensors via OneWire bus- display of current values- communication with WinImag via Ethernet interface- remote control via Ethernet- upgrade firmware via USB	
Processor	ARM 32-bit 144MHz
FRAM – configuration	8 kB
Display	OLED 128 x 64 points
Keyboard	membrane keyboard 25 keys
UART – COM1, COM2, COM3	RS232/RS485
USB	upgrade firmware
Ethernet 10/100 Mbit	EnviLan protocol (WinImag) remote control (ERemoteControl)
inputs	8 analog ADC 12-bit
outputs	8 performance 3 outputs TTL level
One-Wire	temperature sensor



ERemoteControl

E-Family

E-Com, E-Dat, E-Log

A group of devices for data collection, processing and archiving



OSYS 02

The sampling system
for sampling of
gaseous pollutants

The sampling system for sampling of gaseous pollutants consists of a stainless steel sampling probe and a borosilicate glass manifold from where sampled air is sucked by suction pumps of individual analysers.

Ambient air is supplied to the sampling system by a manifold pump, excess air is fed through an exhaust outlet out of the metering station. Required flow of the air through the sampling system is achieved by means of a flow sensor and a flow controller. The sampling line and the manifold can be heated (optionally) to prevent from air humidity condensation.

The sampling system is designed in accordance with technical standards for measurement of individual gaseous pollutants (e.g. STN EN 14211 and the STN EN 14212) and the STN 83 5510 standard.



RegFlow

RegFlow is a device
for controlling the flow of air in the
manifold.

RegFlow is a device for controlling the flow of air in the manifold. According to the technical standard, the sample flow in the manifold should be constant at 50 l / min. In the manifold there is a sensor for measuring the air flow, the output of which is connected to RegFlow. RegFlow regulates the fan speed to maintain a constant flow in the manifold. RegFlow has an Ethernet connection that provides actual values and the controller can be configured via WEB. The controller is implemented by PID controller, low and high flow indication via red LED.

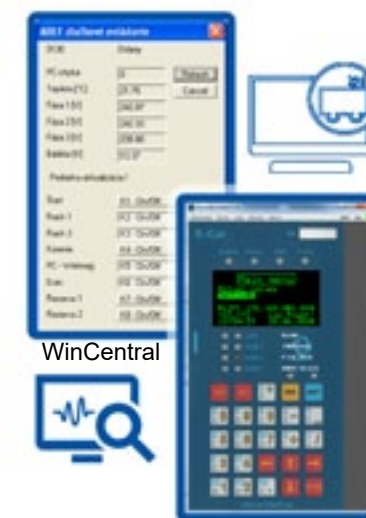
AuRes

Smart system of supervision, operation
control and monitoring of all supporting
functions in the measuring station



AuRes features:

- Communication with 3-phase electricity meter via RS-485 and reading of actual values of voltage, currents and consumption on individual phases
- Communication with UPS via RS-232 and reading of actual values
- Measurement of temperature in the measuring station
- Actual values are accessible via Ethernet
- Control of the heating and air conditioning according to the current temperature in the measuring station
- Control of START button
- Sequential connection of electrical circuits in the measuring station (RACK1, RACK2, ...)
- Switching off electrical circuits (RACK1, ...) at low or high temperature in the measuring station
- Remote restart of electrical circuits via Ethernet



Processor	ARM 32-bit 144MHz
FRAM - configuration	8kB
Display	OLED 128 x 64 points
Keyboard	Membrane keyboard 25 keys
UART	COM1 RS232/RS485 - electrometer
	COM2 RS232/RS485 - UPS
	COM3 RS232/RS485
USB	upgrade firmware
Ethernet 10/100Mbit	EnvilAn protocol (WinImag, WinCentral)
	remote control (ERemoteControl)
Inputs	8 analog ADC 12-bit
Outputs	8 power for switching contactors
	3 outputs TTL levels
One-Wire	temperature sensor
Power backup	external UPS (option: own battery)

ENC 2000



Calibrator
Dynamic dilution system

Dynamic dilution system enables:

- Multipoint calibration (manual setting by operator and automatic-programmable) 5 points
- Automatic calculation of dilution and span gas based on commanded concentration

EG7



Zero Air Generator

EG7 is a powerful stand - alone unit, so there is no need for you to worry about an external compressed air supply. The air is a perfect method for generating zero reference calibration gas, ultra - pure combustion air for flame ionization detector, service air for pneumatically operated valves, hydrocarbon free chromatography use and general laboratory use.

