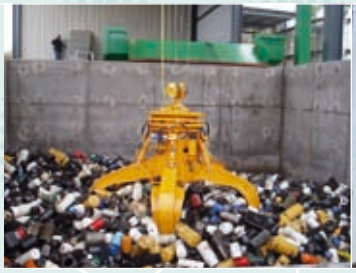
LIFE III

Environment




Best LIFE-Environment Projects 2005-2006

European Commission

OSIS: Improving oil spill detection in the North Sea

Ships and offshore installations are the most common sources of more than 500,000 tons of oil spilled into the marine environment every year. The OSIS new surveillance system, developed thanks to LIFE co-funding, is helping to identify leaks and plan corrective action.

OSIS oil spill detector sensor is now being developed for ships.

Europe is the world's largest market in crude oil imports, representing about one third of the world total[1]. A very high percentage of oil and refined products are transported to and from Europe by sea. Inevitably, some of this oil makes its way into the marine environment.

Accidents that had massive environmental consequences, such as the "Prestige" or "Erika", powerfully illustrate the devastation that can be caused by ship pollution. However, even routine ship operations pollute the sea through ballast water, tank washings and engine room effluent discharges.

Every day, large amounts of oil deliberately pumped into the sea by ships along almost the entire coastline of Europe. Together with large oil spills, such pollution constitutes a major threat to the environment and places enormous demands on national authorities responsible for rapid response and clean-up operations. Tackling this environmental threat is the 1992 Convention for the Protection of the Marine Environment of the Northeast Atlantic, the OSPAR Convention. OSPAR defines special areas with tough emission limits for oil pollution

1 Source: Energy Information Administration http://www.eia.doe.gov/emeu/ipsr/t31.xls
2 Source: Global Marine Oil Pollution Information Gateway http://oils.gpa.unep.org/facts/sources.htm

Effectively controlling oil pollution has, however, proved difficult. Airborne Surveillance Systems currently used to control outlets of oil are too expensive to be utilised efficiently against the large number of offshore installations. Together with ships such installations are the most common sources for the more than 500,000 tons of oil spilled annually into the marine environment[2]. The lack of monitoring systems means that offshore installations have not yet been included in the strict OSPAR rules governing oil pollution in designated special areas.

BEST OF THE BEST 2005-2006

OSPAR call for technologies

"In the late 1990s, OSPAR called for technologies, such as OSIS (Oil Spill Identification System) to be developed so that they could enforce a new type of regulation in those special areas," said project manager Peter Moeller-Jensen of OSIS International, a privately owned Danish SME. The OSIS team thus sought to demonstrate a potential solution to this widespread

OSIS improves oil spill detection in the North Sea.

OSIS sensor system shown here at the front of the oil rig.

problem of international concern by developing online remote monitoring of offshore installations in any location based on new sensor technology. The new system would use a new generation of communication satellites and the Internet.

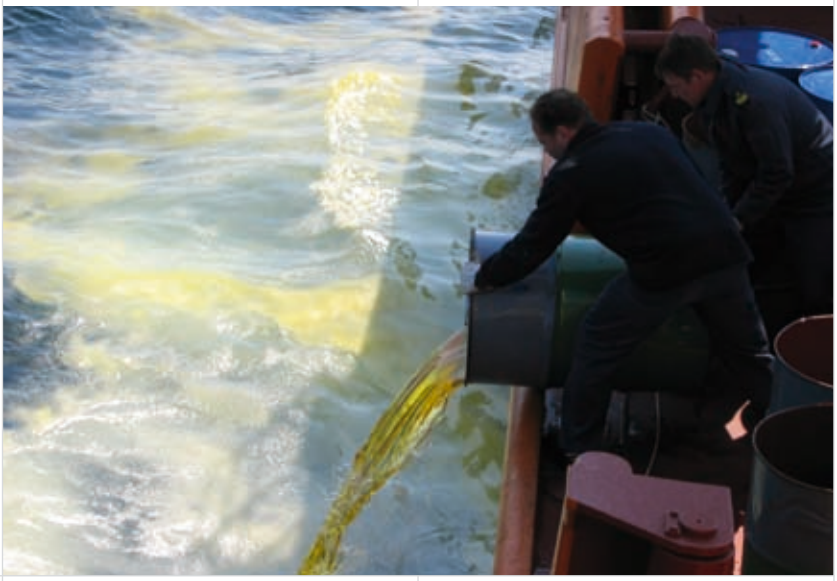
The project, which began in January 2002, aimed to demonstrate the technology required for the implementation and enforcement of programmes and measures adopted under the OSPAR strategy. It would also provide a tool required to implement Community environment policy and legislation concerning the marine environment, as specifically stated in Danish national law from 1998.

Taking up the challenge of helping to develop a new generation of sensor technologies, aside from project beneficiary OSIS, were the partners, the Danish agencies for trade and industry, environmental protection and energy.

The project's fully achieved the objective of demonstrating the viability of a permanently mounted sensor system to identify oil discharges from offshore installations in those parts of the North Sea designated as 'special areas' by the International Maritime Organisation (IMO). This was achieved by the development of technology providing 24-hour online surveillance. According to the beneficiary, the OSIS system allows improved and continuous monitoring that is more effective and less costly than the current use of planes. OSIS is also cheaper and more accurate than systems based on conventional satellite imagery.

