Sixth Framework Programme

Project contract no. 036851
ESONET European Seas Observatory Network

Instrument: Network of Excellence (NoE)
Thematic Priority: 1.1.6.3 – Climate Change and Ecosystems
Sub Priority: III – Global Change and Ecosystems

Project Deliverable D17
REPORT ON PROMOTION AND SME POLICY

Due date of deliverable: month 30
Actual submission date of report: month 33

Start of project: March 2007 Duration: 48 months
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Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)

| Dissemination Level | Description | PU | Public | PP | Restricted to other programme participants (including the Commission Services) | 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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1. EXECUTIVE SUMMARY

The “Promotion and SME Policy” report outlines the strategy developed by the ESONET Network of Excellence to promote interaction with the general public and SMEs. This strategy is key to the successful development of the observation network, sensors, communications and value added services of deep sea observatories. Several tools were developed to implement the promotion strategy: a website; ESONEWS - a newsletter and e-zine; PESOS – an industry committee; and the ESONET Yellow Pages.

The outcome of the strategy is intangible and difficult to measure. The best indicator of success of the strategy is the number of equipment suppliers, service providers and potential customers that attend workshops, contribute to ESONEWS and access the Yellow Pages. Based on these criteria it is clear that European service providers and equipment suppliers are fully aware of the future business potential of ocean observatories and industry customers, in particular the oil exploration industry, are engaging with the ocean science community to implement ocean observatory sites offshore Europe.

2. PROMOTION OF ESONET

2.1 ESONET website

The ESONET website development is an element of Work Package 8 – Management. It has a strong influence on the promotion policy of the project.

The first level of www.esonet-emso.org (alias www.esonet-emso.eu) website was ready at the beginning of the ESONET NoE project as a management and promotional tool for:
- partners to explain the rationale and objectives of the NoE and the specific scientific and socio-economic issues of subsea observatories, not only to participating scientists and engineers but also to their administration and management,
- international colleagues who already had established websites,
- regional stakeholders in order to show that their site of interest has been taken into account by the network of excellence.

During the first month of the project and before the submission of EMSO PP to the Infrastructure program of the FP7, the site was updated to include the EMSO project and an explanation of the link between the two projects. It included at this stage:
- information for core stakeholders such as ESFRI (European Strategy Forum on Research Infrastructures),
- reference documents for the EC evaluators and the national funding agency representatives that were invited to the first Strategic Committee in September 2007.
- Links to the former ESONET CA and ESONIM SSA projects website that provided access to valuable source documents on the scientific and business rationale for ocean observatories.
The website was then used for ongoing management of the project e.g. call for workshops, call for Demonstration Missions, news, Esonews promotion, dissemination of documents, surveys,… In parallel, the various Work Packages built management and information websites. The link to the main web site was established when a level of maturity was reached.

The workpackage websites linked to the main website are:

- WP 1: data management;
- WP1 and WP5: underwater observatory site description;
- WP6: Yellow pages;
- WP 7 Education and outreach website.

The progressive integration and display of results from the project lead to a decision to completely restructure the Esonet Web site. Decisions were taken at Steering Committee and General Assembly (Faro 2008) to restructure the site.

The site www.esonet-emso.org (alias www.esonet-emso.eu) has been rebuilt in 2008 opening links to all associated projects and previous one. It uses the Eziweb tool. Since March 2009, it has replaced the previous site and it is used as a general portal for all the websites developed by Esonet. The second page (first page of Esonet site) promote a direct link to those websites.

Esonet website has a new page called gallery, it allows the display of videos related to the Demonstration Missions.

### 2.2 ESONEWS

One of the products to implement the ESONET promotion strategy was a Newsletter devoted to the dissemination of (i) the importance of scientific issues, (ii) the mastering of the technology and business plan, (iii) the role of political support for underwater observatories, (iv) the partnership with successful implementations in North America and Japan, and (v) the complementary role of ESONET in situ observation with satellite, coastal surface and subsurface ocean layer data collection.