• version for wall mounting (optional) • inlet pressure max. 1 MPa • outlet pressure 100 kPa • display of outlet pressure using a pressure indicator • air flow max 5 l / min • air drying by penetration • air purification with activated carbon and molecular sieve • content of O3, SO2, NO, NO2 <1 ppb • catalytic CO removal • CO content <100 ppb • compressor pressure vessel 2 l

Hydrological datalogger E-mam



Datalogger for recording
of hydrological and
meteorological data

EMAM is a datalogger for recording of hydrological and meteorological data. In a set with MAM6 and MAM7 water level sensors, it stores data in a memory and then it evaluates them according to pre-set criteria for exceeding level and flow.

The recorded data can be transmitted over the GSM network to a remote server or a data store. To inform on extraordinary values, the EMAM sends SMS messages to defined numbers. EMAM is equipped with GSM and Bluetooth remote configuration management. All settings and values can be done via a graphical display with backlight and a keyboard.

Device can operate in an environment with condensing water vapours at temperature between -30 and +50 °C. Memory capacity is 200,000 records. EMAM is designed for long-term operation without battery replacement for minimum 5 years. An anticipated battery life is maximum 15 years. The EMAM is designed to be placed directly into a borehole or a well.

Presence of a signal damped by a steel structure and reinforced concrete is a condition for communication via GSM. The water meter is connected to the EMAM by a communication cable with maximum length of 1,500 m.

Diameter	Ø 80 mm
Height	200 mm
Weight	2kg
Memory	8 MB
Processor	32 bit
GSM services	SMS, GPRS
Batery	Li 3,6V 16Ah
Displ	102 x 64 pt.
Connectivity	USB, Bletooth, RS 485



enviDUST and enviSENS



PARTICULATE MATTER MONITOR AUTOMATIC AMBIENT AIR SENSOR MONITOR

The enviSENS and enviDUST units are devices used for online monitoring of air quality in a designated location. For this purpose, it uses different types of sensors according to the customer's requirements for monitored quantities. Dust sensor - monitoring the size and amount of particles of the fraction PM 1, 2.5, 10 in ug/m³ working on the optical principle in the range of 0-5000 ug/m³

Measurement of mass concentration and number concentration of aerosol particles in real time and in real time.
Optical method based on the principle of light scattering



Hybrid monitoring system

Miniaturization, the development of sensory sensors, IoT-type transmissions, Smart Cities concepts, all this enables the creation of air monitoring systems that do not represent such an expensive investment as in the past.

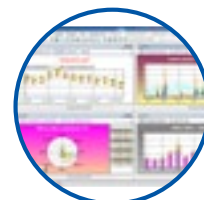
However, the quality of the data of these sensor systems and their interpretation must be constantly confronted with the data that are produced by instruments working with the reference method, according to valid standards, so that inaccurate information about the state of the air does not occur.



sensory units



reference measuring
station



software

Meteorological Masts

Our company designs and manufactures meteorological telescopic masts according to client's requirements. A multi-segment stainless variant up to 10 m high is mostly of concern. We also provide complete accessories for masts including PP clamps for fixing on the container wall for air quality monitoring systems and anchorages for „stand-alone“ meteorological applications, beams for weather sensors and radiation housings. The company also supplies pneumatic and hydraulic masts, which serve a wide range of applications.

HVS Connection Leakage Tester

The EHV05 insulation tester is a portable tester of insulation made of HDPE, PE, PVC, PTFE and other waterproof materials, organic and inorganic acids. The tester is designed for work outdoor without the risk of fire. The EHV05 tester probe moves over the insulation surface and in a place where the insulation is interrupted, its test voltage causes electrical breakdown up to a distance of 25 mm. The size of a cross section is primarily dependent on subbase conductivity. The size of the hole in the insulation is not significant and it is sufficient for the detector to have air in the hole.



