TANNET NEWSLETTER 3

TANNET – A Concerted Action for the European Leather Industry

April 2000

INFORMATION ABOUT THE TANNET PROJECT

The TANNET project, which is a Concerted Action for the European leather industry supported by the EU Environment and Climate Programme started its activities on 1 April 1998. The main objectives of TANNET are to:

- build a European network for the leather industry
- recommend a strategy for environmental research for the European leather industry

During the first two years the activities have been focused on:

- increasing the **number of members** in TANNET
- developing the list of **research priorities** for environmental research for the leather industry

At present, TANNET has 195 members and many tanneries and other stakeholders have showed an enormous interest for the initiative.

The original time schedule for TANNET was 26 months. Due to the very high interest from all stakeholders, the network will continue to exist beyond the period of 26 months.

FIRST ROUND TABLE OF THE EUROPEAN LEATHER INDUSTRY

Bologna will be hosting the First Round Table of the European Tanning Industry, which is to focus on the situation and prospects of the leather sector and its value chain in the new millennium. The event will take place on 6 May 2000.

For COTANCE, the representative body of the European leather industry, this important event is a unique opportunity for the sector's businessmen to meet. They can meet not only their peers in the tanning industry and allied trades but also national and European high level politicians, authorities, academia and other stakeholders who are active in the leather value chain.

The European Commission and relevant authorities of the Italian government and the European Parliament as well as from the business community have been invited to participate in this forum and to bring in their contributions to the debates.

This event seeks to be more than a "talking" shop. It wants to be a meeting point at the

highest level for an active dialogue, a joint thinking exercise on the significant mutations experienced by the industry and on the markets and a shared commitment to identify innovative strategies and appropriate operational instruments for successfully facing the sector's challenges ahead.

The European leather industry comprises in its value chain a number of sectors. They range from agriculture, chemical and machinery manufacturing industries providing the raw materials, through to footwear, clothing, fancy goods and furniture industries, and retail sectors as well as automotive and aircraft equipment sectors, and in which the tanning industry plays a fundamental role.

Latest estimates indicate that close to one million European jobs depend on the leather industry value chain.

Mainly constituted by small and medium sized enterprises, the operators of the industry play a crucial role not only in the European economic, social fabric generating wealth and employment at regional and local level but also in its ecological structures valorising safely, efficiently and profitably a waste product of the meat industry (hides and skins). The transformation of this renewable resource constitutes moreover a fundamental element of European cultural identity. Not only is leather tanning one of the oldest trades, it expresses also through its top fashion content the creativity of European people. But furthermore the leather value chain is technologically an intensive sector generating high level research and development leading to innovative products and by-products that may revolutionise lifestyles of tomorrow.

For more information, visit the Bologna 2000 web site on the Euroleather page.

EUROPEAN RESEARCH AREA

Opening a Conference on "Research, Technology and Employment: Towards a knowledge society" in Brussels on 10 February 2000, the EU Commissioner Philippe Busquin stated that research and technology have a decisive and positive impact on the development of new knowledge and therefore on the creation of wealth and jobs. He added that "the European research effort not only looks fragmented and insufficiently co-ordinated but Europe’s investments in research are also failing to keep the pace with our competitors in Asia and America".

In order to spark a debate on this issue, the Commission has published a Communication addressed to the other EU institutions, which is entitled "Towards a European Research Area". The full text thereof may be found on the following web address: http://europa.eu.int/comm/research/aera.html. The communication indicates a number of aspects that the idea of European Research Area should embrace such as greater mobility of researchers in Europe, more dynamic private investment.

The Commission will seek the views of the sector representative organisations of industry established at European level by

5 May 2000. A public debate will take place in the member states during the first six months of the year 2000 and the Commission shall ask the council to give its assent to the opening of a number of areas of work on each of the themes identified in the communication.

EXAMPLES OF INTERESTING PROJECTS

Examples of relevant and promising European projects in the environmental area are listed below:

Wasserglass in Leather Production

CRAFT ENV4-CT98-0747

Objective

The objective of the project is to use wasserglass in leather production to reduce tannery waste.

