



Solving Environmental Challenges

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Romania

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AECOM Fully Integrated Engineering Firm



Environment



Building, Design & Planning



Water



Transportation



Management Services



Power & Energy



Construction

- Air Quality Consulting & Engineering
- Climate Adaptation & Sustainability
- EHS Management Consulting & Compliance
- Impact Assessment & Permitting
- Management Information Systems
- Remediation, Restoration, Redevelopment
- Solid & Hazardous Waste Services
- Water, Natural Resources Management

- Architecture
- Building Engineering
- Design
- Economics
- Facilities Management
- Planning
- Program/Construction Management
- Program Cost Consultancy

- Community Infrastructure
- Design-Build
- Drinking Water
- Industrial Water
- Wastewater
- Water Resources
- Stormwater & Watershed Management

- Aviation
- Freight Rail
- Highways & Bridges
- Mass Transit
- Planning
- Ports & Marine
- Traffic

- Emergency Management & Contingency Operations
- Information Management Systems
- Intelligence and Classified Mission Support
- International Development
- Logistics, Operations and Maintenance
- Procurement
- Systems Engineering
- Training and Simulation

- Energy Efficiency & Carbon Management
- Energy Planning & Economics
- Engineering Design
- Hydroelectric
- Nuclear
- Renewables & Alternative Power
- Transmission & Distribution

- Commissioning
- Construction
- Construction Inspection
- Construction Management
- Cost Management
- Project Controls
- Site Development / Preparation
- Stakeholder Relations



AECOM Fully Integrated Engineering Firm

*“... OUR CAPABILITY TO OFFER INTEGRATED
ENGINEERING SERVICES ALLOW US TO BE
BETTER ENVIRONMENTAL CONSULTANTS ...”*

ASSET MANAGEMENT

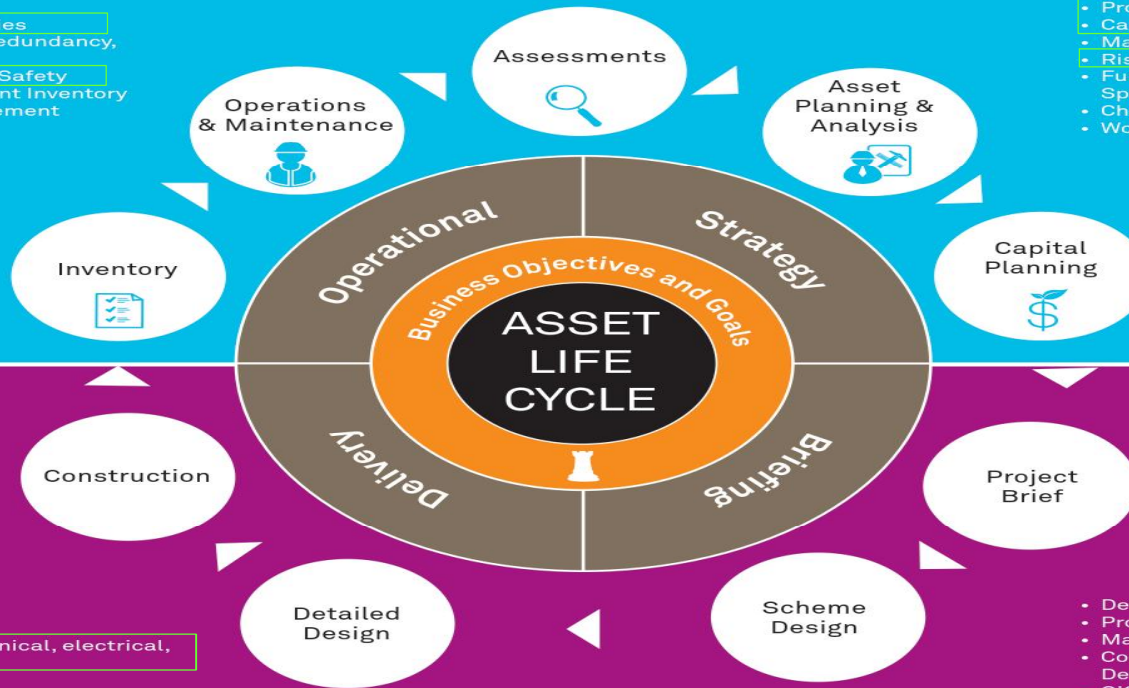
Aligned AECOM Services

- Facilities Management
- Operation and Maintenance
- Preventative Maintenance
- Work Order Management
- Energy and Water Efficiencies
- Infrastructure Reliability, Redundancy, Capacity
- Environmental, Health and Safety
- Real Property and Equipment Inventory
- Workplace + Space Management
- SCADA Management