High Voltage Power Supplies for Geophysical measurements

Output insulated voltage:

EGZ 5000 – 5,000 VDC max 0.2 A; 2,500 VDC max 0.4 A

EGZ 1000 – 1,000 VDC max 1 A; 500 VDC max 2 A; 250 VDC max 4 A; 125 VDC max 8 A

EGZ 200 – 1,000 VDC max 0.2 A; 500 VDC max 0.4 A; 250 VDC max 0.8 A; 125 VDC max 1.6 A

• Insulation strength min 20 kV • Protection class II EN 33 2000 • Power supply 230 VAC max 6 A • Output control: manual or automatic with a selectable cycle 1 to 60 seconds • Display: output voltage, output current • Climatic resistance: -20 to +80°C/RH 90%, non-condensing vapours • External dimensions: 52.4 x 42.9 x 20.6 cm • Version: IP65 – rain and running water resistant • Weight: EGZ 5000 – 25 kg, EGZ 1000 – 15 kg, EGZ 200 – 7 kg



A complete portfolio of products can be found at www.envitech.sk

We offer the following accessories for monitoring stations

Sampling head of Ambient air sampling system	Duct for dust analyzer Envea MP101 M
Head with filter, tap, insertion, spreader, tube	plastic design
Sampling system of ambient air OSYS , isolated	Duct for dust analyzer FIDAS 200
OSYS, isolated + heated by self-regulating cable	dural + plastic design (Ø 48,3) + komaxit RAL5005 + anodized
B.02 + self-regulating heating cable + tube for insulation	Duct for sampler Leckel & Derenda
OSYS, isolated + heated with digital controller with adjustable temperature	plastic design, Ø 80 - 90 mm
B.02 + Digital controller + heating cable + connectors + thermometer + power supply	Duct for sampler APM2 (Derenda) Ø 12mm
Glass manifold 8- outlets	Duct for dust analyzer SWAM Ø 25 mm
Manifold 25/33GZ, 8xGL14, 1 x GL25, L=1080 mm	Blinding nut
Glass manifold X- outlets *	probe cover for Leckel & Derenda Ø 90 mm
Sampling probe roof duct	Blinding nut
	probe cover for Fidas Ø 48,3 mm
Sampling system holder for mobile AMS, plastic	Digital manometer E-press3
Telescopic mast, mechanical, stainless steel - ENVitech	(output RS485, SDI-12, analogue, range 0...2,5V)
4 - segments, length of 1 segment 2,5m, total length 10 m	Calibration cylinder holder (3 cylinders)
Teleskopický stožiar, mechanický, nerez - ENVitech	Calibration cylinder holder (4 cylinders)
4 - segments, length of 1 segment 2,5m, total length 10 m	Calibration cylinder holder (5 cylinders)
folded ~ 2 600 mm , extended ~ 9 280 mm	19'' rack, galvanized sheet metal
alternative : 5 - segments : folded : 2300	two-piece 19'' stand, depth 600, 700, 800 mm, height : 38-45 U
Custom mast according to the client's technical requirements	Shelf solid perforated 1U, 550 mm, load capacity 80 kg
Container clamps for mast B.20 a B.21	Pull-out shelf lockable for keyboard and mouse
Anchoring plate for free-standing mast (version Lebanon)	Pull-out shelf (depth 350 mm), load capacity 30 kg
Pneumatic telescopic mast with duct - 10 m	Pull-out shelf (depth 450 mm), load capacity 30 kg
pneumatic mast STANDARD CS.3608.NI, (10m), duct, Ø 115 mm,	Pull-out shelf (depth 550mm), load capacity 45 kg
Pneumatic telescopic mast with duct - 6 m	Pull-out shelf (depth 650mm),load capacity 45 kg
pneumatic mast CL.3338.NB, (6 m), duct Ø 90 mm	Fire extinguisher, portable - according to requirement
Arm for meteosensors with holder (according to customer specification)	(holder + pictogram)
Meteo switchboard - box with cabling	Rebrík (hliníkový, dvojdielny 7-priečkový) + držiak
Meteocable multicore, PVC box, terminals, DIN listel, cabling, cover	Ladder, telescopic, load capacity 150kg, lenght 3,8m, dural
Reduction for meteo sensor GILL WindSonic	Working table with drawers + drawer container
Reduction LUFFT (stainless steel, for mechanical mast ET)	dimension in terms of requirements
stainless steel, for items B.20 a B.21	Folding board (as a table)
Radiating cover with arm	designed mainly for mobile trailers
	Chair
	Chair with armrests, rotary
	Display frame rack mounted
	Protective sleeves for probes on the roof of the monitoring station (1 set)

