LIFE05 ENV/IT/000846

BATTLE

Best Available Technique for water reuse inTextiLE SMEs

SIDISA.08 - Firenze

24/27 giugno 2008

Objectives

- **Evaluation of applicability of the BATs - such as those described in the textile reference documents (BREFs) for the implementation of the European Directive IPPC 96/91/CE - in the small-medium enterprises (SMEs) of the textile finishing sector**

- **Development and prototypal application of a clean technology for the water reuse, at present not envisaged in the BREFs, to be proposed as reference BAT for SMEs as well for large enterprises.**

- **Raised awareness on benefits and opportunities for the European SMEs and decision makers of textile and side sectors from the implementation of the new BAT.**

Action 1

- **Analysis on the BATs as reported in the textile BREF in order to evaluate their possible applicability on SMEs, through a survey and data collection of European companies implementing the BATs.**

- **Characterization of a SME, the partner company Stamperia di Martinengo (SdM), by an auditing procedure to assure a complete and objective evaluation of the techniques implemented and, at the same time, a complete characterization of the produced effluents.**

Action 2

- **Selection of the effluents to be diverted for reuse after on-site treatment, through evaluation of the effluents treatability for reuse and assessment of both the change in composition of the final effluents and the effects on the functionality of the existing final treatment facility.**

- **A demonstrative treatment plant will be designed and built-up by employment of available treatment technologies such as commercial membranes or equivalent (about 500 m3/day of wastewater treated). For the automatic operation of both the plant and the existing facilities, a prototypal Expert System (E.S.) will be designed and implemented.**

Action 3

- **Validation of the E.S. by adaptative runs during the start-up phase.**
- **Functioning of the new plant in a sufficient time-span, to assess the effects of reused waters on production quality.**
- **Proposal of a new BAT and the relative handbook on the basis of the above actions' results.**
- **Dissemination of information on the project activities and its results carried out throughout the whole duration by means of a website set-up, the participation of both partners and the general public in conferences, workshops and info-days. Back to back to these events, arrangement of on-site, arrangement of on-site visits to the demonstrative plant.**

Expected results

- **“BREF type” guidelines for optimisation of water cycle in textile SMEs and further submission to the IPPC bureau.**
- **Handbook of the proposed BAT**
- **Reduction, when implemented at full scale, of at least 50% of fresh waters and the same amount of wastewaters discharged in the environment, by a fully reliable, totally automated, reclamation system for the treatment and reuse of the effluents produced.**
- **Sensitization of at least hundred European companies in view of implementation of the technique in their factories**

PARTNERS

ENEA

The Italian National Agency for Energy, New Technology and the Environment.

- **Project beneficiary and responsible for the project management and coordination as well as dissemination.**

ANOVA Knowledge Based Software Solutions

- **ANOVA is a private R&D Laboratory, born as a spin-off from SESPIM (an ALENIA R&D Consortium), operating in Knowledge Engineering and Artificial Intelligence (Expert System) software applications in Environmental and Agro-Industrial fields.**

CENTEXBEL

The Scientific and Technical Centre of the Belgian Textile Industry Centexbel is a no-profit organisation with a private structure who will invest its expertise in focusing the project target for a wider application in European SMEs, will evaluate the results and support the dissemination.

(CIDA)
CENTRO IMPRESE DEPURAZIONE ACQUA s.p.a.”

- **Depurazione Acqua s.r.l.” (CIDA) is a private company, with more than twenty years of experience on textile companies consulting for waste minimisation, whose mission is carrying out consulting, design and coordination tasks related to the upgrading of the centralised wastewater treatment plants located in the Como area, restructuring of the industrial aqueduct and upgrading sludge treatment and disposal plants.**
- **CIDA consists of two partners: the “Lariana Depur”, a consortium which owns and runs the centralised treatment plants, and the “Como Industrial Association”, both non-profit making companies.**

STAMPERIA DI MARTINENGO SPA

- **The "Stamperia di Martinengo SpA" (SdM) is a textile printing and dyeing company, employing 140 workers. SdM is not only an active partner in the project but also the first end-user of the proposed BAT**

- **SdM was founded in 1974 and it is located in the Bergamo province, Italy. Its core activity consists in rotary and digital printing of all textile fibres using most of the dyestuffs and pigments commonly used for textiles. In 2003 its production amounted to 11.000.000 m of textiles.**

(UNIFI)
DEPARTMENT OF CIVIL ENGINEERING OF THE UNIVERSITY OF FLORENCE

•The Department of Civil Engineering of the University of Florence (UNIFI) will thoroughly study the end-of-pipe effluent composition, that will change significantly (quantity reduction, increase in contaminant concentration) and its impact on the performances of the already existing wastewater treatment plants. It will then design the necessary remedial actions. Since its foundation in 1983, the Department, running ten specialized laboratories, has been carrying out the academic and research activities in the field of civil and environmental engineering.