

FP6 IST

SEEFIRE

South-East Europe Fibre Infrastructure for Research and Education



Deliverable 4.2v3

Final Plan for Using and Disseminating Knowledge

Author(s): Licia Florio

Status –Version: Final – D

Date: 28-02-2006

Distribution - Type: Public-Report

Code: SEEFIRE-WP4-
FinalPlanforUsingandDisseminatingKnowledge-D4.2v3-
d.doc

Abstract: SEEFIRE Deliverable D4.2v3 “Final Plan for Using and Disseminating Knowledge”

Due to the nature of SEEFIRE, knowledge dissemination and awareness raising play a key role during the lifetime of the project. In order for SEEFIRE to be successful, it is important to proactively raise awareness about providing interconnection facilities in southeast Europe among the various stakeholders of National Research and Education Networks (NRENs), governments, users and telecommunication operators.

This version of the Plan for Using and Disseminating Knowledge builds on the original version written in month three and on the revised and updated version produced at month nine and aims to highlight the achievements of the NA4 activity over the project lifetime.

The SEEFIRE Project

The SEEFIRE Project is a special support action co-funded by the FP6 IST programme of the European Commission. SEEFIRE builds on the success of previous activities and projects, including SEEREN, to support research and education networks in southeast Europe and will provide input for preparing the next-generation networks for research and education in the region. The 12-month project started on 1 March 2005 and aims to:

- establish a benchmark of existing and potentially available optical fibre for NRENs in the region;
- make an analysis of the technical options available for the deployment of dark fibre and the management of optical transmission by NRENs in the region;
- report on economic aspects and regulations;
- disseminate information and increase awareness about dark-fibre deployment both at technical and policy-making levels.

The recent progress in technology for optical transmission at high speed has made the deployment of owned or leased fibre networks a reality for NRENs. SEEFIRE will make a first step in the direction of a cost-effective gigabit network in southeast Europe, connecting researchers and universities in the region with other research users in Europe and worldwide. In doing so, the project will contribute to reducing the digital divide that affects several countries in southeast Europe, due in part to past political and economic circumstances.

The SEEFIRE Consortium consists of:	
TERENA (co-ordinating contractor)	The Netherlands
GRNET	Greece
CESNET	Czech Republic
NIIF/HUNGARNET	Hungary
AMREJ	Serbia and Montenegro
DANTE	United Kingdom
RoEduNet	Romania
ISTF	Bulgaria
MARNet	FYROM
ASA	Albania
BIHARNET	Bosnia and Herzegovina

The SEEFIRE project is funded by the European Commission under the FP6 Information Society Technologies contract no. 15817. This document contains material, which is the copyright of certain SEEFIRE contractors and the EC, and may not be reproduced or copied without permission. The information herein does not express the opinion of the EC. The EC is not responsible for any use that might be made of data appearing herein. The SEEFIRE contractors do not warrant that the information contained herein is capable of use, or that use of the information is free from risk, and accepts no liability for loss or damage suffered by any person using this information.

Table of contents

Executive Summary	6
Executive Summary	6
1. Introduction.....	8
2. SEEFIRE Exploitable Knowledge and its Use	9
3. Dissemination of Knowledge	13
3.1. AUDIENCES	14
3.2. MESSAGES	15
3.3. WHERE ARE WE NOW?	16
3.4. SEEFIRE WEBSITE.....	18
3.5. PUBLICITY MATERIAL.....	20
3.6. NEWS RELEASES	21
3.7. SEEFIRE PRESENCE AT RELEVANT EVENTS	22
3.8. SEEFIRE TECHNICAL WORKSHOP	23
3.9. SEEFIRE POLICY WORKSHOPS	24
3.10. SEEFIRE WHITE PAPER	25
3.11. MEDIA RELATIONS.....	26
4. Publishable Results	27
4.1. LISTS OF SEEFIRE DELIVERABLES	27
4.2. INFORMATION ABOUT FIBRE DISTRIBUTION IN SEE REGION	28
4.3. MAPS	28
5. Conclusion	30
6. References.....	31