- Facility and Utility Condition Assessments
- Asset Life Cycle Assessments
- Regulatory and Code Analysis
- Energy and Water Audits
- Environmental Due Diligence

Environment

- Asset Program and Planning
- Life Cycle Management & Investment Opportunities
- Project Prioritization and Justification
- Capital Planning
- Management Consultancy
- Risk Management
- Functional Adequacy- Right sizing- Space Utilization
- Change Management
- Workplace + Interiors Strategies



- Project Management
- Construction Management
- Architecture
- Engineering — civil, mechanical, electrical, structural, environmental
- Interior Design
- Cost Management
- Procurement Strategy
- Value + Risk Management
- Sustainability-LEED
- Health and Safety Management
- Commissioning

- Design and Planning
- Programing and Scope Development
- Market and Demographic Studies
- Community Outreach Program Development
- GIS Mapping
- Cost Development
- Value + Risk Planning and Mitigation
- Environmental + Ecological Planning
- Energy and Water Planning
- Supply Chain Management



PROJECT IMPLEMENTATION

AECOM Key Figures

150 Countries

85,000 Total Staff

9,200 Environment

6.800
ENV Staff

1.600
ENV Staff

800
ENV Staff

AECOM

AECOM Romania

236 Staff



- Water
 - Transport
 - Structural / Mechanical Design
 - Design, Planning and Economics
 - Construction Services
 - Environmental Services
-

 Bucharest

AECOM

The AECOM logo is rendered in a bold, white, sans-serif font. The letter 'E' is stylized with three horizontal bars, giving it a distinctive, modern appearance. The text is positioned in the upper left quadrant of the green background.

AECOM

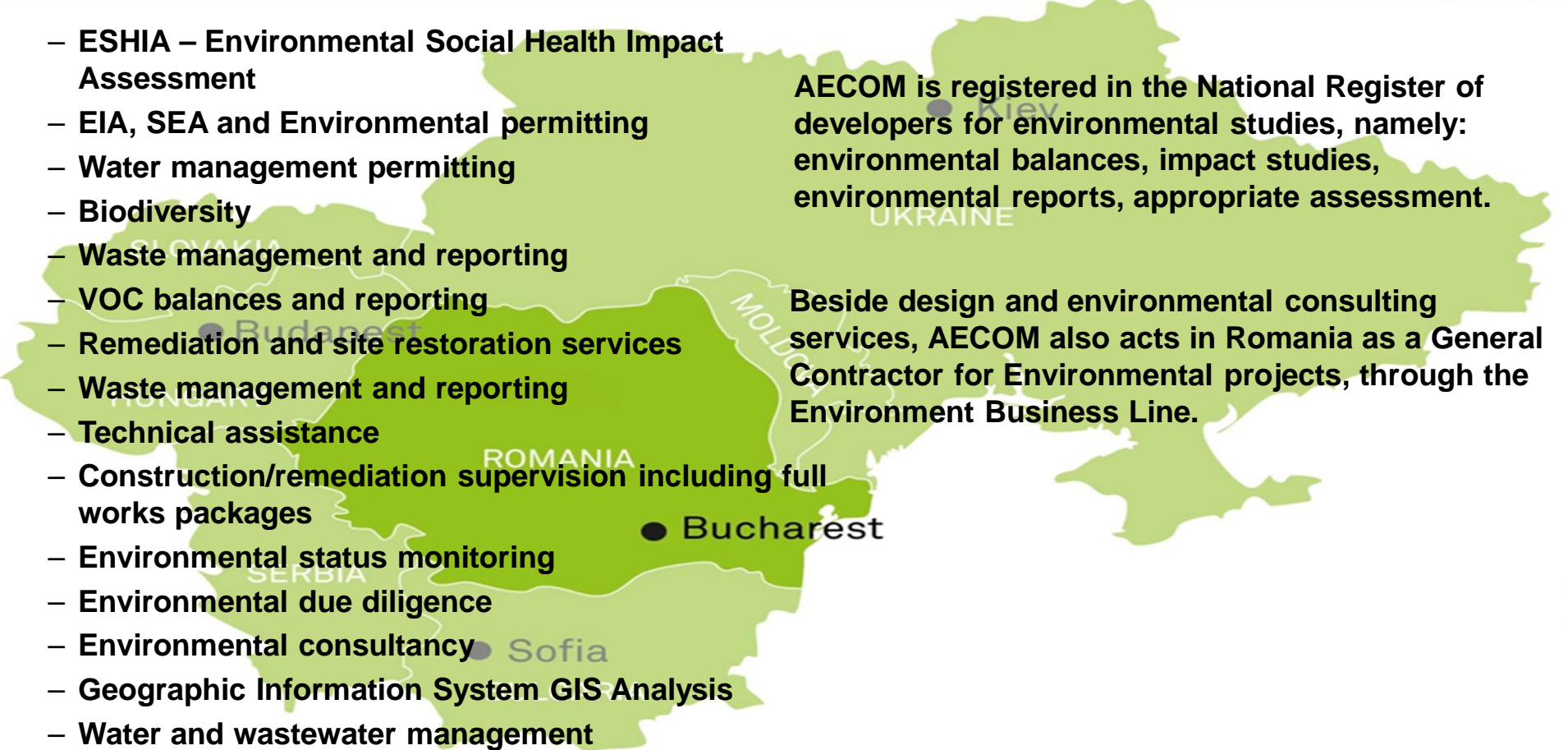
The text 'ENVIRONMENT ROMANIA' is written in a bold, white, sans-serif font, centered horizontally below the AECOM logo. The background is a solid green color with three thin white diagonal lines crossing the right side of the image.