We offer the following support equipment for monitoring stations

Calibrator ENC 2000	E-com
ozone generator, massflow meters	Convertor (translator) of communication protocols
with linearization through 6.grade polynom	Autonomous impuls counter for raingauge – MR2-01
Zero air generator EG7	connected to E-log
oilless compresor, system for purifying ambient air	Lightning arrester modul - UniPro10
(purafil, active coal, molekular sieves	AMS internal lightning protection
silikagel, piecka CO-CO2)	16-port switch , rack version
Alarm Satel VERSA	MOXA card , 2-port
fire-optical smoke sensor, external siren with LED,PIR,	ESA merge unit
power box, keyboard, control panel, battery	Teltonika router RUT 240 4G/LTE
Alarm system TECO	Electrical switchboard with equipment according to the project
Control panel, keyboard, battery, PIR, smoke detector,	1 phase or 3 phase switchboard, electrical installation, circuit breaker,
magnetic sensor, siren,	circuit breakers, contactors, surge protection, cabling ...
Flow sensor in sampling system EE671	Air conditioning unit (SPLIT system) - cooling and heating
Flow regulator RegFlow14´	power: 2,5 - 3,5 kW, including bracket, assembly and filling
Ventilator Artic F8 PWM Rev.2 - accessories for Regflow	Heater- power 2 kW
AuRes - Automatic restart	Display light panel
management and control unit in AMS	Depending on the required size and tech. parameters
SW e-Remote Control	
remote connection and control of	
dataloggers ENVitech + AuRes	
Electricity meter + voltage + current measurement (three-phase)	
Three-phase electronic electricity meter, LCD display,	
RS485 (Modbus), IR interface, Billing meter	
Electricity meter + voltage + current measurement (single phase)	
single-phase electronic electricity meter for direct measurement	
LCD display, RS485 interface	
E-log datalogger	
E-cal „datalogger“ for serial communication	
e-log without modem, SD card and 24-bit converter	
E-dat - device for data acquisition via serial + analog	
EMAM - datalogger with interface RS485, GPRS	
Firmware for dataloggers ENVitech	



Software

Delivery of comprehensive monitoring systems is also conditioned by software of the system.

The software of our own production provides the following functions:

- Data sensing and transmission from measuring devices, sensors and analysers to an evaluation PC
- Acquired data processing into a presentation format and its storage in database systems
- Data processing and transfer to a higher - level superior system (modem - fixed line, modem - GPRS, internet, intranet, ...)
- Measured data presentation of on a processing (measuring) PC, on a superior (central) PC or on the Internet
- Status signal monitoring, processing and evaluation
- Control of instruments and analysers in a calibration mode (automatic calibration)
- Calculations of secondary data from primary measured data
- Creation of protocols and records according to legislative requirements



WinIMAG

WinEMAG

WinCentral

Visualis / WebVisualis

WinModim



WinEmag is a complete emission monitoring system, providing high quality and comprehensive tools for continuous emission monitoring systems. System modularity, its high flexibility, and universality allow connection of several emission sources to one data acquisition system only. In addition, it is capable of real time monitoring of all required values directly from analysers and digital or analogue inputs.

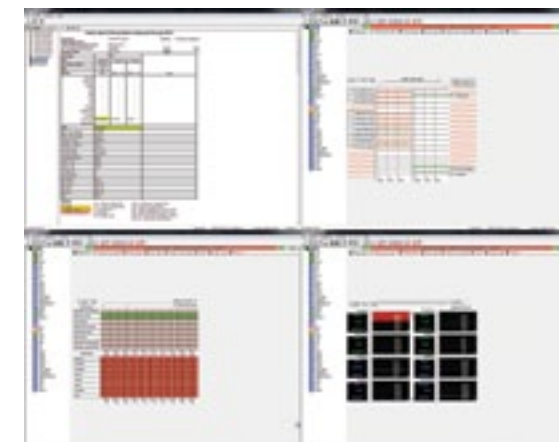
The WinEmag system provides emission monitoring in accordance with Directives of the Slovak Ministry of Environment No. 410/2012, Coll., 411/2012 Coll. sa amended and complies with STN EN14 181 requirements.

