



RESEARCH
CONSULTANCY
DOCUMENTATION

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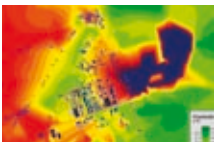
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Brief Summary



Flexibility and Efficiency in Performing the Commissioned Assignments

A specialised team of consulting, acoustics and laboratory analysis specialists and our branches in Wrocław, Szczecin and Bydgoszcz ensure fast and effective provision of services regardless of the scope of work and measurement location.

Cost Optimisation

Our team's extensive experience allows us to offer services tailored to our Client's needs, hence unnecessary costs are eliminated and obvious savings achieved.

Quality Ensuring Safety

To ensure the highest quality of services for our Clients we have implemented and use recognised quality systems. Our consulting department is certified acc. to PN-EN ISO 9001:2009 TÜV NORD, and our research laboratory works in accordance with PN-EN ISO/IEC 17025 and has been accredited since 2008 by the Polish Center for Accreditation – certificate No. AB912 (PCA is a signatory of International Laboratory Accreditation Cooperation ILAC).

A Single Company – Multiple Possibilities

We provide all-inclusive services. Our consulting department develops a wide range of environmental reports and also provides outsourcing services for our Clients to meet the requirements of the Environmental Protection Law and the Waste Act.

Our research laboratory performs investigations and measurements related to the natural environment, including the ANALYSES OF WATER, WASTEWATER, SOIL, SEWAGE SLUDGE, EMISSION AND IMISSION MEASUREMENTS, MEASUREMENT OF FACTORS HARMFUL AND OBNOXIOUS AT WORKSTATIONS AND NOISE MEASUREMENTS.



Consulting Department

Research Laboratory



BADANIA
AB 912

Company

Short history

LEMITOR Ochrona Środowiska Sp. z o.o. was established in 1990 by Renata and Zbigniew Lewiccy. It was initially known as Lemitor Pracownia Ochrony Środowiska Renata i Zbigniew Lewiccy (Environmental Protection Study) and occupied one room in the attic. The first employee was hired in 1994 and is still working at LEMITOR today. At that time the company was dealing exclusively with the measurements of emissions into the air and analyses of atmospheric pollution.

The "Flood of the century" that hit Poland in 1997 contributed our moving the company in 1998 to new premises with 70 m² of office space and 40 m² of laboratory space. A new specialist began working in 1998 significantly supporting the emission measurement department. After moving, our laboratory was expanded and new employees, biologists and chemists, were hired. At that time, the company also started preparing environmental reports on water and waste water management and wastes management.

In 2001 LEMITOR Ochrona Środowiska Sp. z o.o. was awarded the contract for noise measurements for the A4. Since then the company has supplied and developed activities in measurement and studies in the scope of noise. In 2003 we employed our acoustics team manager.

The company's development forced us to move to our current location at 40 Jana Długosza Street.

In 2004 we introduced the ISO 9001 Quality Management System and divided the company into two main departments – Project Study and Measurement Study. The first one offers preparation of the reports, statements of environmental impacts, motions for issuing integrated permits, environmental protection programs, management programs for districts, communes and more.

We used European Union subsidies for equipping our Laboratory and we expanded the scope of analyses as a result of purchasing the new equipment. We hired additional employees.

In 2007 we changed the company's organization into two main units, Consulting Department and Research Laboratory, which are still operating to this day. In May 2008 our research laboratory obtained PCA certificate No. AB912.

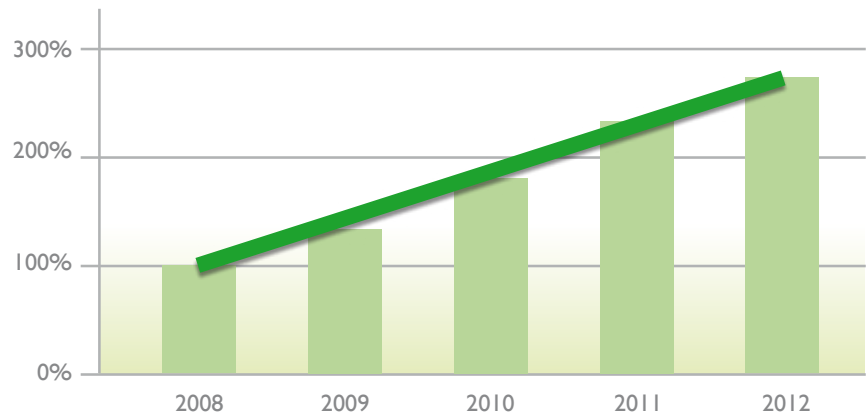
Now we have more than 30 employees in a nationwide office network. We offer a broad range of environmental documentation, analysis and accredited laboratory measurements. We are a contractor for public entities as well as for the private sector. Our specialists can undertake almost any task in the scope of testing, analysis and consulting in environmental protection.



