



INCD ECOIND
INSTITUTUL NATIONAL DE CERCETARE-
DEZVOLTARE
PENTRU ECOLOGIE INDUSTRIALA

NATIONAL RESEARCH-DEVELOPMENT
INSTITUTE
FOR INDUSTRIAL ECOLOGY

INCD ECOIND

Our institute was founded in 1978 under the name of ICPEAR – Research-Design Institute for Wastewater Treatment. In 1999 it was re-organized as the National Research-Development Institute for Industrial Ecology – ECOIND.

INCD ECOIND activates in the field of environmental science and technology.

The Institute has a long tradition in the environmental protection area, setting the highest quality standards in its area of expertise, and being considered a trusted partner, and a reliable source of expertise in its field.

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➤ **ACTIVITY PROFILE:**

**Research and services in the environmental protection field
(mainly industrial pollution)**

ECOIND's activities cover fundamental and applied research, auditing, consultancy, and training in the field of environmental protection, focusing on the industrial pollution issues.

➤ **MAIN DIRECTIONS:**

- **Pollution control (water, air, soil, waste);**
- **Pollution assessment (impact studies, environmental balances, ecological risk analyses, documentations for environmental integrated authorizations);**
- **Environmental technologies (for potable water, industrial and municipal wastewater, waste, sludge, soil) ;**
- **Environment-Quality-Occupational Health and Safety-Food Safety management systems implementation;**
- **Consultancy, expertise and technical assistance, training in the above-mentioned fields.**

- POLLUTION CONTROL (1) -

INCD ECOIND PERFORMS:

- **New methods of analysis, improvement of existing methods;**
- **Standardization of analytical methods for environmental pollution control (member of National Technical Committees: 52 -Water Quality, 53-Air Quality, 56-Quality Management and Assurance, 58-Metrology, 85-Soil Quality, 323-Environmental Management, 360-Characterization of waste and sludge);**
- **Adaptation, transfer and implementation of international standards/methods;**
- **Professional sampling and sample characterization, using physical-chemical, biological, bacteriological methods and microbiological tests for: water, air, soil, sludge, waste, and vegetation;**



- POLLUTION CONTROL (2) -

- **Evaluation of aerobic biodegradability for wastewater and/or chemical substances;**
- **Toxicological studies (fish, algae, luminous bacteria) used for ecological risk evaluation;**
- **Evaluation of inhibiting effect for chemical substances / blends / wastewater over the active sludge microorganisms;**
- **Enzymatic dosages in order to evaluate the toxic effect of chemical substances / products over the aquatic organisms.**
- **Characterization of the solid & liquid fuel;**
- **Noise measurement;**



- **Setting up of monitoring schemes for industrial units and monitoring of industrial pollution;**
- **Initiation and participation to intercalibration schemes;**
- **Method validation, preparation of certified reference materials.**

- POLLUTION ASSESSMENT -

INCD ECOIND PERFORMS:

- **Pollution assessment for all environmental media (air, water, soil), vegetation, noise, for Environmental Impact Assessment of anthropic activities;**
- **Identification and assessment of the impact induced by anthropic activities on the environmental components;**
- **Expertise for water, air, soil, vegetation, and noise pollution evaluation in order to establish the impact of the anthropic activities on the environment; industrial waste characterization and warehousing conditions.**
- **Complex analysis of the interrelationships among the environmental components in view of diagnosis specification and ecological risk forecasting;**
- **Fulfilment of the environmental documentations needed for companies authorization process implying the compliance of environmental legal procedures and the necessary means in order to diminish the pressure on environment;**
- **Environmental impact assessment, environment audit, ecological risk assessment; studies and investigative works in order to develop the documentation required at different stages of permitting process;**
- **Support for central and local administration (ministries, central and local agencies) in environmental impact and protection related areas;**
- **Monitoring of environmental components quality: water (surface water, underground water), air, soil, subsoil, noise.**

- ENVIRONMENTAL TECHNOLOGIES (1) -

INCD ECOIND ELABORATES:

- **treatment technologies for industrial wastewater in various pollution context (inorganic and/or biodegradable/non-biodegradable/toxic pollutants, bacteriological load) to fulfill the discharge regulations / to allow water recycling;**
- **integrated technologies (biotechnologies and physical-chemical technologies) for advanced treatment of urban wastewater and biological sludge in order to their recycling / capitalization (towards zero discharge);**
- **underground and surface water treatment technologies / removal of xenobiotics from drinking water supplies;**
- **technologies for processing of chemical / biological sludge;**



- **technologies for capitalization and reusing of valuable products from wastewater and waste;**
- **alternative technologies for remediation of polluted soil.**

- ENVIRONMENTAL TECHNOLOGIES (2) -

DEVELOPED ACTIVITIES / SERVICIES:

- **existing flows/plants (wastewater treatment, water treatment, sludge processing) expertise: audit, assessment by direct control;**
- **optimization/revamping/supplementation of the existing technological flows: modifying the parameters of physical-chemical and biological plants, computer-assisted elaboration of biological processes specific parameters, replacement/supplementation of chemical reagents, promotion of ecological products, recommendations for equipment replacement;**
- **elaboration of advanced wastewater treatment/water treatment technologies based on modern and performant procedures (advanced oxidation and membrane processes, special biological methods a.s.o.) with recovery of valuable products, if the case;**
- **technical assistance for the own technology verification/implementation in the pilot/industrial scale;**
- **feasibility studies for all types of activities;**
- **documentations for obtaining of water management permits and authorisations;**
- **technical assistance, consultancy, expertise, technological transfer for industry and local authorities.**

- QUALITY AND ENVIRONMENTAL MANAGEMENT -

INCD ECOIND CARRIES OUT:

- **Auditing, consultancy and training for designing, implementing and improving of:**
 - **Quality management systems;**
 - **Environmental management systems;**
 - **Occupational Health and Safety management systems;**
 - **Food Safety management systems.**

- **Environmental initial analysis, studies for assessment of accident risk and professional illness.**

- **Training of managers and internal auditors for management systems.**

- CONSULTANCY AND TRAINING -

INCD ECOIND PROVIDES consultancy and organizes training courses in the following fields:

- **Pollution control for each environmental media:**
 - **pollution monitoring for industrial plants**
 - **methods for environmental media analysis and control, QA/QC measures**
 - **organization of interlaboratory calibration**
 - **methods and techniques for setting the biodegradability and toxicity characteristics**
 - **consultancy for accreditation of testing laboratories according to ISO 17025:2005**
 - **modalities for implementation of REACH regulation**

- **Pollution prevention:**
 - **strategic audits (SWOT analysis, Baldrige questionnaire) and models for development and implementation of sustainable development strategy of enterprises**
 - **“Cleaner Production” assessment (planning & organization, analysis of pollution sources & causes, CP options based on BREF - BAT) for various industrial installations and implementation of clean technologies**
 - **implementation of environmental management accounting system within industrial units**

- **Pollution abatement technologies:**
 - **optimization of the existing technologies (physical-chemical and/or biological processes)**
 - **new technologies**

- REFERENCES (1) -

INCD ECOIND coordinated or participated as a consortium member within:

- **National programs:** National Plan for Research, Development and Innovation I (MENER, RELANSIN, BIOTECH, INFRAS, AMTRANS, CALIST, CERES, MATNANTECH), CEEEX , National Plan for Research II, NUCLEUS PROGRAMME , SECTORAL PROGRAMME of the Ministry of Economy and Finance;
- **International programs/projects** (USAID/GEF, PHARE, COST, UNIDO, ISPA, Leonardo da Vinci, EUREKA, NATO, FP7, LIFE+, EEA Financial Mechanism, The Norwegian Cooperation Programmes for Economic Growth and Sustainable Development in Bulgaria and Romania, EUROSTARS, POS-DRU, POS-CCE); Projects in Environmental Programmes of the Balkan Environmental Association (B.EN.A);
- **Bilateral projects** with research institutes, universities, consultancy companies from France, Holland, USA, Moldavia Republic, Germany, Ukraine, Greece, Canada, Czech Republic, Great Britain, Switzerland, Belgium etc. – in the field of pollution control, pollution assessment, environmental technologies, quality and environmental management systems;

- REFERENCES (2) -

- **Direct projects:** over 500 projects in the environmental pollution control (especially in the field of dangerous/prioritary dangerous substances identification), pollution assessment, elaboration/optimization of depollution technologies, implementation of the management systems.

BENEFICIARIES:

- **chemical industry:** Oltchim, Chimcomplex, Terapia, Zentiva, Chimopar
- **oil industry:** Petrom, Petrotel Lukoil, Astra Romana
- **mining industry:** Remin Baia Mare, Minvest Deva
- **vehicles construction industry:** Dacia-Renault, Daewoo, Vae Aparom Buzau, Uzina mecanica Rm. Valcea
- **energetic industry:** Termoelectrica, Electrocentrale
- **food industry:** Zaharul Oradea, Ursus, Tuborg, Expur Slobozia, Expur Urziceni, Interoil Oradea
- **water-sewage workers:** Apa Nova, Aquatim, Apa Prod Deva, Compania Apa Brasov, Secom Turnu-Severin
- **local public administration units:** Town halls (Pascani, Otelu Rosu, Videle), Environmental Protection Agencies, subsidiaries of National Administration “Apele Romane”

THE WAY WE CARRY OUT OUR ACTIVITY

INCD ECOIND is attested by the Ministry of Environment and Forestry (MEF) for environmental protection services; INCD ECOIND is recertified for design and consultancy in water distribution/ sewerage systems and for drawing out of technical documentations to obtain water management approvals and permits by MEF.

INCD ECOIND has implemented QMS and certified ISO 9001 by Bureau Veritas; “Pollution Control” Department of ECOIND is accredited ISO 17025 by RENAR and attested BPL/ecotoxicology by ANSPCP.

INCD ECOIND’s laboratories are authorized for monitoring of potable water control by the Ministry of Health.

INCD ECOIND’s staff consists of highly qualified experts in the domains of chemistry, biology, ecology, economy, geography, pedology, etc., which allow a multidisciplinary approach to environmental issues.

INCD ECOIND is endowed with equipment and performant apparatus which enables to perform pollution control on environmental factors, in compliance with national and international standards, as well as to carry out the specific research works.

ASSOCIATED MEMBER TO:

- **International Water Association (IWA)**
- **Balkan Environmental Association (B.EN.A)**
- **Romanian Water Association (ARA)**
- **Romanian Chemical Society (SCR)**
- **Romanian Quality Association (ARC)**
- **Romanian Standardization Association (ASRO)**
- **Accredited Laboratory Association (ALA – National Associated Member to EUROLAB)**
- **EURACHEM - Romania**
- **Ownership Union of Producers and Users for Industrial Equipment for Environment Protection (UNIMED)**
- **Romanian Society for Biotechnologies and Bioengineering (SRBB – Member of the European Biotechnology Federation)**
- **National Committee for Sanitation, Hygiene and Urban Environment Protection (CNSIPMU)**
- **Association for Research from Romania's West Area (ACM-V)**
- **National Association for Consumer Protection and Promotion of Products and Services in Romania (A.N.P.C.P.P.S.R)**
- **Romanian Patronage of Research and Design (PRCP)**
- **ECOMEMTECH – Romania**