List of tables

<i>Table 1: List of SEEFIRE exploitable results</i>	12
<i>Table 2: List of the news items and press releases issued as of February 2006</i>	21
<i>Table 3: Updated table of SEEFIRE related presentations as February 2006</i>	22
<i>Table 4: List of SEEFIRE Deliverables produced</i>	28

List of Figures

<i>Figure 1: Usage statistics for www.seefire.org</i>	18
<i>Figure 2: Statistics of access to SEEFIRE web site summarised by Month</i>	19
<i>Figure 3: Usage by country in November 2005</i>	19

Executive Summary

The Final Plan For Using and Disseminating Knowledge is based upon the Dissemination Plan described in SEEFIRE technical annex, but aimed to go a step further than that, identifying precisely what needed to be done, when and why, how to achieve results and how to measure SEEFIRE impact in the Southeast European region.

The first version of the Final Plan For Using and Disseminating Knowledge [R2] was available at month 3 of the project to provide a break-down of the dissemination tasks to undertake and to assign responsibilities for each task.

The second iteration of the Final Plan For Using and Disseminating Knowledge [R3] was produced at month 9 to focus the dissemination activity for the remaining months and to provide an update of what achieved in the previous months.

This third and last version of the Final Plan For Using and Disseminating Knowledge aims to provide a summary of what the Work Package 4 has done to promote the SEEFIRE findings and define a route for the further use, dissemination and exploitation of these findings after the end of the project.

SEEFIRE Exploitable Knowledge and its Use

The exploitation side of SEEFIRE regards knowledge that has been acquired or produced by the project partners and deliverables produced during the project lifetime, all elements that can have a potential impact for other research activities and/or for the owners of fibre and equipment vendors.

SEEFIRE countries, other countries in the SEE region, countries in the Baltic region and other regions in the world whose development is comparable to the countries involved in SEEFIRE most likely have an interest in SEEFIRE results.

The way proposed to exploit SEEFIRE is through liaisons and synergies with projects like SEEREN2, SEEGRID, SEELIGHT active in the SEE region and through projects active in other regions such as EUMEDCONNECT, ALICE, TEIN2, PORTAOPTICA and similar.

TERENA being very active in supporting the SEE countries to get out the isolation that has prevented them from progressing is very keen to promote SEEFIRE results and can play a big role in this, thanks to the TERENA involvement in some of the projects mentioned above.

Dissemination of Knowledge

The roles and responsibilities of the project partners were defined in the first three months of the project (March 2005 – May 2005) and consolidated in the following months: TERENA as the leading partner coordinated the dissemination activities and with the support of all the partners has been responsible for keeping the project web site up-to-date, organising the SEEFIRE workshops and promoting the project in all relevant forums.

The SEEFIRE vision was to eventually create a southeast European fibre backbone fostering collaboration of researchers and students in a region where the development of research and education networking, as well as the information society as a whole have suffered from years of political unrest and relative isolation from the rest of the European continent.

This vision is becoming a reality thanks to projects like SEELight and SEEREN2 that build on SEEFIRE findings.

SEEFIRE dissemination has reached the potential targets identified as:

- Politicians, government officials, regulators and other key decision-makers involved in policies and funding for funding research
- Owners of fibre and equipment vendors, interested in providing fibre and transmission technology equipment to NREs
- Scientific users who will benefit from a better e-Infrastructure and will be able to have more means to perform research and to participate in other European projects demanding high bandwidth (like Grids).

- SEEFIRE Project Partners

The paragraph 3.3 “Where Are We Now?” describes how the targets have been addressed, with particular emphasis to the most strategic means used to promote SEEFIRE, namely: SEEFIRE Technical Workshop (Sofia 14 -15 July, 2005), SEEFIRE Policy Workshop (Bucharest 17 January, 2006) and SEEFIRE White Paper.

Publishable Results

All SEEFIRE deliverables (excepting the Dark Fibre Footprint Database) are publicly downloadable from the SEEFIRE web site. Chapter 4 provides a list of what is available.

Conclusions

Looking at what SEEFIRE has produced it seems clear that the dissemination has helped the project to move toward the right direction.

However it is also worth mentioning that SEEFIRE is just a small step for such a difficult region, where the political events still have a big impact on the NRENs stability. Furthermore although some countries are in the process of joining the European Union there is still a lot to do before the telecommunication market will be fully liberalised and will allow for more competition.