The WinEmag also contains professional tools for data evaluation, analysis, visualisation, reporting, and presentation. This module is referred to as Visualis and it provides the following functions through a user-friendly interface:

- Data validation according to current regulations
- Built-in statistic tools, data filters, attributes etc.
- Cross check with legal limits
- Moving (rolling) or interval averaging function
- Hourly and daily trends of acquired values, daily statistics - acquisition of alarms and fault detection
- Evaluation of zero and calibration drifts (in compliance with QAL3)
- User selectable data outputs: charts, tables, wind or concentration of roses, statistic diagrams, calibration protocols, CUSUM cards, etc.
- Simple and easy access to your database, possible data conversion
- Own mathematical formulas and visualization schemes can be created, data processing based on projects and users
- User selectable export forms
- Easy reporting

The WinEmag also provides a Web presentation tools, allowing display of all status parameters in the stack and measured data on a Web page.

“More than 1 000 of our applications for data management, processing and visualisation are used worldwide with great success.”





System flexibility is predetermined by the OLE Automation technology, allowing user to expand the software using his own programs using the aforementioned technology. Moreover, the system can be connected, without necessary modifications, to the user's technology management software for the operation, if the user is running such a program. System modularity is ensured by its biggest advantage, configuration ability. A software user can configure a measurement process, tailored to the local environment of operation, and it takes possible future changes in technologies into consideration.

WinCentral

- Communication via TCP/IP protocol. Communication with 2 and more stations in the same time
- measured messages from the AMS, 1-hour and 10-minute averages (options 1,3,5,10,15 minute averages)
- Transfer of the calibration protocols from the AMS
- Transfer of the AMS channel configuration
- Loading the configuration into separate data recorders
- AMS current status and configuration transfer and display
- Transfer of other optional data from the AMS in a form of files
- Test of connection with the AMS
- Automatic calibration start remote control
- Remote change of the AMS configuration, interchange configuration
- AMS time synchronization
- AMS remote control via AuRes remote control
- Saving selected transferred data into specific databases
- Running communication display
- Display of warning messages

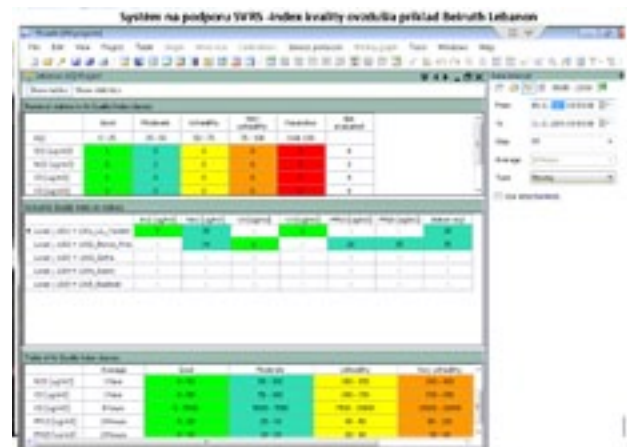




The **Visualis** is a professional tool for data evaluation, visualization, reporting and presentation. This tool can work with data from several databases from both types of monitoring – air quality monitoring and emission monitoring. And also with other data, which can be stored in SQL or ISO databases.