Work Description

Pelts are stabilised with soluble alkali silicates (i.e. Wasserglass) in order to prepare them for shaving. After washing, shaved pelts can be tanned in any required way. The resulting shavings show excellent digestibility and, therefore, will be easy to utilise.

Preliminary Results

Good shaving properties and satisfying leather quality have been obtained for most leather types (shoe, upper, garment, fancy, upholstery and automotive leather). A better exhaustion of tanning and other auxiliaries as well as a reduction of the effluent discharge (especially SS and TDS) has been observed. In a follow-up-project, these phenomena should be quantified as well as utilisation methods for the resulting native shavings should be developed.

Contact Person

Karl Heinz Munz, c/o Versuchsanstalt für Lederindustrie, Vienna, Austria
E-mail: heinz.munz@schule.at

Thermal Treatment of Tannery Sludges

Objective

The objective of the proposal is to identify the most appropriate thermal technologies for the treatment of tannery sludges and for tannery sludges mixed with other solid residues (like plastic, wood, etc.).

Work Description

Laboratory trials and pilot plant tests on incineration, pyrolysis and gasfication will be carried out in the project. Particular attention will be taken to energy recovery in order to optimise the process economy.

Preliminary Results

The trials have recently started and preliminary results are not available yet.

Contact Persons

Dott M. Tomaselli/Dot G. Umarino

Stazione Sperimentale per l'Industria delle Pelli e delle Materie Concianti (SSIP)
Via Poggioreale 39, I-80143 Naples, Italy
Tel: +39 081 5979100
Fax: +39 081 265574
E-mail: ssip@iol.it

Pilot Action to Promote Involvement of Italian Tanneries in EMAS System

LIFE96/ENV/IT/000136

Objective

The objective of the project is to develop tools for the tanneries in order to make it easier to introduce the European Eco-Management Scheme (EMAS).

Work Description

A series of ad hoc material was developed to help tanneries implement EMAS. The following tools were developed: Check-list for environmental review, a handbook for the environmental management system, a software to manage the system, two video-cassettes, a brochure for the labour force and finally a handbook for training of environ-mental managers.

Eleven tanneries which participated in the project have tested the materials. Six of them were granted ISO 14000 certification and three asked for EMAS certification.

Results

The project finished in October 1999 and the main conclusions were:

The tools that were developed specifically for the leather industry fully revealed their effectiveness. The time and costs for tanneries to introduce EMAS was reduced when using the developed tools:

- The management systems used in different tanneries gave the predicted environmental, social and economic benefits

It was concluded from the analyses of the costs and benefits that a crucial condition for evaluating any ecomanagement system for possible implementation is the maintenance «in operation».

Contact Person
Dr. G. Zilli
Unione Nazionale Industria Conciaria
Via Brisa 3, I-20123 Milan
Tel: +39 02 801026/Fax: +39 02 72000072
E-mail : info@unic.it

New Chemicals to Eliminate Solvent Use in Degreasing Skin

CRAFT-project no ENV4-CT98-0764

Objective

This research project aims at avoiding the use of solvents in furs and haired skins (shearing) processing in order to reduce the environmental impact and improve the working conditions in the tannery.

Work Description

Replacement of solvents by surfactants and/or enzymes includes a partial modification of the technological cycle.

Preliminary Results

The preliminary characterisation of the processes to be solvent-free has been carried out. The replacement products have been studied and laboratory experiments have been carried out using the most suitable. Semi-industrial experiments will be carried out in the future.

Contact Person
Eng. G. Bufalo (SSIP)
Stazione Sperimentale per l'Industria delle Pelli e delle Materie Concianti (SSIP)
Via Poggioreale 39, I-80143 Naples, Italy
Tel: +39 081 5979100
Fax: +39 081 265574
E-mail: ssip@iol.it

New Chrome or Reduced Chrome Tanning

Objective

The aim of the project is to develop new technologies to reduce the chromium content in waste water by reducing the chromium offer in tanning as well as using alternative chromium free tanning.

Work Description

The SSIP works on the following items:
Reduced chrome offer during tanning with controlled heating.
Tanning at a high pH after pre-treatment with organic products.

Preliminary Results

Controlled heating: Reduction of the chromium offer during tanning to 40-60% of the normal amount used by the tannery partner in the project. The chromium concentration in the residual float is between 300-1750 mg/l.