Reducing the digital divide in the southeast region is one of the tasks TERENA is particularly engaged with. TERENA will remain active and will keep pursuing their role as facilitators and knowledge disseminator via other European projects, such as SEEREN2 and GÉANT2, insofar as they have special focus on the Balkan region.

1. Introduction

The SEEFIRE project built on the results of previous IST projects (SEEREN, SERENATE and GN1) and aimed to produce studies on the options available for acquiring an optical fibre network infrastructure and strategies for the development of research and education networking in southeast Europe, with a specific emphasis on Balkan countries.

One of the goals of SEEFIRE has been to provide countries in southeast Europe (SEE) with a set of useful reports and guidelines about (dark) fibre acquisition by NRENs, deployment of optical transmission technologies, regulatory, legal, economical and strategic issues of acquiring (dark) fibre by NRENs in the region.

Disseminating knowledge and results has been a crucial part of a project like SEEFIRE, as in order to be successful it was important to raise awareness about the objectives of the project and attract interest from customers of NRENs, dark fibre suppliers and governments.

The current document is a revision of the second version of the Final Plan for Using and Disseminating Knowledge, produced at Month 9 [R3] of the project, with the purpose of providing a strategy for using and disseminating knowledge throughout the project and to complement what had been already described in the Technical Annex. Key messages, potential audiences, roles and responsibilities, the methods of communication to be used and measures for success were highlighted in the initial plan, delivered at month 3. This updated version of the deliverable provides furthermore an exploitation roadmap to ensure that SEEFIRE studies will be valuable for other countries not involved in SEEFIRE and/or in other EC projects.

The main target audience for this document remains the project partners; in particular, those involved in the dissemination activity and the decision makers that play an important role to assure funding to support the NRENs.

2. SEEFIRE Exploitable Knowledge and its Use

The exploitation side of SEEFIRE regards knowledge that has been acquired or produced by the project partners and that can have a potential impact for other research activities and/or for the owners of fibre and equipment vendors.

One of the exploitable results of SEEFIRE will be the introduction of the SEE countries to open market practices, such as public invitation to tender for the provision of the necessary telecommunication elements and network management services. NRENs, by moving towards owned fibre infrastructure, will play an important role to break the monopoly situation that in combination with other factors has prevented the development of an appropriate network infrastructure.

TERENA in particular for its international role and its involvement in other EC projects, is very keen to ensure that SEEFIRE results will be used to support not only the countries involved in SEEFIRE, but also others, whose conditions are comparable.

TERENA together with the SEEFIRE partners have identified the targets of the exploitation activity as described below:

1. SEEFIRE Countries

NRENs involved in SEEFIRE can benefit immediately from SEEFIRE results. Some of the reports produced by the projects, such as those related to the fibre distribution in the country as well as SEEFIRE report on economic aspect and regulations have been and will remain a valid instrument whenever NRENs need to approach the decision makers in their countries to seek support in the acquisition of dark fibre. It is easily demonstrable that monopoly in SEE countries has been and still is one of the inhibitor factors to the fibre acquisition. Because in the near future some of the SEE countries will join the EU, it is expected that also the market will go through a liberalisation process, which also the NRENs will benefit from. Nevertheless the process is still quite long and it is important at this stage that NRENs seek and get support from their decision makers to start their fibre acquisition process.

The SEEFIRE partners that already had gained experience in building and deploying dark fibre networks have transferred their knowledge in the field to other partners by writing deliverables describing the status of the art in dark fibre transmission technologies and solutions for enabling a dark-fibre infrastructure for southeast European NRENs targeting different deployment cases with respect to costs and operation needs.

Bulgaria and Romania hosting the SEEFIRE workshop (respectively the first and the second) have had an opportunity to get closer to their stakeholders as well as to approach dark fibre owners. As a result some serious discussion is ongoing for the NRENs of Bulgaria and Romania to acquire dark fibre.