The Visualis provides the following functions through a user-friendly interface:

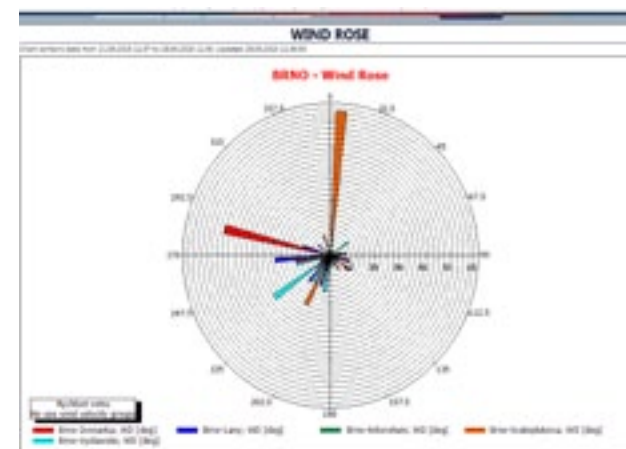
- Data displaying in a chart, table and wind rose (a mathematical chart, calculating, pollutant speed and concentrations according to a wind direction). Each display type has a lot of display settings to maximize personalization of each project
- Display and evaluation of calibration results (in compliance with the QAL3) in summary charts and tables
- Weekly charts comparing week and weekend days
- Lots of statistical tools for table view, which can be displayed independently in monthly tables (daily averages) and yearly tables (monthly averages)
- Automatic data validation according to different criteria
- Manual data validation according to the user's calculations
- Marking data with different attributes from monitoring and a possibility to change it during validation
- Calculations enter data into other averages for data outputs in a moving or interval averaging function
- Export of all tables into text (.txt) or MS Excel (.xls, .csv) formats
- Exporting of all charts into picture formats
- Creation of Air Quality Index projects with several statistical functions
- Download of missing data in connection with the WinCentral software
- Display of service protocols by technicians, which they created after visiting the station
- Display of a selectable number of Visualis projects in a single Visualis post
- Automatic updates for all Visualis projects
- Your own mathematical formulas and visualization schemes, projects and data processing can be created by users
- Histograms for wind direction display



With high professional Web applications for displaying Visualis projects on a Web page. The user can get access to emission measured and stored data in databases on WebVisualis application pages. The data is presented in a table or a graphical form according to settings of pre-defined projects. The user can choose the pre-defined project, set a desired data interval and load data into the application. The required data will be processed, evaluated and displayed by the configuration of a selected project.

The WebVisualis provides the following functions through a user-friendly Web interface:

- All projects can only be created in Visualis system
- Data display in chart, table and wind rose (a mathematical chart calculating pollutant speed and concentration according to a wind direction)
- Display of all statistical tools, which can be displayed in the Visualis system and which can also be displayed independently in monthly and yearly tables
- Displaying of calibration results in a summary graphs and tables
- Marking data different attributes from both types of monitoring (air quality and emission)
- Exporting all tables into text or MS Excel formats
- Exporting all graphs into pictures formats
- Displaying of Air Quality Index projects, also with possibility to show them on a geographical background or maps with several points with different color (according to specific Air Quality Index at the locality)
- Automatic updates for all projects
- Visualis is needed only for creating projects for WebVisualis, it is not necessary to install Visualis at the computer, where is WebVisualis installed



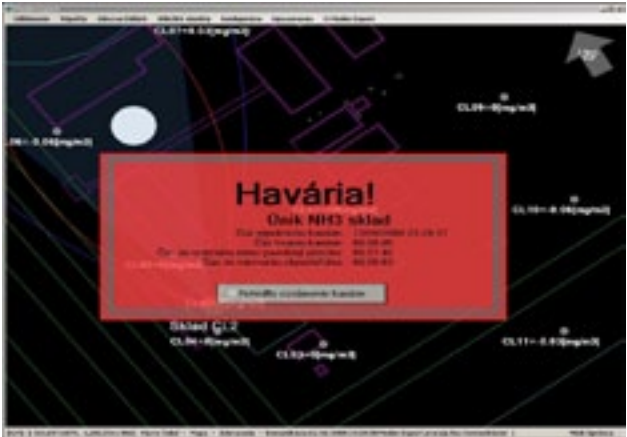
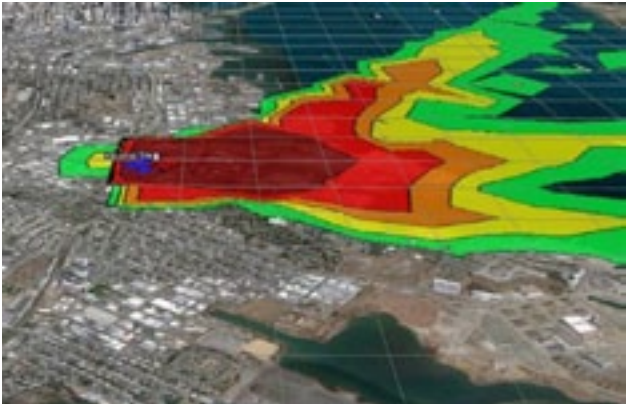
WinModim Expert

