

“SHEEL”

A secure and harmonised European electronic logbook for fisheries

The rational exploitation of fisheries resources is one of the main aims of the Common Fisheries Policy. To this end, accurate and timely reporting is required of information related to fishing activities, such as quantities of catches on board, species, time spent at fishing, area where catches have been taken and gears used.

Nowadays skippers collect this information by recording it in a paper logbook. These logbooks have become an integral tool for monitoring and enforcement. However, greater use could be made of these documents – both by scientists and managers – if they were more readily available in an electronic format.

Such electronic logbooks must be more than just an electronic version of a paper one. They must be part of a system involving vessels and inspectors of different nationalities. They must allow information to be passed securely from the ship to the appropriate authorities in real-time. They must allow authentication of information and crosschecks.

The strategic objective of the **SHEEL** project was to **develop, implement and demonstrate a secure and harmonised European electronic logbook for fisheries, so as to drive European regulations**, which would ensure exploitation of living aquatic resources in a sustainable manner, improve economic and social conditions in the fisheries sector and provide scientists with high quality data. The aim was not to create a single electronic European logbook, but rather to introduce an integrated scheme that manifested a seamless interoperation over different systems.

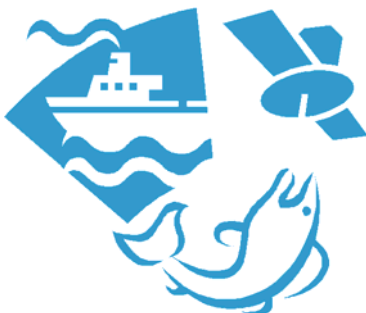
In the first 12 months of the project, the user and system requirements were formulated, after which a workshop was organised inviting skippers and other interested parties for comments. Consequently, the different aspects of the new

reporting system were tested during four demonstrations, which involved:

- The integration of existing on board and onshore systems for transmission of the report.
- The testing of a common format for exchanging fisheries information between vessels and authorities.
- The testing of a security mechanism supporting authentication to protect the data from unauthorized access
- The testing of inspection facilities for performing a cost effective on board check.

Reports were specified that covered all current legislative obligations for on board activity reporting on EU level and further reports were specified that covered some scientific needs, such as the discard report.

For the exchange of messages, it was agreed to use the XML format, mainly because of its wide portability to current IT systems. A typical catch report would therefore be around 1 kb in size. In addition to this, transmission costs of different systems were compared.



Project acronym:

SHEEL

Full title of Project:

Secure and harmonised european electronic logbook

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<http://intelligence.jrc.it/marine/sheel>

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Since the acknowledgement of receipt is a very important mechanism to ensure the skipper that his message has been received by the authorities, the software on board was designed in such a way that it foresaw the possibility for the messages to be stored together with their acknowledgement of receipts.

Ideally acknowledgement of receipts should also be electronically signed. A **Certification Authority** was added to guarantee the privacy of the content and the identity of the sender of an electronic message and it was agreed that the authorities of each Member State could act as a registration authority for certificate users.

As to on board inspections, all parties agreed that the inspectors could obtain copies of all trip reports of a vessel in advance. In the framework of the SHEEL project, fake inspections were also organised in order to anticipate the problems that might appear throughout inspections in the electronic logbook.

The fisheries logbook is one of the most vital components of fisheries management all over the world. Introducing an electronic logbook will minimize the burden of having to keep a paper based record. Moreover, it will facilitate the on board management by

maintaining a comprehensive record of all fisheries activities carried out.

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