Odour Control

Project no.: 016730
Project acronym: Odour Control

Project title: Smart Odour Control system to increase product quality, occupational safety and safeguard the location and jobs, based on forward-looking tools of SMEs entering the European paper market

Instrument: Co-operative Research Project (CRAFT)
Call identifier: FP6-2003-SME-1

WP0
Project management, IPR, exploitation and dissemination issues

D1
Project presentation / 2-3 pages, based on the instructions of Appendix 2 of Commission

Due date of deliverable: 28.02.2006
Actual submission date: 14.12.2005

Start date of project: 01 October 2005 **Duration**: 24 months

Organisation name of lead contractor for this deliverable: PTS

Dissemination Level		
PU	Public	**X**
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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PTS

Dieter Pauly

Smart Odour Control system to increase product quality, occupational safety and safeguard the location, based on forward-looking tools of SMEs entering the European paper market

Researchers from three European universities and two research institutes in collaboration with five SMEs and three big enterprises from five European countries have joined forces in a Cooperative Research Project known as ODOUR CONTROL within the 6th Framework Programme on Research and Technological Development of the European Commission. The aim of this project is to monitor and control odour relevant micro-organisms and metabolites within paper mill water circuits and in the product.

BACKGROUND

Increasingly closed process water circuits in the paper industry, process engineering changes, and increased recovered paper utilisation rates lead to high levels of organic compounds and electrolytes, prolonged retention times, increased temperature and pH levels. These changes in boundary conditions promote biological activities leading to microbiological effects such as odour formation in a significant number of European paper mills.

In this context several mills report problems related to odour emissions and some declare that odour control is one major concern of their activities. In this context a relevant number of mills encounter odour problems affecting for example the job environment, the neighbourhood or product quality.

As a result a big number of paper mills are using biocides regularly for controlling their microbiologies. Biocides are added at different locations, the most common is the water circuit around the paper machine followed by additives preservation, freshwater and stock. Restrictions on biocide use can result from product requirements (e.g. due to production of paper intended for food contact), effects on the wastewater treatment or environmental limits.

As a reliable Odour Control routine for the paper industry does not exist the aim of this project is to develop a system ready for monitoring and controlling odour relevant micro-organisms and metabolites. Based on advanced components to be developed the innovative SMEs are aiming at entering the new paper industry market.

OBJECTIVES

Biological odour formation is a complex and challenging process whose full description and control requires a critical mass of disciplines. Therefore Odour Control combines biotechnological, physical, chemical and process engineering tools. This multi-disciplinary approach will cover all subjects relevant to successful integral solutions.

The ambitious goal will be achieved by developing rapid monitoring products for detecting odour forming micro-organisms and odorous compounds

FISH Fluorescence In Situ Hybridisation
AOS Artificial Olfactory Systems

triggering tailor-made countermeasures for odour control

mill treatment system – biokidney concept
mill treatment system – environmentally sound additives

to be combined into an Odour Control System.

EXPECTED RESULTS

Especially in mills closing their water systems and using high recovered paper utilisation rates microbial activity causes the generation of odorous compounds. Odour problems are related to working conditions, emissions, i.e. air pollution of surroundings, and quality problems from a product point of view. Using unique monitoring systems, i.e. FISH and AOS, triggering proper countermeasures, i.e. tailor-made biokidney concept and environmentally sound additives, Odour Control will overcome risks and hazards as well as avoid civic and legal actions. In this context we expect to monitor/control

- the generation of microbial odorous compounds during manufacturing;
- micro-organisms including odour formers whilst replacing high risk biocide use;
- product quality;
- emission from mill to surroundings.

PROJECT INFORMATION

Duration:	2 years
Starting Date:	October 2005
Total Costs:	1,997,200
EC Contribution:	1,243,600
EU Specific Action:	CRAFT
Project Acronym:	Odour Control
Contract Number:	016730-FP6-2003-SME-1

PROJECT COORDINATOR

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