Remediation of legacy pollutions with focus on developing and operating Industrial sites

In Hungary, the Environmental Protection Act came into force in 1995, just 30 years ago, and since then we can talk about institutionalised environmental protection. It was 3 years earlier that the Hungarian Association of Environmental Enterprises (HAEE, KSZGYSZ) was established. The HAEE has been a member of NICOLE for many years.

The Association is a nonprofit advocacy organization, established more than 30 years ago to represent Hungarian companies in the environmental industry. The Association is an acknowledged partner of the public administration and the economic operators in the preparation of legislation and strategy-making. At present the Association has 270 member companies, which represent all the different fields of the environmental protection sector from remediation, waste management, noise and vibration, air, climate, water and soil protection.

The HAEE is proud and happy to host this workshop in Hungary.

Detailed information about each proposed session for this workshop and the corresponding abstract requirements can be found below.

1. Hungarian remediation projects.

In the Central and Eastern European region, after the political regime change of the 1990s, socialist industry and the Russian military forces withdrawing from the region left behind an environmentally dangerous legacy.

Over the past 35 years, considerable experience has been accumulated in assessing contamination, identifying risk priorities and remediating contaminated sites.

We invite abstracts on remediation (assessment, design, construction, operation) topics and projects that have been or are about to be implemented in practice and that present relevant practical experience and knowledge from Hungary.

2. Diagnosis of particular issues and customization of strategies in Eastern Europe.

In the remediation of legacy-contaminated sites, despite an obvious appeal, there is no one-size-fits-all approach. Rather, strategies must be adapted to deal with specific conditions including the contaminants involved, their concentrations, toxicities and environmental behaviors, the nature of the site itself, and applicable legislation. This legacy of contaminated sites in Eastern Europe can be complicated by the privatization processes that took place, for example by breaking up land parcels or transferring long-term liabilities to parties unable to pay. Abstracts are invited to address the customization of existing strategies for efficient site-specific remediation, as well as to provide guidance for future projects, focusing on the experiences of Eastern Europe.

3. Innovations and new technologies in remediation.

As environmental pressures and climate risks intensify, the development of innovative and sustainable remediation strategies is more critical than ever. We invite abstracts on emerging technologies for soil and groundwater remediation, for example advanced bioremediation techniques, processes using nanomaterials for targeted contaminant removal, or integrated treatment systems that enhance efficiency and environmental performance.

Special focus is given to Nature-Based Solutions (NBS) - such as phytoremediation, wetland restoration, and microbial-enhanced natural attenuation- that harness ecological processes to deliver low-impact, climate-resilient outcomes. We also encourage submissions that explore the application of artificial intelligence (AI) and machine learning in optimizing remediation design, modeling contaminant behavior, and supporting adaptive, data-driven decision-making. Increasing interest in NBS and AI applications is picked up by Horizon Europe, but neither have great penetration in the practical contaminated site marketplace. A good question is why is there this mismatch?

Contributions that link remediation practices to broader climate change mitigation - such as carbon sequestration, greenhouse gas reduction, or adaptive land management - are especially welcome. This session aims to highlight transformative approaches that align with circular economy principles and global sustainability targets.

4. Too big or complex to start: Funding huge remediation projects. Prioritize brownfield sites at new industrial and real estate developments.

Remediation is usually very expensive! As long as a polluter can be kept liable, remediation can be started. Often either the polluter is no longer identifiable or traceable, or the project exceeds the financial possibilities of the liable party (private, industrial or public authority). In these cases, remedial activities are often postponed even if there are unacceptable risks in place. These difficulties are particularly evident for large / complex sites, where economic circumstances are marginal. In this session presenters should provide case studies on possible solutions, like funding opportunities, dividing projects in reasonable stages or balancing the net positive effect of land transformation. Regulatorily frameworks, like ESG or EU-Taxonomy, can be considered, too.

5. Role of 'classical' and upcoming contaminants in remediation activities.

The evolving landscape of environmental contamination demands a broader and more adaptive approach to remediation. While classical contaminants, such as hydrocarbons, heavy metals, and chlorinated solvents, PFAS, remain central to many remediation strategies, the rise of emerging pollutants like microplastics, pharmaceuticals, and quaternary amines presents new scientific, regulatory, and technological challenges. As these "upcoming" contaminants gain prominence, there is a critical need for innovative, cross-disciplinary solutions that integrate advanced detection, risk assessment, and sustainable remediation techniques. The NICOLE workshop invites abstracts that explore this dynamic intersection, highlighting breakthroughs, case studies, and collaborative approaches that push the boundaries of current remediation practices to address both legacy and emerging threats.

6. Role of Expert networks and funders in remediation, like NICOLE Foundation, UNEP and World Bank.

We invite abstract submissions for a session focused on the critical role of expert networks and funders, such as the NICOLE Foundation, UNEP, and the World Bank, in addressing the complex challenges of remediating orphan and large-scale contaminated sites. These sites often lack responsible parties, adequate funding, and technical capacity.

This session seeks to explore how expert networks and funders are mobilizing knowledge, partnerships, and financial strategies to overcome these barriers. We welcome abstracts that address topics including:

- The strategic contributions of expert networks and funders in remediation planning, stakeholder coordination, and policy development.
- Innovative funding strategies and financial instruments for large-scale and orphan site remediation.
- Case studies demonstrating successful interventions led or supported by expert networks.
- Collaborative models involving governments, NGOs, financial institutions, and technical experts.

Submission Guidelines and expectations of the organizing committee:

Authors are required to submit a ***one-page abstract*** of what they would like to present, together with an outline of the structure of the presentation and a ***short biography,*** as well as an indication of preference towards oral presentation or poster, and which session they address from 1 to 6 above.

Abstracts that incorporate case studies, or draw on relevant practical examples, experiences, or applications, are encouraged. Abstracts must be well-written in English, and clearly and concisely outline the information being proposed for presentation. Abstracts with a pronounced advertising or marketing focus will not be accepted.

The Organizing Committee will carefully review all submitted abstracts, determine their relevance, compare it with other proposed presentations, and, if accepted for the program, assign it to an appropriate format and session. Session organization will be finalized upon final abstract selections. In this process, some valuable abstracts may not be accepted for an oral presentation: in this case, authors may be invited to the poster session, which includes a short speech.

The selected abstracts will be published on the NICOLE Portal after the workshop. By submitting an abstract, you agree to the publication with your name.

Deadlines:

Abstracts should be sent by e-mail to Chayenne van Dijk by **Wednesday the 3rd of September 2025**. Afterwards the organizing committee will evaluate the abstracts. The authors of the abstracts will be notified if they have been selected by **the 30th of September 2025**.

The workshop will be organized in the Benczúr Hotel.

The address is:
Benczúr u. 35
1068 Budapest
Hungary

Organization committee members:
Alan Hill – Shell
Csaba Ágoston – The Hungarian Association of Environmental Enterprises
Gergely Tóth – The Hungarian Association of Environmental Enterprises
Glauco Giordano – Jacobs
Gnoerich, Tonia – Jacobs
Graça Brito – NOVA FCT / UNL
Ken Scally – Normec
Niloufar Falakbaz – IEG Technologie
Olga Cavoura – University of West Attica
Paul Bardos – R3 Environmental
Philippe Menoud – Corteva
Renato Baciocchi – University of Rome Tor Vergata
Serkan İktü – ANT ESG
Valérie Cappuyns – KU Leuven

NICOLE:
www.nicole.org

https://www.linkedin.com/company/network-for-industially-co-ordinated-sustainable-land-management-in-europe