An issue of "ESONET News - Europeans observe the deep sea" was published every 3 months. It is prepared in digital form and distributed to a large mailing list prepared by ESONET central office based on lists of attendees at ocean science and ocean business conferences and including government agencies, ocean scientists, equipment suppliers, service providers and ocean industry contacts. Each issue, with 8 pages, is also printed for dissemination among partners and distribution at international conferences, related workshops and industry meetings.
The first number was devoted to the launching of the ESONET NoE initiative. The second number was devoted to the technological aspects of deep sea observatories. The third number explained the outcomes of ESONIM project and focused on the financial aspects of regional nodes.

After a redesign of the Newsletter layout, three issues of ESONEWS (Summer, Fall and Winter 2008) gathered contributions from different partners and SMEs and focused on the main observatory technologies developed in Europe (GEOSTAR, ASSEM and DELOS). ESONEWS issues in 2009 were devoted to some of the Demonstration Missions. Future issues will also concentrate on the successful implementation of the demonstration missions, the companies involved in supplying the technology and the lessons learned in the deployment of the new technology.

Issues of ESONEWS include information on SMEs, focusing on their potential contribution to ESONET. The different issues of ESONEWS involved cooperation and contributions from a series of ESONET partners (University of Lisbon, Send GmbH, Ifremer, INGV, CSA, IMI, University of Aberdeen, CNRS IN2P3-Antares, nke, FUGRO-Oceanor, and University of Azores).

2.4 Promotion through outreach

Outreach activities organized within WP7 are an important vehicle to promote ESONET particularly in groups not directly concerned by our activities such as students, visitors of Aquaria, .teachers, etc...

Promotion through outreach is developed in detail in the framework of WP7 and corresponding deliverables.

Within WP6 meetings with industry were organised in Dublin, Brussels and Norway and the VISO workshop in Norway included active participation by industry. These meetings and workshops were organised as part of the outreach strategy.

2.5 VISO\(^1\) as a ESONET promoter

The prospect of building up a virtual institute (VISO) is stimulating the ESONET community. A number of companies supplying equipment and services to ocean observatories attended the VISO workshop in Tromso in June 2009 and engaged in a working group to investigate how industry could be involved in the implementation of ESONET sites in Europe.

It is also of interest to industrial bodies and public decision makers to have an organised group of academic researchers and ocean engineers willing to engage in delivering their ocean monitoring needs and discuss topics of common interest.

\(^1\) Virtual Institute of scientific users of deep Sea Observatories
In this respect, the new scientific background and objectives document of ESONET (Deliverable D11) and the content of the VISO conference in June 2009 (see deliverable D23-2009 Report on integration between respective teams and working relationship beyond the life of ESONET) have successfully attracted the interest of industry stakeholders and future customers.

3. SME POLICY

3.1 PESOS

In order to make contact with potential suppliers of equipment and services to ESONET it was decided that ESONET must be promoted at conferences by making presentations and contacting companies directly. Oceans 07 Aberdeen was attended in June 2007 by CSA who made a presentation entitled “Industry Meets the Challenge of Deep Ocean Scientific Research”. In addition all of the stands in the exhibition hall were visited and introduced to ESONET and the advantages of becoming members of PESOS (Group of Providers of Equipment and Services for Observatory Systems). Twenty five companies expressed an interest and were identified as potential members of PESOS. Subsequently these companies were added to the circulation list for ESONEWS and were invited to submit articles. A list of future conference dates was compiled and the Oceanology Exhibition and Conference OI 08 in March 2008 was identified as the next important conference to attend and promote the PESOS group. A similar exercise was conducted at this conference and increased interest and awareness of the activities of ESONET was noted. The circulation list for ESONEWS was expanded and invitations to attend future ESONET workshops were extended to company representatives.

Figure 2: Jean François Rolin presenting the strategy of ESONET towards the private sector at the IEEE Ocean’s 09 Meeting.

During the preparation phase of ESONET a stable trade association, PESOS (Group of Providers of Equipment and Services for Observatory Systems), was proposed as an important step towards integration of SME in the future network. A small working group of ESONET industry partners was established and efforts to expand the membership were made.

The conclusions of the working group on PESOS during the Barcelona meeting were:

- The PESOS group needed to be expanded further
- The level of involvement could only grow if industrial opportunities grow and are made available. This will occur as the observatory activity is increased in scale.
During the Barcelona All Region Workshop 1 on the 7th of September 2007, the group of private companies inside ESONET NoE consortium expressed the idea of opening this group to more companies from a broader scope of industrial fields. This was the main objective of the meeting to be held in London during OI’08.