All SEE NRENs are involved in the SEElight proposal for a SEE advanced regional network infrastructure (lambda network facility) for research and education. The proposal, which is led by GRNET, seeks funding from the Hellenic Plan for the Economic Reconstruction of the Balkans (HiPERB). Several countries have already committed to co-fund 20% of the national estimated project costs. This project will build on the SEEFIRE findings about the availability of fibre infrastructure in SEE and will strengthen and sustain the development of southeast European networks.

2. Other countries in the SEE region and in Europe

Other countries in the SEE region like Moldova, Croatia and Turkey have not been involved in SEEFIRE but for their position and historical background they are in a very similar situation as the countries that have been the main target of the project. Those countries are very good candidates to make use of the SEEFIRE strategic reports, templates for procurements, evaluation of dark fibre technologies to pursue the deployment of a dark fibre network in their countries.

Another area in Europe whose conditions are somehow comparable to the Balkans is represented by the Baltic region. Although much more advanced politically and economically,

countries in the Baltic region have shown much slower progress in the development of research and education networking as compared to the evolution of the relevant sectors in other European Union member states. The SEEFIRE findings might be appropriate tools for countries in this region to catch up in developing their network infrastructures.

3. Other regions in the world

Looking at a broader spectrum, it is easy to realise that other emerging regions in the world are suffering from a digital divide, although for historical different reasons. Examples of this are in general Latin America, some Asian countries and many countries in the African continent.

Activities related to the objectives of SEEFIRE have been taking place in other world regions for a few years and a number of initiatives for building fibre networks are ongoing. Although SEEFIRE targeted specifically the SEE region, its results are expected to have an impact beyond the target region.

SEEFIRE produced a number of extremely useful documents, including templates for procurement, comparative analysis and evaluation of technologies, a fibre-availability database and a number of strategic reports and it is clear that there is a strong interest, in particular on TERENA's side to exploit SEEFIRE results. All documents and deliverable are and will remain available on the SEEFIRE web site to facilitate their dissemination and in particular their exploitation by existing projects like EUMEDCONNECT, ALICE and TEIN2.

TERENA is leading the NA4 activity "NRENs Development and Support", which is part of the GEANT2 project. Via TERENA synergies have been established with GEANT2 to support and promote development in countries that are suffering from the digital divide and which will benefit from SEEFIRE studies.

SEEREN2, in which many SEEFIRE partners are involved is already working together with SEELight to 'implement' the SEEFIRE vision to connect the SEE region to the rest of Europe via a dark fibre network.

Other projects such as PORTA OPTICA and new EC funded project will also be approached to make sure those projects are aware of what SEEFIRE has already done.

Due to its nature, SEEFIRE exploitable results are the deliverables that have been produced by the project and in particular those based on transfer knowledge, case studies and strategic reports. All SEEFIRE deliverables belong to the SEEFIRE project and are publicly accessible on the SEEFIRE website. SEEFIRE aimed to raise awareness among stakeholders of NRENs, governments, users and telecommunication operators, about providing interconnection facilities in southeast Europe to reduce the digital divide and therefore the exploitation will address the research and academic community, the decision makers in a country and all the players responsible for funding research, education and telecommunication in the countries concerned. It is expected that SEEFIRE studies are exploited in the next two, three years (2006 -2009).

The table bellow shows the documents chosen from the list of deliverables produced that due to their contents and nature can address the potential target, as identified above that would be interested in exploiting SEEFIRE results.