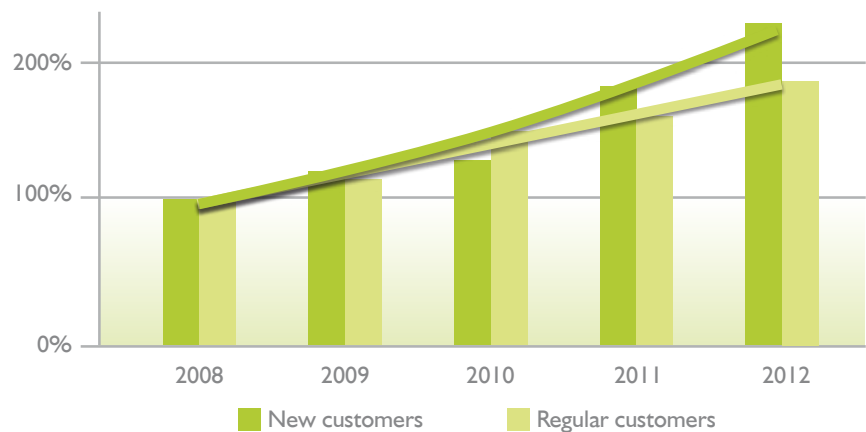


Few Facts

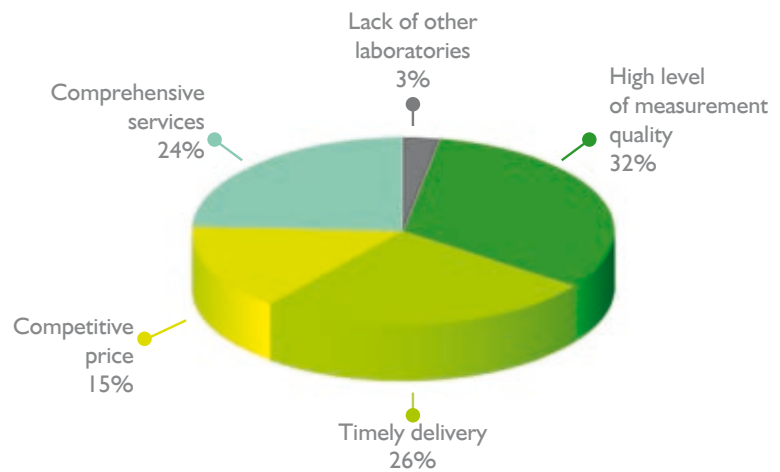
Increase of accredited methods in years 2008-2012
(where 2008 is 100%)



Increase of customers in years 2008-2012
(where 2008 is 100%)



Why customers chose us



Certificates

LEMITOR competence and professionalism were confirmed by the authorized bodies such as TÜV Nord Poland Sp. z o.o. and the Polish Centre for Accreditation (PCA).

ISO 9001



In 2004 the company introduced Quality Management System according to EN-ISO 9001. These efforts were completed with TÜV Nord certificate in accordance to PN-EN ISO 9001.

ISO 17025



In May 2008 we obtained the accreditation certificate No. AB912 of the PCA. Since then we have expanded our accreditation with new analysis each year.

White List



Since 2006 LEMITOR has had the "White List" certificate (pol. "Biała Lista"). This certificate is given by the local Chamber of Commerce and confirms that the company is a reliable partner.

POLLAB



LEMITOR's Research Laboratory is a regular member of the Polish Club of Research Laboratories POLLAB. POLLAB is a member of EuroLAB - European Federation of National Associations of Measurement, Testing and Analytical Laboratories.