The **WinModim EXPERT** is designed to display, interpret and predict data from real-time hazardous substance leakage monitoring. Its main role is to assist in solving crisis situations in a case of leakage of hazardous substances and provide the operator sufficient information for decision-making in order to protect health and property of citizens. A combination of several mathematical models selected automatically according to predefined criteria is a core of a system. Calculation results are displayed to a digital map supported by vector graphics tools.

Basic features:

- Scanning and evaluation of monitored quantities directly in operation
- Integration of scanned data - analogue inputs and outputs, digital inputs and outputs to the WINImag data concentrator
- Universal configuration of sensors
- Variability of outputs (sirens, traffic lights, blocking devices can be connected) and their universal programming
- Connection of meteorological sensors
- Sending data to ModimExpert and ModimExpert_Terminal higher-level systems (an unlimited quantity) via PC LAN
- Storage of measured data and incidents
- Evaluation of monitored quantities at a higher-level post
- Possible of supervision at terminal posts

The WinImag data concentrator. Data is concentrated in a monitoring system at regular intervals. At those intervals, the WinModim Expert displays detected concentrations, technological parameters and a direction of anticipated leakage flow for the operators to have information about an anticipated threat location. The concentration is evaluated upon every data change, according to pre-defined conditions. Limits for toxicity, technological limits of the operation and meteorological limits are basis for it. Its own criteria are defined for every operation based on which "CAUTION" and "ACCIDENT" signals are generated automatically.



Software Summary



WinImag

Real time sensing of values of measured variables and digital status variables (AQMS)

WinEmag

Real time sensing of values of measured variables and digital status variables (CEMS)

WinCentral

Central station - transmission of measured values and statuses from monitoring stations

Visualis

Imaging and processing software over data from imission or emission measurement

WebVisualis

A Web application for displaying of projects from the Visualis Data visualization by a Web browser on a single measuring point or a network of measuring points

WinModim Expert

Gas propagation modeling and display in an industrial environment

ENVIBase

A database of averages of analogue values and calibration protocols

ImiExpsdi

A communication program, communication of the station with the central station

Isogen

A generator of ISO7168 database files, where different databases may be on the input

ENVISQL

A database model for SQL relational databases MS, Oracle, MySQL

PHP ViewImis

A HTML page for display of data from the AIM

ENVireports

Emission protocols (a part of the WinEmag)

EmiReports

A HTML page for display of emission protocols

HTML View

Web API

A communication program for data acquisition from measurement systems (WinEmag, WinImag) via Web

ENVIWeb

Pages for display of current values and statuses in the EMS

Nrouter

A communication program for transfe of current values between WinImag and WinEmag (a UDP protocol)

FTP com

Application for download and upload of our database files through FTP transmission