ENVIRONMENT ROMANIA

WHAT WE DO

AECOM

- ESHIA – Environmental Social Health Impact Assessment
- EIA, SEA and Environmental permitting
- Water management permitting
- Biodiversity
- Waste management and reporting
- VOC balances and reporting
- Remediation and site restoration services
- Waste management and reporting
- Technical assistance
- Construction/remediation supervision including full works packages
- Environmental status monitoring
- Environmental due diligence
- Environmental consultancy
- Geographic Information System GIS Analysis
- Water and wastewater management



AECOM is registered in the National Register of developers for environmental studies, namely: environmental balances, impact studies, environmental reports, appropriate assessment.

Beside design and environmental consulting services, AECOM also acts in Romania as a General Contractor for Environmental projects, through the Environment Business Line.

SELECTED PROJECT EXPERIENCE



ESHIA, Land Leasing and Engineering Services in Romania (confidential client)



Independenta bio-treatment plant, Galati County Construction



Ticleni bio-treatment plant and landfill, Gorj County Construction



Barasti bio-treatment plant, Olt County Construction



Videle bio-treatment plant, Teleorman County Construction



Arpechim refinery lakes bioremediation Remediation



Petrobrasi refinery internal lagoons cleanup Remediation



Food industry plant decommissioning and decontamination



Food industry plant decommissioning



SEA, GENERAL TRANSPORT MASTER PLAN FOR ROMANIA (GTMP)

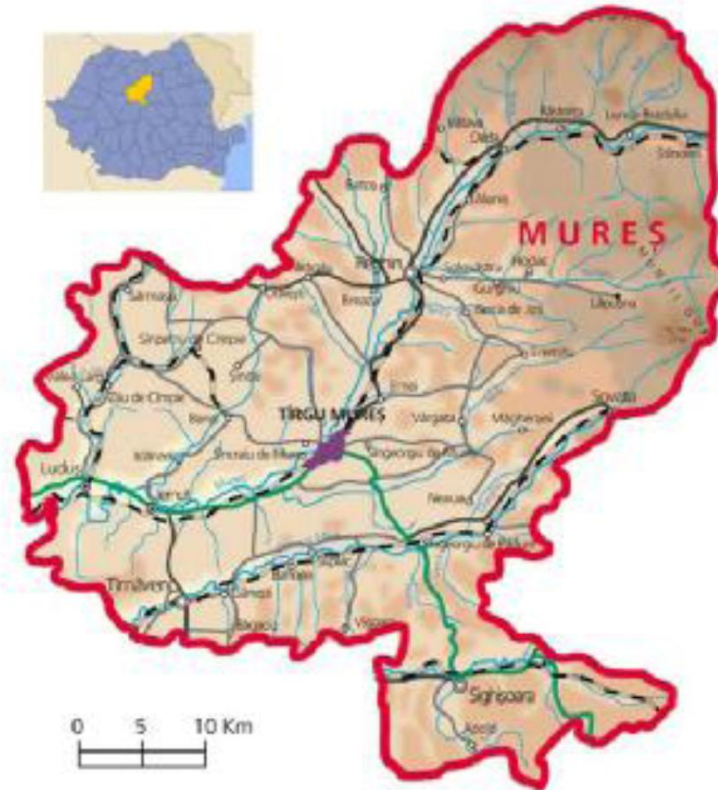
- Integrate environmental considerations into the preparation and adoption of GTMP;
- Ensure that all necessary measures are taken to protect the environment and the protected areas, to reduce environmental impacts ;
- Ensure the sustainable development of the GTMP.