A partner from the private sector was admitted to the ESONET Steering Committee. In the first year this commitment was provided by Neville Hazell from Alcatel.

ESONET organised with the PESOS chairman (Klaus Schleisieck, a representative of SEND) an information meeting and workshop in London during OI08 on March 11th. ESONET industrial partners and other delegates from the OI Conference interested in ESONET attended with ESONET scientists and engineers. Cooperation with the industry was further discussed in the framework of the MODOO project to find synergies and technical solutions for long-term monitoring of optical properties (turbidity) and conductivity cells. This discussion resulted in the agreement that a state-of-the-art multi-sensor probe (an advanced Generic Sensor Module) could be used for free during the Demo-Missions.

Exchange of information and experience between private companies and ESONET community took place during the meetings in Algarve (General Assembly 2008). Important actions were developed by the private sector (FUGRO) towards major Norwegian universities, institutes, technology companies and Statoil-Hydro to plan and develop underwater observatories to be located in Norwegian waters. All essential technical and non-technical aspects related to development and establishment of underwater observatories, with the oil and gas industry as a reference are being addressed in this process. The costs incurred for this work has been fully absorbed by Fugro OCEANOR. Nke participated in the London workshop (March 2008) and in the Daro workshop, where the possibility of making common offers among PESOS partners was discussed. Guralp presented solutions for cabled seismology monitoring during the Marmara DM meetings; four observatories situated at a short distance from the shore will be deployed under a contract by KOERI (one of the Esonet Turkish partners).

PESOS held a promotional workshop at the IEEE Oceans 09 in Bremen in May 2009 which was attended by more than 25 equipment suppliers and service companies to ocean observatories. PESOS increased its circulation list and launched the Yellow Pages for equipment suppliers. This was very well received and has resulted in increased interest by industry in the ESONET initiative.

A number of confidential meetings were held with the oil industry in particular to investigate the joint deployment of ocean observatories for environmental monitoring of producing oil fields offshore. Additional information on the SME and industrial companies meetings are detailed in the confidential deliverable D22-2009 of WP5.

### 3.2 Yellow Pages

#### 3.2.1 Development and Basic Interface

The Esonet Yellow Pages (EYP) are developed in HTML, Javascript and CSS. The database is structured in MySQL,
> Centered on “products” (instruments, components, subsystems);
> Compatible with standardization procedures;
> Modular and possible to integrate.

The Yellow pages layout was presented at the Nice ESONET meeting, in 2008, and the first prototype was linked to the ESONET webpage in March 2009. The database and the specifications were prepared by ESONET partners and the web development was committed to a third-party company.

Esonet Yellow Pages are now implemented. The home page is the following:

![Figure 3: Esonet Yellow Pages homepage](image)

Five levels of information are organized within Esonet Yellow Pages.

**The first one concerns the sensors.** Most of the work effort on the development of EYP was directed towards the organization of the sensor information as a database to prepare the future compatibility with standardization procedures concerning sensor ML description.
Each sensor is characterized by a set of characteristics that allow a proper comparison between different market alternatives. As an example, the result for a search on temperature sensors gives:

Where all available instruments are fully described in a standard way. Sensors are organized in categories: ADCPs, Conductivity, CTDs, Current meters, Depth, DO sensors, Flow meters, Fluorometers, Geophones, Hydrophones, Magnetometers, Multiparameters, PAR sensors, pH sensors, Pressure sensors, Redox, Sediment traps, Temperature, Tiltmeters, Transmisiometers, Turbidity and Water samplers. These categories and the structure of each category can be dynamically changed by a web interface opened only to high level users.

The second level of information regards “hardware components” for deep sea observatories. It contains information on a set of devices, namely acoustic releases, cameras, connectors, etc… These devices are described in a way similar to sensors, and organized by

As an example we show the result for Acoustic Releases:

Figure 6: Esonet Yellow Pages – Example for Acoustic Releases

The third level of information regards services. This level is still under development but intends to give information on services provided by the private sector in a broad view: hardware, data processing, operation, etc…, which are relevant to deep sea observatories.

The forth level of information regards manufacturers. Here, information on the companies that are able to provide equipments, supplies or services connected with the objectives of ESONET are included. More than a hundred different manufacturers are already included and correctly linked to the products they market.