SMS sender

Program for automatic sending of SMS messages and e-mails

Communication driver development

According to the customer's specification

CUSUM reports

Reports created based on calibration results

WinEmag emission package

WinEmag, Visualis, EmiReports, WebVisualis, ENVIWeb, CUSUM reports, WebAPI

WinImag imission package

WinImag, Visualis, WebVisualis

References

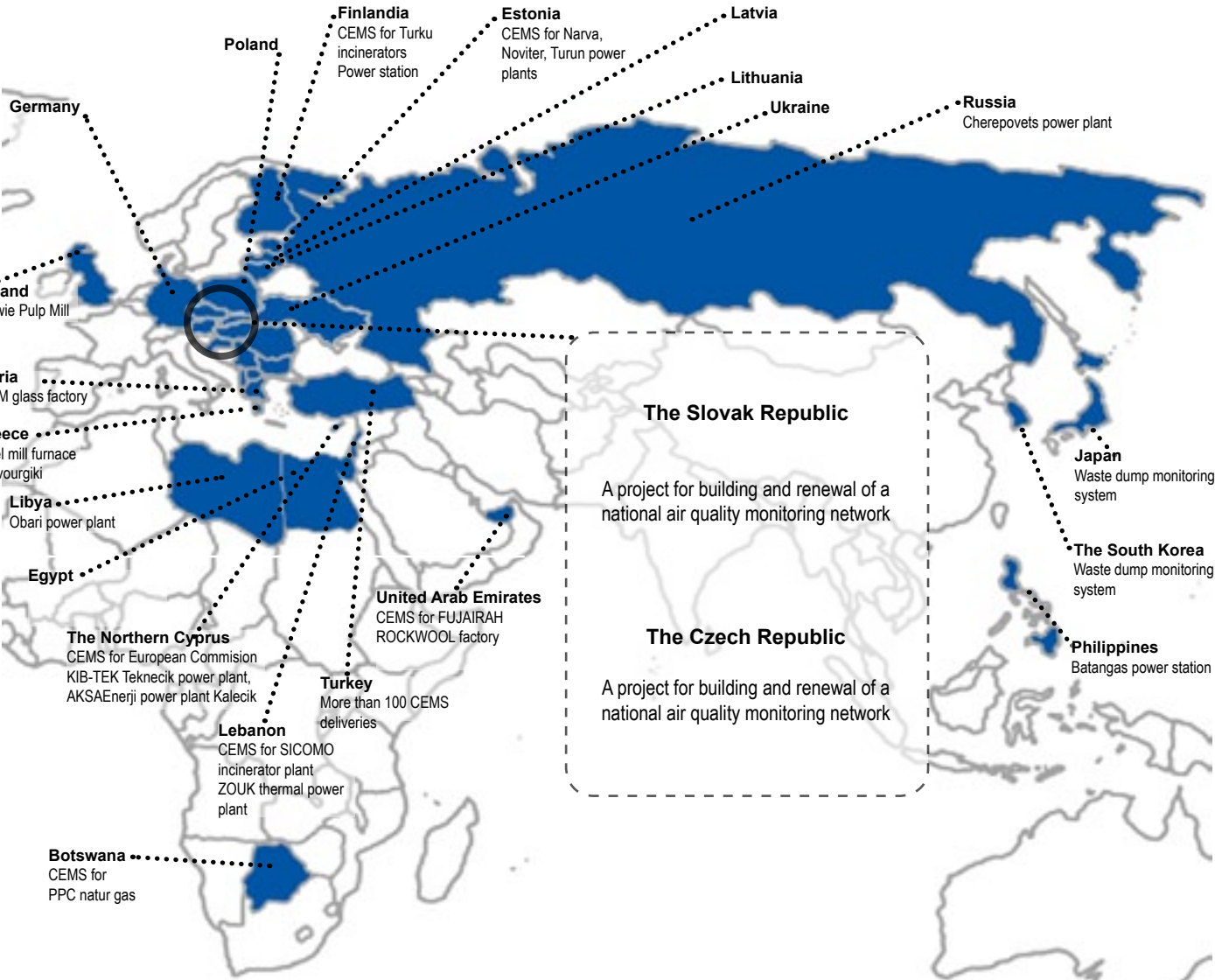
For the years of our operation in the environmental market, we have been involved in establishment of national air pollution monitoring networks in the Slovak Republic and the Czech Republic. We have installed an emission measuring system in many industries.

We have built big emergency warning monitoring systems for businesses with follow-on notification of the surrounding population and a pollutant spreading prognosis in order to protect lives and property of the population.

We have delivered stationary and mobile monitoring stations for imission measurement to many customers in Slovakia, Poland, Hungary, Romania, Serbia, Macedonia, Albania, but also to Lithuania, Greece or Libya and Egypt.

Waste dump monitoring systems in development of which we have been involved extensively, have also been installed in Japan and the South Korea.

- The area of Air quality monitoring
- CEMS (Continuous Emission Monitoring Systems)
- AQMS (Air Quality Monitoring Systems)
- Warning and detection monitoring systems





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