Rehabilitation of Industrial Sludge lagoon of 30 hectares in Tg Mures

AECOM – JV partner in a design&build project, in collaboration with:

- Geiger Transilvania SRL,
- Geiger Umweltsanierung GmbH and
- Astor Com SRL.



Short description of the historical polluted site



Satellite imagery of the sludge lagoon - 2013

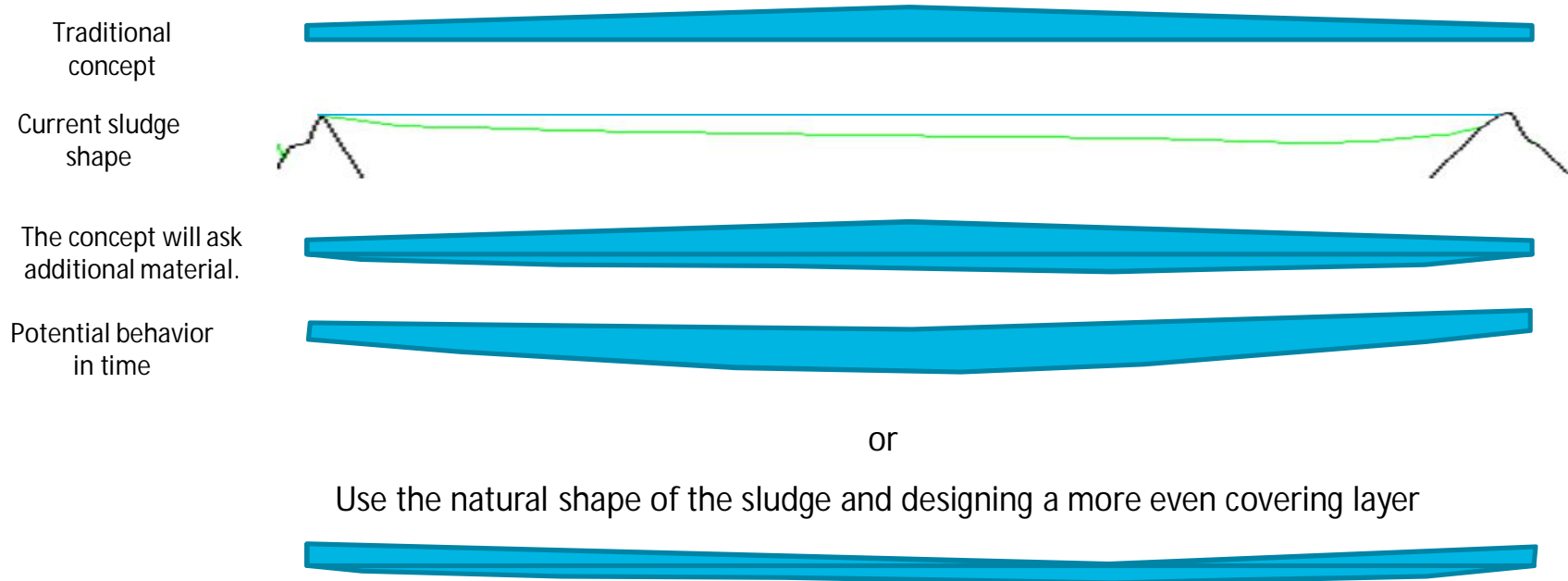
***Short description of the historical polluted site
Images of the lagoon in June 2014***