Figure 7: Esonet Yellow Pages – Example for manufacturers

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3.2.2 Upload of Starting Information

The upload of the first level information concerning sensors and components for seafloor observatories was produced from the database prepared by WP1. The update of the information is based on a “user interface” maintained at Esonet central level.

The Yellow Pages will be a major tool for the exchange of data among partners, other research institutes and industrial companies. In addition to the description of the equipment, its performances and the link to the manufacturer’s website, it is planned to use them to display the level of testing, standardization and the diversity of use. The pages will include a forum-like exchange of experience on long term behavior, good practices, calibration methods, references of use by Esonet community.

It is intended that the Yellow Pages will disseminate the assessment made by the user community on their experience with the use of specific instrument or device, in an informal way, and with focus on the quality and reliability of operation in long term deployment conditions.

3.2.3 Feedback from the User Community

EYP was presented to the private sector at conferences and workshops and information is now being directly uploaded by private sector companies. The data are scrutinised, edited and approved by the web manager before going live on the Yellow Pages. The amount of information is increasing continuously, together with the volume of users. In the annex we present the automatic analysis of EYP users.

3.2.4 Esonet Label

Yellow pages will be used for the dissemination of ESONET LABEL. The steps of knowledge on a component and instruments will be displayed such as:

- “Under evaluation by Esonet Demonstration Missions XXX”
- “Tested by ESONET partner XXX according to procedure xxxx” with a link to WP2 procedures.
- “Tested by XXX according to procedure xxxx” with a link to a non-Esonet structure considered by Esonet to be relevant (such as ACT² for instance)
- “Forum of users addressing: well known limitations, point of views on reliability, options mandatory for long term deployment, etc…

This approach will help research and operational institutes in the development of new observatories or the upgrade of existing ones, and will contribute to the transparency of the seafloor observatory market.

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² The Alliance for Coastal Technologies (ACT) is a NOAA-funded partnership of research institutions, resource managers, and private sector companies dedicated to fostering the development and adoption of effective and reliable sensors and platforms. www.act-us.info
3.3 Industry Observatory

A way to estimate the market for subsea observatories is not clear at the moment. This question was discussed during the General Assembly of ESONET in Faro. It appears that on the SME side, it is difficult to sort out which equipment is purchased for subsea observatories. For the large industrial groups, the segmentation of the market is not defined according to subsea observatory and long term monitoring for the deep sea on one side and cruise related purchases on the other.

The clients themselves, either members of ESONET or international partners or associated to ESONET, have a better knowledge of what projects are under preparation, what budgets are involved and what has been spent.

An initial market review was carried out by identifying the invitations to tender and contract awards relating to ocean observatory equipment and services worldwide. Fourteen invitations to tender for equipment and services for ocean observatories were issued in 2009 to 2009. There were four contract awards in the same period worth in excess of US $200m.

This review of invitations to tender and tender awards on public procurement websites does not indicate any major new deep ocean observatory infrastructure under construction at present other than NEPTUNE Canada and MARS in the US. The tendering authorities with invitations to tender to supply ocean observation equipment during the last six months include Swedish Meteorological and Hydrological Institute (SMHI), the Scottish Government, the Irish Marine Institute, European Space Agency (ESA) and the European Space Research Institute (ESRIN), the Joint Oceanographic Institutions (JOI) of the US, Government of Canada, the Canada Foundation for Innovation, the Natural Sciences and Engineering Research Council of Canada, CANARIE, and the Government of British Columbia through the BC Knowledge Development fund, NEPTUNE –Canada, Government of Oman, Ministry of Regional Municipalities, Ministry of Agriculture and Fisheries, Royal Oman Police and Monterrey Bay Aquarium Research Institute. The World Bank and Asian development Bank continue to fund coastal and marine biodiversity management projects in the developing world. Parallelly, there are initiative in Japan to build deep ocean observatory infrastructure funded by the Japanese Government, like DONET (Dense Oceanfloor Network system for Earthquakes and Tsunamis).

It is clear that the preparation of projects is long and the duration of the contract is lasting several years. A fair image of the market will be possible after a few years.