Exploitable Knowledge	Exploitable product	Sector	Timetable	Owner
<p>Dark Fibre Footprint Database</p> <p>This deliverable, the only not public deliverable of the project provides information about the installed base of dark fibre in the SEEFIRE target countries.</p>	The information of this deliverable provides to the countries in the region a detailed overview of fibre available to take into account in preparing their own fibre acquisition.	Mainly for the SEEFIRE partners	2006-2009	SEEFIRE
<p>Dark Fibre Installation and Long-term Acquisition Experiences in SEE</p> <p>A public report on the networking status of NRENs in southeast Europe, which includes case studies describing the experience in deployment of a national network infrastructure by NRENs in the region.</p>	The deliverable is valuable to countries that are in the same situation as those involved in SEEFIRE, as well as to any organisation having an interest in research and education networking in the SEE region.	SEE region in general	2006-2009	SEEFIRE
<p>NREN Empowered Dark Fibre Transmission Technologies</p> <p>A report on technologies and equipment for enabling a dark-fibre infrastructure in southeast Europe at different levels - national, regional and international</p>	The deliverable describes transmission technologies enabling the deployment of DF networks by NRENs.	NRENs in SEE and beyond that are interested in deploying dark fibre networks and understanding the available transmission technologies	2006-2009	SEEFIRE
<p>Support for Deployment of Customer Empowered Fibre Infrastructure</p> <p>A report on solutions for enabling a dark-fibre infrastructure for southeast European NRENs targeting different deployment cases with respect to costs and operation needs,</p>	Transferring knowledge about deployment and upgrading of dark fibre networks	NRENs in SEE and beyond that are interested in deploying dark fibre networks	2006 -2009	SEEFIRE
<p>Economic Model for the Acquisition and Operation of Dark Fibre Networks in SE Europe</p> <p>The report contains an analysis and evaluation of the different economic models for dark fibre acquisition at international and national level and showing the cross over points for the different approaches.</p>	The economic model for dark fibre acquisition is a valid tool for the national research networks that plan to set up an optical network.	NRENs in the SEE region and beyond that are interested in deploying dark fibre networks	2006-2009	SEEFIRE
<p>Regulatory and Legal Framework for the Support of Dark Fibre Infrastructure in SE Europe</p> <p>A report providing an overview of the evolving regulatory environment for the countries under consideration, taking into account inhibitors and opportunities for the ownership of dark-fibre networks</p>	The deliverable proposes approaches for NRENs to support and exploit liberalization of the telecommunication market	NRENs in the SEE region and beyond to introduce them to tender practices	2006-2009	SEEFIRE
<p>White Paper: Strategic Report on SE European Fibre Infrastructure for Research and Education</p> <p>The document addresses the digital divide and inhibitors of research and education networking in SEE countries as well as the potential impact of NREN-initiated efforts for dark-fibre acquisition.</p>	The strategic content of the report to address decision makers and stakeholder.	The decision makers in the countries that will consider acquiring dark fibre	2006-2009	SEEFIRE

--	--	--	--	--

Table 1: List of SEEFIRE exploitable results

3. Dissemination of Knowledge

As stated in the technical annex the activities of workpackage 4 focus on two major items: “raising awareness and disseminating information about the research networking in southeast Europe”.

The roles and responsibilities of the project partners were defined in the first three months of the project (March 2005 – May 2005) and consolidated in the following months. TERENA as the leading partner coordinated the dissemination activities, as described in the initial version of the Dissemination Plan, and with the support of all the partners has been responsible for keeping the project web site up-to-date. TERENA has also been responsible for the organisation of the SEEFIRE Workshops (two in total).

All the partners, using the PR material produced at the very beginning of the project have been in charge of disseminating the project at local level, which also included getting in touch with the right decision makers in their country.

The expected results described in the Final Plan For Using and Disseminating Knowledge that the WP4 aimed to achieve are listed below:

- Making the project known across Europe, particularly in southeast Europe;
- Demonstrating that the deployment of the fibre is a cost-effective way to increase the capacity of the network backbone and therefore to reduce the digital divide;
- Raising awareness about the possibility of providing the southeast European region with higher network capacity;
- Raising awareness about NRENs in southeast Europe amongst key stakeholders (users and governments) and the general public.

These items have been addressed and in a way remain the core activity for success and progress in research and development in the SEE region.

The SEEFIRE vision was to eventually create a southeast European fibre backbone fostering collaboration of researchers and students in a region where the development of research and education networking, as well as the information society as a whole have suffered from years of political unrest and relative isolation from the rest of the European continent.

This vision is becoming a reality thanks also to other projects, such as SEEREN2 and SEElight that builds on SEEFIRE findings.

3.1. Audiences

Over the last years there has been an increasing interest in the use of optical networking technologies to provide high bandwidth at reduced costs. The SEEFIRE project works to reveal the fibre distribution in the southeast Europe and to identify regulatory and legal issues related to the ownership of fibre network infrastructure. SEEFIRE aimed to play an important role in raising awareness about the technical feasibility, the cost-effectiveness and the strategic importance of (dark) fibre deployment in the southeast Europe.