Counseling and documentations

Our consulting department applies the quality management system in the scope: Comprehensive services in the scope of environmental protection: counseling and documentations and meets the requirements of PN-EN ISO 9001: 2001 norm.

It prepares the documentation required for obtaining environmental decisions, among other things:

- Environmental Impact Assessments;
- Environmental Protection Programs (also the programs for wastes management and noise protection programs) for districts, communes, cities and other self-governmental territorial units;
- Ecological surveys (e.g. of landfills or other installations);
- Motions for issuing the integrated permits (IPPC permits);
- Study of atmospheric protection;
- Motions for noise emission permits;
- City noise maps, noise maps for transport infrastructures or industrial sites;
- Documentations in the scope of waste management;
- Projects on limited utility areas (landfills, sewage-treatment plants, national roads and motorways);
- Inventory of green spaces;
- Periodic environmental settlements (e.g. charges for utilizing the environment, amount of product charges);
- Permits for the participation in the system of allowances for CO₂ emission;
- Counseling in the legal, technical and technological scope referring environmental protection;

... and other works related to environmental protection.



Software

The presented solution is an innovative enterprise support tool, aimed at managerial processes concerned with environmental information. The product is for environmental managers responsible for leadership and supervision of environmental aspects within the company, as well as all staff whose duties concern environmental issues.

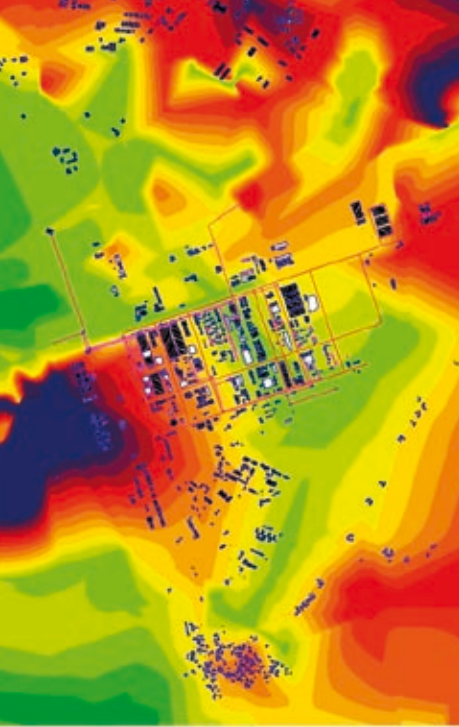
Due to its advanced capabilities, this product is appropriate for medium and large manufacturing plants. One can distinguish two basic groups:

- enterprises, which due to their branch of business and scale of operation, substantially influence the surrounding environment
- enterprises, whose production processes are characterised by the presence of diverse environmental impacts, which impede environmental management by the enterprise staff

Application Functionalities

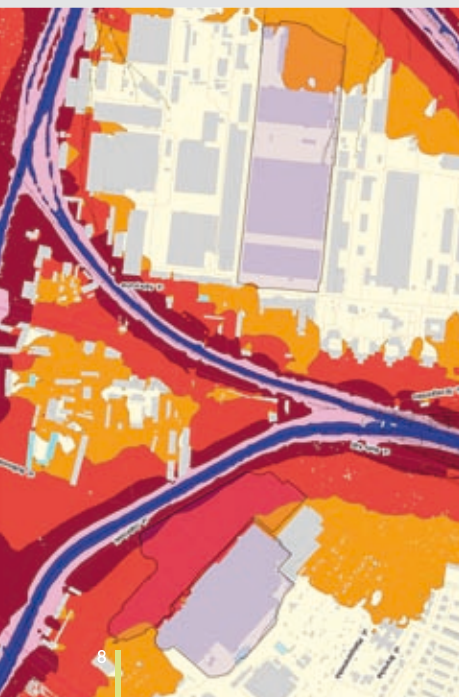
- **A single tool integrating all environmental information for a manufacturing plant**, including attribute data (e.g. location coordinates for network elements, emitter parameters, as well as archival and current surveys), visual data (e.g. in the form of raster maps and plans), vector data (in the form of vector maps, as well as 3D solid models of network objects) and additionally: a repository of related documentation (e.g. decisions, permits, etc.)
- **Integrated reporting module covering (e.g. forms for environment usage fees, PRTR register, KOBIZE, LZO balance (as an example of further possible program functionalities), product fees, etc.**
- **The possibility of creating and exporting reports for a user-defined range** (e.g. emission volume from selected sources or amount of accrued fees for a given time frame, etc.)
- **Automatic import of environmental survey data** (e.g. air pollution, noise, or other environmental parameters)
- **Intuitive graphical user interface**
- **A 3D structure module (network), not only easing perception of presented information, but also increasing the possibility of simulations or analysis of complex spatial structures**
- **The possibility of managing advanced topological analyses thanks to fully integrated emissions information** (e.g. emissions size, type, source) **with structure information** (e.g. the location of specific network structures and elements)
- **Due to the linking of all possible information resources, it's possible to create detailed analyses related to distance description, surface or contour line placement**
- **The application allows creation of a wide range of presentable information. The environmental information resources provided by the application are complex and offer high flexibility in the mode of presentation by enabling and disabling of particular layers**

