



EUROSTARS REOP

ORGANIC POLLUTANTS REMOVAL FROM THE SOILS

THIS PROJECT'S MAIN OBJECTIVES ARE TO STUDY AND DEVELOP A NEW TECHNOLOGY FOR ORGANIC POLLUTANTS REMOVAL FROM THE SOILS OR OTHER NONORGANIC MEDIUMS AND TO VERIFY ITS EFFICIENCY AND ECONOMICAL COMPATIBILITY BY A SERIES OF DEMONSTRATIONS USING OPTIMIZED PLANT.

THIS INCLUDES

- A combination of washing using a cleansing solvent with the innovative thermo mechanical treatment called DIC (Instantaneous Controlled Decompression) – process patented in France by ABCAR;
 - Various typology of nonorganic materials (from the soils of different granulometry and composition to wastes containing organic pollutants) and solvents (from water vapor to organic solvents) testing;
 - A range of techniques of mixing and conditioning of the mix;
 - Various geometries of the reactor and systems for solids/vapors separation;
 - And a range of recovery and fractionation of the condensates.
- On a base of the data collected from the demonstrational tests a draft project of a mobile plant of industrial scale is laid out. The studies are performed to evaluate environmental and economical compatibility of the technology in question; then the potential market is assessed to obtain a reference.

THIS PROJECTS GENERATED A SERIES OF NEW ORIGINAL IDEAS EXTREMELY USEFUL FOR THE ENVIRONMENTAL SOILS AND WASTES DECONTAMINATION SECTOR:

- The information on how DIC treatment can effect nonorganic mediums (considering that until recently this technology was used for organic matrixes only);
- A system for the finest particles such as clay (even humid) decontamination;
- A decontamination system based on solvents with a grade of solvent recovery close to 99,999%;
- Short duration decontaminating treatment (5 min only in some cases) while existing technologies require longer hours;
- The possibility to use the plant of minor scale for the substantial treatment: a mobile plant with a 500 l camera that can treat more than 5000 kg/h of the contaminated soil;
- An extremely efficient treatment from the energy saving point of view with a possibility of heat recovery from the condensate and its reuse in a phase of conditioning through a heat pump.
- Minimum environmental impact technology with the volatile and liquid emissions reduced to zero, complete reusability of the treated material, minimal quantities of concentrated waste generated, minimal transport incidence enabled by the plants mobility.

PARTICIPANTS: CONTENTO TRADE SRL, ITALY; ABCAR DIC PROCESS, FRANCE