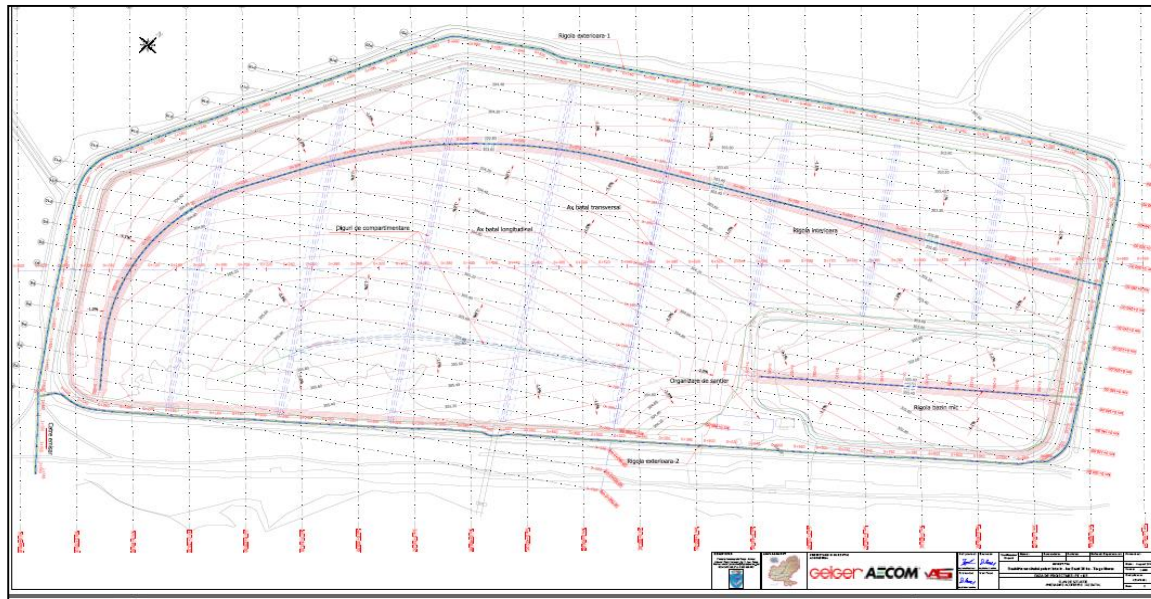
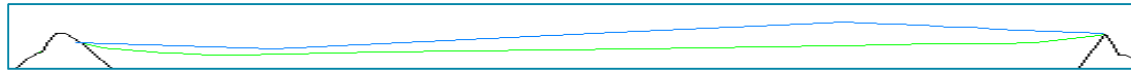
The state of the sludge



***Should we adapt the lagoon to the design
or
Should we adapt the design to the lagoon?***



Optimal solution for implementation



Challenges **materials behavior**



Overlapping on the adjacent strips of geogrid do not function properly on sludge

Solutions



A higher strength material was tested and which can be sewed for providing strength continuity

Challenges

Side extrusions of sludge when executing the internal dams



Solutions

Preliminary removal of the sludge crust and side sludge leveling



A floating excavator was used to dig the internal dam routes and to level the excess of material. The same equipment was used for leveling the already occurred side extrusions of the sludge.

Works progress



Image taken in October 2015

We can offer individual or whole chain of services and works for different phases

Decision on new investments

- Choosing the site location
- Baseline surveys
- Due Diligence – ESA Phase 1, 2
- Romanian Environmental Balances
- Risk studies
- Decontamination works

Construction phase

- Design and technical assistance
- All required permitting services
- Works Supervision / Works Management
- Construction of industrial buildings and facilities
- Remediation/decontamination works

Operation

- Getting or renewal of Environmental Permit
- IPPC - permit
- Water management permit
- Planning and coordination of environmental monitoring
- Support in reporting to authorities
 - waste, including specific waste (packaging, tires etc)
 - VOC, other air/water emissions

Decommissioning

- Site investigations (DD, ESA, Env. Balances)
- Assessment of remediation needs and costs
- Formalizing environmental liabilities
- Decontamination/demolition works

Thank You!

For any enquiries please contact:

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