SITICON Project

Monitoring, Remediation, and Recovery of Polluted Sites

Within the framework of the program "Improvement of Human Resources in the Field of Technological Research and Development"[1], sponsored by the European Social Fund, INCA and the "Centre for Research, Development and Superior Education of Sardinia (CRS4)" organized a high-level education course called "Monitoring, Remediation, and Recovery of Polluted Sites" (Italian acronym SITICON). Partners of the project are the Inter-department Centre of Engineering and Environmental Sciences (CINSA) of the University of Cagliari, and the private company SCILLA s.r.l.

SITICON is meant to find solutions for demands of companies with a high potential environmental impact, which need to acquire a proper technical-scientific know-how in the field of environment protection. The course is meant to train qualified experts to help companies to prevent risks, and supervise and execute remediation interventions when needed; enhancing the active role of such companies in protecting the environment, and recovering polluted sites. Such trained experts will have to support decision-making for environment protection of their companies regarding:

- Considerations about productive process technologies to limit environmental impact risks;
- Evaluation of best remediation technologies available for recovery of polluted sites in relation to productive activities of the single company.

Their technical-scientific knowledge will make them able to manage all different recovery phases, considering all risk factors related to human health and ecosystems, and choose proper remediation processes.

The participants to the course are ten employees of companies located in the Italian regions of the so-called "Objective 1" area[2]. Priority is given to industries of mining, oil-refining, and chemical sectors. The participants have to possess the following requirements:

1. A degree in scientific disciplines, equivalent qualifications, or a high school degree and at least a five-years experience working in a company;
2. Work as an expert of process technologies, and/or production manager, and/or quality and safety manager, and/or be a direct collaborator of these professional figures;
3. Work for companies located in the "Objective 1" regions, such as Sardinia, Sicily, Campania, Basilicata, Puglia, and Calabria;
4. Reside in one of the "Objective 1" regions, such as Sardinia, Sicily, Campania, Basilicata, Puglia, and Calabria.

The course started in early January 2004, and the total duration is 570 hours divided in basic, specialized training, and practical training (e.g. visits in situ, laboratory and research activities, case-history studies).

The first phase of the theoretical course tend to even out the know-how of participants, through three modules:

- National and international legislation – to learn general rudiments on environmental law dealing with remediation;
- Elements of underground-water engineering and applied geology;
- Basics of physics and biology.

The second phase, divided in eight modules explaining technical-professional matters, is the specialized one, which tend to give information to the participants on technical, legal, and economic matters related to the application of business strategies to avoid an environmental impact, and the supervision and/or direct management of remediation activities. The modules are the following:

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[1] Line III, Measure III.I of the Italian Operational National Program "Scientific Research, Technological Development, High-Level Education", 2000-2006.

[2] Regions with economic and industrial underdevelopment, including Sardegna, Sicilia, Campania, Basilicata, Puglia, and Calabria.

- Statistic analysis for characterisation of polluted sites;
- Geophysical methods for subsurface analysis;
- Sampling methods and analytic techniques;
- Modelling for migration of contaminants;
- Computerized data management;
- Risk assessment;
- Techniques for remediation and safety disposal of sites;
- Survey techniques and environmental auditing.

Theoretical lessons are alternated with practical lessons, which are meant to test on site what the participants learned during the theoretical course. This means all participants will:

- Visit polluted sites, which are under recovery to test their technical-professional knowledge;
- Carry out laboratory activities, which means they will use highly developed equipment under the direction of a tutor;
- Carry out case-history studies.

Theoretical lessons and laboratory activities of the course take place in Cagliari. The participants shall take periodical exams to test their learning. Their results will represent a valid element to plan in-depth studies.

For further information visit CRS4 web site www.crs4.it/employment.html.