Noise mapping



The European Environmental Noise Directive requires noise levels to be assessed for road traffic, railways, major airports and industry. In addition, all countries of the EU are required to produce strategic noise maps in main cities (with population over 100,000) as well as near main transport infrastructures and industrial sites.

Our offer includes services concerned with such noise maps. We are not only able to prepare noise maps but also to make needed noise measurements and statistics. If required, we can use a 3D computer model to show the noise level in each city part.



| City | Population | Project title | Date of realization |
|-------------------------------|-------------|---|---------------------|
| Wrocław Municipality Poland | ca. 600 000 | Periodic noise measurements for public roads, development of Wrocław acoustic map and Noise Protection Program for the city of Wrocław. | 2012 - 2013 |
| Sosnowiec Municipality Poland | ca. 230 000 | Noise Map of Sosnowiec Municipality | 2011 - 2012 |
| City of Rzeszów Poland | ca. 180 000 | Noise Map of Rzeszów City with comprehensive system for the creation, management, updating and publication on the official website of Rzeszów city. | 2011 |
| City of Radom Poland | ca. 220 000 | Noise Map of Radom city with comprehensive system for the management and publication on the official website of Radom city | 2011 - 2012 |
| Warszawa Capital City Poland | ca. 1.7 Mio | Noise Map of Warsaw Capital City | 2011 - 2012 |

Spatial analysis

Every major project is based on modern GIS tools supporting the processes of planning, monitoring and management. We also offer services related to the acquisition of spatial data (methods of scanning and vectorization of cartographic materials), collection of field data (using GPS), data transfer from other systems and geocoding.

- Geographical information processing
- Development and implementation of Geographical Information Systems
- Modelling and analysis of environmental processes - training in GIS systems





Environmental measurements

Our research laboratory performs tests and measurements of the natural environment, including water, wastewater, soils and sludge analyses, emission and immission measurements as well as noise measurements.

Our research laboratory received the Accreditation Certificate granted by the Polish Accreditation Center – Accreditation Certificate No. AB912, field of testing: acoustics, sample collection, chemistry, physical- chemical properties, general environment – confirming compliance with the requirements of PN-EN ISO/IEC 17025:2005 norm. Polish Accreditation Center is a signatory of International Laboratory Accreditation Cooperation ILAC.

All analyses are performed using high quality chemical agents (POCH, Fluka, Sigma-Aldrich, Riedel-de Haen) and the certified samples and reference materials (Merck, Hamilton, Sigma-Aldrich, Fluka, RTC, Chiron, AccuStandard). Our laboratory has the latest equipment ensuring high quality of the performed measurements and analyses.

We use equipment made by recognized manufacturers (Horiba Japan, Testo Germany, Svantek Poland, Varian Australia, Dionex USA or Hach USA).

LEMITOR Research Laboratory cooperates with other accredited laboratories in Poland and abroad. This ensures a wide range of services.



Noise

Scope of measurement services:

- Industrial noise
*Small or large installation, simple or complex plant – it doesn't matter.
We have great experience with industrial noise measurements of all kinds!*
- Noise from roads and railway lines
*Trains and road vehicles – thousands of routes, thousand of measurements.
Orders from main national agencies active in the field of road and track management!*
- Acoustic power
Ability to lead measurements of sound power for machines and industrial equipment of different sizes!!
- Aircraft noise
Noise measurements are made for airports of different potential and characteristics e.g. paved and unpaved airports, military airports or medical helicopter landing pads.



