

## Approach

Nanoremediation is a lowcost, safe and effective technique to clean up pollution, improve current treatments and prevent future contamination. Even if effective uptake is limited by technological novelty and governance issues, TANIA uses interregional exchange and participation of stakeholders from environmental and innovation fields to address these limitations and define Actions Plans measures to support funding for nanoremediation, coordinate governance models and insert integration between innovation and environmental protection in their strategic focus.

TANIA promotes longterm, sustainable regional development and competitiveness: better environmental conditions, consequent improvements to health and increased business opportunities.

# Get! involved!

If YOU represent a

- Public Authority dealing with environmental protection, innovation, planning, economic development;
- Academia, with experts in topics of relevance to TANIA;
- Company /Enterprise /Large Industry (e.g. responsible for water management) and SME interested in opportunities arising from green business and environmental remediation;
- Environmental monitoring body, control/inspection authority, Protection agency, Regional Development agency,

then become an active part of the TANIA project and help improve Europe's environmental regional policies with your experience and expertise!

## The Interreg Programme

Also known as European Territorial Cooperation (ETC), represents one of the two goals of European cohesion policy.

- Funded by the European Commission through the European Regional Development Fund (ERDF).
- Provides a framework for the implementation of joint actions and policy.
- Exchanges experiences between national, regional and local actors from different member states.
- The overall objective is to promote a harmonious economic, social and territorial development of the European Union as a whole.
- Three strands of cooperation:
  - Cross-border (Interreg A)
  - Transnational (Interreg B)
  - Interregional (Interreg C)

## Interreg Europe

Covers the 28 EU Member States plus Switzerland and Norway.

- Provides a framework for exchanging experience and good practice between regional and local bodies in different countries.
- ERDF contribution: EUR 359 million.

### Get involved!

Join today and share your experience to progress future environmental strategies. Find your regional project partner here: [www.InterregEurope.eu/tania](http://www.InterregEurope.eu/tania)



## TANIA: TreAting contamination through NanoremediAtion

An Interregional cooperation project for improving technology transfer and innovation strategies



## Project Background

There are an estimated c.2.5 million potentially contaminated sites across Europe, of which at least 14% require remediation. Managing contaminated land costs around €6.5 billion per year. 42% of this comes from public budgets.

Partners from 5 regions have identified the potential of connecting new and future materials and clean technology to natural heritage protection, in order to address these environmental and economic problems. Through TANIA, they support wide and effective application of nanoremediation for contaminated soil and water.

## Project Objectives

TANIA's overall objective is to improve treatment of the ever-growing number of contaminated sites in Europe, by improving design and implementation of policy measures capable of supporting uptake and diffusion of nanoremediation.

Regional policy makers must work together and with cross-disciplinary stakeholders to improve a policy framework that:

- Supports R&I on identification and production of eco-compatible and ecosustainable nanotechnology for treatment of contaminated soil and water;
- Defines a standardized methodology to evaluate effectiveness, economic sustainability and environmental safety and impact of nanoremediation, within the context of National and EU regulations (e.g. REACH on packaging and labelling of chemical substances) and strategies (e.g. EU Soil Thematic Strategy);
- Supports patenting and pilot applications of NM and NP developed using safety-by-design concepts;
- Provides incentives for in-situ use of NM and NP to treat contaminated soil and water;
- Raises awareness on the process of nanoremediation, its benefits and means of application.

## What Nanoremediation means?

Nanoremediation is the use of nanoparticles for environmental remediation. It is being explored to treat ground water, wastewater, soil, sediment, or other contaminated environmental materials. Nanoremediation is an emerging industry; by 2009, nanoremediation technologies had been documented in at least 44 cleanup sites around the world, predominantly in the United States. During nanoremediation, a nanoparticle agent must be brought into contact with the target contaminant under conditions that allow a detoxifying or immobilizing reaction. This includes cleaning up existing pollution, improving manufacturing methods to reduce the generation of new pollution, and making alternative energy sources more cost effective. "Nanoremediation" is therefore the term used to describe various techniques and methods to clean up contaminated sites using engineered nanomaterials.



## Project Road Map

### Phase 1 – Sharing Solutions and Development of Action Plans

(01.2017 to 12.2019)

- Exchange of experience on challenges, needs, current strategies and good practices.
- In-depth analysis of good practices and their potential for transfer.
- Development of action plans.
- Drafting of recommendations for regional policy action.

### Phase 2 – Implementation and Monitoring

(01.2020 to 12.2021)

- Implementation and monitoring of regional action plans.
- Finalising the monitoring activities and summarising the results.

## Eight partners identifying good practices in five European regions

### 1 Tuscany (Italy)



Agency for the development of the Empolese Valdelsa



Regional Government of Tuscany

### 2 Päijät-Häme (Finland)



Regional Council of Päijät-Häme



University of Helsinki

### 3 Grand Est (France)



Regional Council of Grand Est - Alsace Champagne - Ardenne Lorraine



University of Lorraine

### 4 Crete (Greece)



Region of Crete

### 5 Baranya (Hungary)



Government of Baranya County