High pH-tanning: Reduction of the chromium offer during tanning to 30-40% of the normal amount by the tannery partner. Tanning is made at pH 6-7 after pre-treatment with glutaraldehyde. The chromium concentration is between 0.06-6 mg/l in the residual float.

Contact Persons
Dr. M. Tomaselli
Dr. L. Bianchi
Stazione Sperimentale per l'Industria delle Pelli e delle Materie Concianti (SSIP)
Via Poggioreale 39, I-80143 Naples, Italy
Tel: +39 081 5979100
Fax: +39 081 265574
E-mail: ssip@iol.it

Integrated Pollution Prevention and Control in Leather Industry

Objective

The minimisation of environmentally polluting emissions through the development of an economically and ecologically efficient overall system of production and disposal, which can also be realised in small and medium-sized enterprises.

Work Description

The study to be performed encompasses the following fields:

- Reduction of the use of chemicals in the tanning process and of chromium emission using production-integrated measures (improved exhaustion and fixation of chromium coupled with the recycling of pickling and tanning liquors; continuous measurement of chromium values; new environmentally-compatible tanning technology involving minimised use of chemicals).
- Development and testing of waste water treatment methods on the basis of modified aerobic and anaerobic biological systems and membrane technology, with the aim of achieving maximum purification and permitting reutilization of waste water.
- Processing of solid wastes and sludges by means of "low-temperature conversion" in which the input materials are carbonised under reduced oxygen, thus avoiding chromium(VI)formation.

Contact Person
Dr.-Ing. Heinz-Peter Germann
Lederinstitut Gerberschule Reutlingen (LGR)
Erwin-Seiz-Str. 9
D-72764 Reutlingen, Germany
Tel: +49 7121 16230
Fax: +49 7121 162311
E-mail: lgr@schwaben.de
Internet: www.schwaben.de/home/lgr

A New Ecofriendly Finishing System for Leather Sector

CRAFT Project BRST-CT98-5191

Objective

Reduction of waste from the finishing operations.

Preliminary Results

The basic result of the research is an industrial prototype consisting of an integrated fixed-bar spray system for the finishing processes in tanneries. The system is a completely innovative solution to obtain a great uniformity of very thin coats and also avoiding the waste of product, which is inherent to the current technologies. The

new system introduces an integrated fixed bar of a large number of spray nozzles, working at very low pressures and with a very accurate parameters setting system. This enables a revolutionary improvement of the spray efficiency, i.e. the percentage of dis-persed product is about 40-70% less than in present systems. The increase in the efficiency reflects a similar reduction in air emissions (VOC). Other benefits are increased productivity, reduced energy consumption, both reduced noise

and size as well as better health and safety for workers. Currently an industrial prototype has been developed and tested with samples of various leather types and mixtures. The next stage of development requires test in full scale.

Contact Person
Dr. G. Zilli
Unione Nazionale Industria Conciaria
Via Brisa 3, I-20123 Milan, Italy
Tel : +39 02 801026
Fax : +39 02 72000072
E-mail : info@unic.it

Members in TANNET

The Danish Technological Institute is co-ordinator in this project and working very closely together with *The Confederation of National Associations of Tanners and Dressers of the European Community* (COTANCE). Furthermore, national focal points have been established in the different member states. Generally, the leather research centres in the different EU-countries have been appointed as national focal points. You will find the TANNET Membership here.

Corresponding Members

At the present moment, TANNET has approximately 200 members and many tanneries and other stakeholders have showed an enormous interest for the initiative.

LIST OF RESEARCH PRIORITIES

In Europe top environmental performance and sustainable development constitutes a major societal concern streamlining all the sectors of the economy. An industry falling short in striving for a high standard in ecological compatibility will not be sustainable over the time. Many developments have already improved the environmental performance of leather production processes but even more will take place focusing on improved production technologies for "greening"" tanning operations and reducing their impact on the environment to a maximum.

Research and development constitute the key factors of making available the technologies capable to anticipate problems, reduce current errors and contribute to the solution of possible environmental challenges of concern to the leather industry. These new cleaner technologies will be the output of a continuing review process of leather producing operations. Certain cleaner process technologies and end of pipe systems are already widely used by the sector, others just apply to a specific process or a type of site or a given capacity or given natural conditions.