Water and soil

Water, wastewater, sludge and soil. It is possible to analyze all this matrixes. LEMITOR accredited laboratory is the best basis for a wide range of measurements and research activities. Our research laboratory offers regular analysis using standard methods as well as customized experimental measurements.

Within the scope of accreditation the research laboratory performs the following basic group of:

| | water | wastewater | sludge | soil |
|--------------------------------|-------|------------|--------|------|
| Sampling | X | X | X | X |
| Metal contents | X | X | X | X |
| pH | X | X | X | X |
| Hydrocarbon oil index | X | X | – | – |
| Ions | X | X | – | – |
| Total phosphorus | X | X | X | X |
| BOD ₅ and COD | X | X | – | – |
| Kjeldahl nitrogen | X | X | X | – |
| Total nitrogen | X | X | – | X |
| Phenol index | X | X | – | – |
| Electrical conductivity | X | X | – | – |
| Suspended solids determination | X | X | – | – |
| Dry residues | X | X | X | – |

Harmful factors in the working environment

Scope of LEMITOR measurement services:

- Metal contents
- Concentration of organic compounds
- Dust (total and respirable)
- Lighting of indoor workplaces
- Noise exposure at work
- Thermal comfort (PMV, PPD)
- Heat stress - hot environments (WBGT index)
- Negative thermal stress - cold environments (T_{wc} and IREQ indices)



Air pollution

(Immission and emission measurements)

Scope of LEMITOR measurement services:

- Airflow volume
- Concentration and emission of SO₂, CO, CO₂, NO₂, O₂
- Dust concentration in ambient air (immission) and in exhaust gases (emission)
- Determination of metal contents in dust and ambient air (immission)
- Concentration of ammonia, chlorine, hydrogen chloride, hydrogen sulfide, formaldehyde, isocyanates (MDI, TDI), sulfuric acid, fluorine and fluorides in ambient air (immission) and in exhaust gases
- Determination of organic compounds in ambient air and exhaust gases
- Concentration of VOC's (Volatile Organic Compounds) in exhaust gases
- Concentration of CH₄, CO₂ and O₂ in landfill gases

Examples of determined organic compounds (Air pollution)

| | | |
|-------------------|-----------------|---------------------|
| Acetic acid | Epichlorohydrin | Methanol |
| Acetone | Ethanol | Methyl ethyl ketone |
| Acrolein | Ethyl | Methyl acetate |
| Benzene | Ethyl acetate | Pentane |
| n-butanol | Ethylbenzene | Phenol |
| Butyl glycol | Hexane | Phthalate esters |
| Butyl acetate | Hydrocarbons | Propylbenzene |
| Cumene | Isobutanol | Styrene |
| Cyclohexane | Isopropanol | Toluene |
| Cyclohexanol | MBIK | Trimethylbenzene |
| Cyclohexanone | Mesitylene | Vinyl acetate |
| Diacetone alcohol | Methacrylate | Xylene |
| Dichloromethane | | |

Examples of determined metals (Air pollution)

| | | |
|-------------|--------------|------------|
| Ag Silver | Cu Copper | Pb Lead |
| As Arsenic | Fe Iron | Sn Tin |
| Bi Bismuth | K Potassium | V Vanadium |
| Cd Cadmium | Mg Magnesium | Zn Zinc |
| Co Cobalt | Mn Manganese | |
| Cr Chromium | Ni Nickel | |

References

Tens of thousands of measurements, thousands of documents and hundreds of customers.

Thanks to the high quality of services, LEMITOR has gained the trust of many manufacturing companies and consultancies, including those which are part of the well-known international companies.

- Alstom
- Alba
- EBCC
- EDF
- Electrolux
- FagorMastercook
- Faurecia
- GDDKia
- Greenbrier Europe
- Grontmij
- Swedwood IKEA
- KGHM ECOREN
- LG
- Marcegaglia
- Mondi
- Nestle
- Röben
- Ramboll
- Skanska
- Südzucker
- Strabag
- Sharp
- Sitech
- Samsung
- Toyota
- TF Kable
- URS
- United Technologies
- Unilever
- Wabco
- Vattenfall
- Volvo
- Zehnder

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