Raising awareness

Additionally, the OSIS team carried out exemplary awareness-raising activities directed at decision-makers. In 2003, OSIS was presented at the OSPAR/Helsinki Convention ministerial meeting (June 2003), the IMO Marine Environment Protection Committee (July 2003) and a GIS Remote Sensing Symposium (July 2003). In 2004, OSIS contributed to the OSPAR technical working group meeting, InterSpill2004 Conference and Exhibition and the Offshore Northern Seas Conference. Finally, OSIS attended the EU Management Committee on Marine Pollution (MCMP) in Brussels where all parties involved in national pollution prevention were present.



North Sea tests with oil substitute

OSPAR

The OSPAR Convention [http://www.ospar.org/eng/html/welcome.html], which entered into force in March 1998 and includes the participation of the EU, develops new programmes and measures required to identify, prioritise and monitor the emissions, discharges and losses of substances to the marine environment.

Close-up of the permanently-mounted sensor.

These activities were supplemented by a media campaign that led to numerous articles in relevant trade publications.

Over a three-year period, numerous tests were conducted including missions with the Danish Environmental survey ship as well as with German and Dutch oil combat services in the North Sea. The OSIS sensor is able to identify oil-films from a thickness of 0.01 to 1.5 mm on the water surface. It can estimate the leaked volumes with +/-25% accuracy in normal weather conditions and with some +/-50% accuracy on rough seas. The extension of the leak can be monitored up to a distance of up to 5 kilometres from the sensor.

Data gathered by OSIS is also transferred via satellite to onshore decision-makers and can be used in conjunction with the geographical information system (GIS). This provides further information as to the context of a leak and helps the planning of corrective actions. “This will enhance the information for decision-making concerning corrective action and also provide opportunities for efficient clean-up operations,” says Mr Moeller-Jensen.

This demonstration project, which closed in April 2005, was able to post impressive results from tests for the detection of spills surrounding oils rigs in the North Sea. OSIS technology, designed for fixed offshore structures such as oil platforms, is also proving attractive for maritime transport.

A new LIFE-Environment co-funded project, launched by the same beneficiary in 2004, “Oil Spill Identification System for Marine Transport” (LIFE04 ENV/DK/00076) is currently adapting the OSIS sensor and transmission system for ships.

Latest sensor aboard “Cunnar Seidenfaden”.

Project Number:
LIFE02 ENV/DK/000151

Title: Sensor for identification of oil spills from offshore installations

Beneficiary: OSIS International, Denmark

Total Budget: €3,359,000

LIFE Contribution: €867,000

Period: 01-Jan-2002 till 30-Apr-2005

Website: www.osis.biz

Contact: Peter Moeller-Jensen

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The programme

Name LIFE ("L'Instrument Financier pour l'Environnement" / The financial instrument for the environment)

Type of intervention co-financing of actions in favour of the environment in the twenty-five Member States of the European Union, in the candidate countries who are associated to LIFE and in certain third countries bordering the Mediterranean and the Baltic Sea.

LIFE is made up of three thematic components: "LIFE-Nature", "LIFE-Environment" and "LIFE-Third countries".

Objectives

> with a view to sustainable development in the European Union, contribute to the drawing up, implementation and updating of Community policy and legislation in the area of the environment;
> explore new solutions to environmental problems on a Community scale.

Beneficiaries any natural or legal person, provided that the projects financed meet the following general criteria:

> they are of Community interest and make a significant contribution to the general objectives;
> they are carried out by technically and financially sound participants;
> they are feasible in terms of technical proposals, timetable, budget and value for money.

Types of project

> Eligible for LIFE-Environment are innovative pilot and demonstration projects which bring environment-related and sustainable development considerations together in land management, which promote sustainable water and waste management or which minimise the environmental impact of economic activities, products and services. LIFE-Environment also finances preparatory projects aiming at the development or updating of Community environmental actions, instruments, legislation or policies.
> Eligible for LIFE-Nature are nature conservation projects which contribute to maintaining or restoring natural habitats and/or populations of species in a favourable state of conservation within the meaning of the "Birds" (79/409/EEC) and "Habitats" (92/43/EEC) Community Directives and which contribute to the establishment of the European network of protected areas – NATURA 2000. LIFE-Nature also finances "co-op" projects aiming to develop the exchange of experiences between projects.
> Eligible for LIFE-Third countries are projects which contribute to the establishment of capacities and administrative structures needed in the environmental sector and in the development of environmental policy and action programmes in some countries bordering the Mediterranean and the Baltic Sea.

Implementation National authorities in the Member States or third countries send the Commission the proposals of projects to be co-financed (for LIFE-Environment preparatory projects, the applicants send their proposals directly to the Commission). The Commission sets the date for sending the proposals annually. It monitors the projects financed and supports the dissemination of their results. Accompanying measures enable the projects to be monitored on the ground.

Period covered (LIFE III) 2000-2006.

Funds from the Community approximately EUR 638 million for 2000-2004 and EUR 317 million for 2005-2006.

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