Typically, the global amounts presented by other partners need to be analysed to sort out the budget s devoted to purchase and contract and the budget used for public institutions. OOI in the USA is devoting nearly $400M over 5 years of construction ( 25 to 30 years of scientific operation are expected), Neptune Canada devotes nearly CDN$100 over 3 years of construction and $43M for operation over following years, Japan devotes for DONET Phase 1 nearly €46M over 3 years and €80M over 4 years for extension in Phase 2

It is proposed for the next period to continue the market observation activity. It will issue once or twice a year an estimate of the budgets spend in this field and on the tenders under preparation. Global figures will be displayed, maintaining source confidentiality. A comparison between the world market and European market will be highlighted. This market intelligence will be shared with PESOS members and will stimulate the involvement
of the private sector in the implementation of the European observatory sites. In particular the value of future international business will become apparent. Success in the international market will only be possible for European SMEs if they engage with the implementation of the European sites and develop workable instrument standards that will be accepted internationally.

The market intelligence activity is relevant also for internal use in the Esonet/Emso community as an indicator of the amounts already spent on subsea observatories in Europe.
APPENDIX

Analysis of Statistics from ESONET Yellow Pages Website
D17 – Report on Promotion and SME Policy

www.esonewyellowpages.com
Dashboard
Sep 1, 2009 - Sep 30, 2009
Comparing to: Site

Site Usage
- 136 Visits
- 2,821 Pageviews
- 20.74 Pageviews/Visit
- 13.24% Source Rate
- 00:20:00 Avg. Time on Site
- 15.44% % New Visits

Visitors Overview

Map Overlay

Traffic Sources Overview

Content Overview

<table>
<thead>
<tr>
<th>Pages</th>
<th>Pageviews</th>
<th>% Pageviews</th>
</tr>
</thead>
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<tr>
<td>my-esonewyellowpages.php</td>
<td>373</td>
<td>13.22%</td>
</tr>
<tr>
<td>sensors.php</td>
<td>227</td>
<td>8.05%</td>
</tr>
<tr>
<td>add-manufacturer.php</td>
<td>216</td>
<td>7.62%</td>
</tr>
<tr>
<td>index.php</td>
<td>163</td>
<td>5.76%</td>
</tr>
<tr>
<td>add-sensor.php</td>
<td>155</td>
<td>5.49%</td>
</tr>
</tbody>
</table>

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Dashboards

Nov 1, 2009 - Nov 30, 2009

Site Usage
- 280 Visits
- 1,129 Pageviews
- 4.03 Pageviews/Visit
- 61.07% Source Rate
- 00:02:27 Avg. Time on Site
- 81.43% New Visits

Visitors Overview
- Visits: 235

Traffic Sources Overview
- Search Engines: 220 (77.28%)
- Direct Traffic: 38 (13.58%)
- Referring Sites: 35 (12.65%)

Map Overlay

Content Overview

<table>
<thead>
<tr>
<th>Pages</th>
<th>Pageviews</th>
<th>% Pageviews</th>
</tr>
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<td>79</td>
<td>7.01%</td>
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<tr>
<td>my-esonetyellowpages.php</td>
<td>70</td>
<td>6.20%</td>
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<tr>
<td>/add-hardware-component.php</td>
<td>54</td>
<td>4.76%</td>
</tr>
<tr>
<td>/sensors.php</td>
<td>37</td>
<td>3.28%</td>
</tr>
<tr>
<td>/hardware-components.php</td>
<td>29</td>
<td>2.57%</td>
</tr>
</tbody>
</table>

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www.eoneyellowpages.com

Dashboard

Jan 1, 2010 - Jan 19, 2010
Comparing to: Site

Site Usage

- 254 Visits
- 921 Pageviews
- 3.63 Pageviews/Visit
- 61.81% Source Rate
- 00:03:16 Avg. Time on Site
- 83.86% % New Visits

Visitors Overview

- Visitors 223

Traffic Sources Overview

- Search Engines: 204 (79.53%)
- Direct Traffic: 26 (11.95%)
- Referring Sites: 25 (9.52%)

Map Overlay

Content Overview

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<td>32</td>
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<td>/hardware-components.php</td>
<td>31</td>
<td>3.37%</td>
</tr>
<tr>
<td>/manufacturers.php</td>
<td>26</td>
<td>3.04%</td>
</tr>
</tbody>
</table>

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