The purpose of the list "Research Priorities for the European leather industry" is to introduce the specific research concerns, which need to be addressed in the various fields by the European Leather Research Community.

The authors of the list have voluntarily refrained from pinpointing particular techniques or scientific approaches, which today may be appealing or may be under investigation at experimental scale to avoid the reduction of the innovative capacity of researchers and their scientific liberty. This should secure that all possible opportunities for improving the environmental performance of tanning processes be explored by the research community.

Water

Reduction and monitoring of non-ionic polyethoxylated (NPEO) surfactants in wastewater from degreasing operations.
Efficient management of water in tanneries, in order to reduce water consumption in the leather industry.
Advanced wastewater treatment units, leading to open or closed-loop recycling of water.
Reduction/treatment of sludge from tannery effluent treatment plants.
Small and cost-effective treatment plants for specific tannery effluents.
Reduction of the salt-discharge from tanneries (both chlorides and sulphates are priority substances).
Assessment of the long-term environmental impact of tannery contaminated sites on e.g. groundwater.
Development of remediation technologies for tannery contaminated sites.

Solid Waste

New and innovative cleaner technologies for the prevention of solid waste.
Valorisation of by-products from leather manufacturing by e.g. biotechnology.
Thermal treatment of leather waste.

Air Pollution

Reduction of VOC emissions from finishing operations.
Reduction of odour emissions from tanneries.

Other

Integrated approaches to an environmentally sustainable leather production.
Tools to evaluate the impacts on relocating tanneries from city centres to industrial parks.
Tools to assess and compare the environmental impact from different processes during leather production.
Improved energy efficiency in tanneries.

CRAFT SPECIFIC MEASURE FOR SME'S IN EU RESEARCH PROGRAMME

Small and Medium-sized Enterprises (SMEs) are the cornerstone of Europe’s competitive position and job creation. They form a dynamic and heterogeneous community, which is confronted to many challenges. These include increased competition resulting from the completion of the European internal market and the growing demands of larger companies for which they often work as sub-contractors. To meet those challenges and to remain competitive, SMEs constantly need to innovate. Among other things, this means developing new technologies in-house or gaining access to them. The EU Framework Programme for Research and Technological Development (RTD) is an excellent instrument to realise both objectives at the same time.

The SME Specific Measures are actions developed:

- To make it easier for the SMEs to take part in RTD programmes of the EU
- To promote RTD by SMEs and for SMEs
- To solve specific technical problems for SMEs and encourage them to develop transnational partnerships

The SME Specific Measures consist of:

Exploratory Awards: Grants allowing at least two SMEs from different countries with a common project idea to prepare a complete research proposal

Co-operative Research (CRAFT) Projects: These enable transnational groups of SMEs with a common problem but with limited or no in-house RTD capability, to sub-contract the research they need to a specialist (called an "RTD performer"). The Commission supports up to half the cost and while the RTD performer is paid in full for its work the results belong to the SMEs alone.

You can participate in the SME Specific Measure if you are an SME which:

- Has less than 250 employees
- Has either an annual turnover not exceeding EURO 40 million or an annual balance-sheet totally not exceeding EURO 27 million
- Conforms to the criteria of independence

And in addition:
Is not a research centre, research institute, contract research organisation or consultant.
For more information see the web site: http://www.cordis.lu/sme

---

FUTURE DEVELOPMENTS

The TANNET network has recently received confirmation to start a new project in the programme "Promotion of Innovation and Encouragement of SME Participation". The title of the project is "TANNET- an initiative to stimulate and encourage European leather industry to participate in EU Programmes". The main objective of the project is to use an existing network of tanneries (SMEs) in order to increase the participation of tanneries in the EU programmes.

The project will run for 18 months with an expected start in April/May 2000. There will be organised four workshops which will act as brokerage events during the project. The brokerage events will primarily be organised in Italy, Portugal, Greece and the United Kingdom.

Further information about the new project and the activities will be given in the next TANNET newsletter.

For further information please contact your national focus point or the co-ordinator of the project:

E-mail: Stefan.Rydin@teknologisk.dk