The dissemination targeted four major groups:

1. Politicians, government officials, regulators and other key decision-makers involved in policies and funding for research, education and telecommunication in the countries concerned.
2. Scientific users who will benefit from a better e-Infrastructure and will be able to have more means to perform research and to participate in other European projects demanding high bandwidth (like Grids).
3. Potential new users: the availability of more bandwidth will give more users the possibility to make use of the digital information, also in the more remote areas.
4. Owners of fibre and equipment vendors, who will be interested in the deployment and lighting of the fibre.

The target audience, as described in the first iteration of this deliverable, has remained the same for the project duration.

Many NRENs in other regions are in the process of using fibres to increase the capacity of their national backbone and have faced similar problems as the countries that constitute the main target of SEEFIRE. Those countries have also been an implicit audience and for this reason the results of the project will be available for them and disseminated beyond the southeast European region as well.

The first half of the project has concentrated more on the technical side of the dark fibre and has tried to reach out telecom operators to introduce them to what an NRENs is, why NRENs should be regarded as special users and why it is important for NRENs to acquire fibres.

The last part of the project has reached out the stakeholders and the decision makers involved in funding research. The major strategic means used by SEEFIRE have been the policy workshop that took place in January 2006 and the white paper delivered at end of the project (February 06).

3.2. Messages

For a project as short as SEEFIRE, it was important to clearly identify at the beginning of the project the messages to bring across. The key messages that the dissemination activity has highlighted are as follows:

- What the project is about
- What are the project objectives
- Who is involved in the project
- What NRENs in the rest of Europe and other world regions are doing in this respect to these issues and why
- The importance of the project for the SEE and for the rest of Europe

The bullets listed above have been addressed at the very beginning of the project through the SEEFIRE web site, the promotional package prepared and the SEEFIRE press releases.

In the remaining months of the project the dissemination activity has promoted results and findings of SEEFIRE, in terms of deliverable produced as well as the impact that the project might have on dark fibre acquisition in southeast Europe.

3.3. *Where are we now?*

Awareness about SEEFIRE and its objectives has been raised by using different communication methods, such as the SEEFIRE Website, SEEFIRE Publicity Material and News Releases, presence at relevant events and the two SEEFIRE Workshops. All these elements will be detailed in the following paragraphs.

This section focuses on how SEEFIRE has reached out potential targets, which have been identified in the previous pages, namely:

1. Politicians, government officials, regulators and other key decision-makers involved in policies and funding for research, education and telecommunication in the countries concerned.

This target has been reached out mostly during the preparation and through the SEEFIRE Workshops. In particular for the NRENs that have hosted the workshops (RoEduNet and ISTF), but also for the others a new channel of communication has been open toward their stakeholders, talking to them about SEEFIRE and its objectives and asking them to attend the workshops.

The support of the stakeholders and decision makers is crucial for the NRENs in the Southeast region to assure funding and sustain the NRENs in their growth and the first step to achieve this is making this audience aware that the digital divide in this area can be reduced in a cost-effective way using dark fibre network.

2. Owners of fibre and equipment vendors, interested in the deployment and lighting of the fibre

Owners of fibres have been reached out, in particular during the first workshop when an opportunity was offered to them to get together with the NRENs. This has allowed fibre owners to get to know the NRENs, what they are and what their role is for the academic and scientific community. Most of the initial scepticism from fibres owners was due to the lack of knowledge about the role played by the NRENs, which in result turned an NREN in a potential competitor to look at with suspicious.

3. Scientific users who will benefit from a better e-Infrastructure and will be able to have more means to perform research and to participate in other European projects demanding high bandwidth (like Grids).

One of the major results of SEEFIRE has been to demonstrate the feasibility of a infrastructure based on dark fibre and how the whole Balkan region could benefit from this to get closer to the rest of Europe and how a proper e-Infrastructure is essential to same applications, like grids.

Besides SEEFIRE, other projects are active in the same region and are building on the results of SEEFIRE. An example of such a project is SEEGRID, which focuses on the use of Grid technologies in the SEE region.

4. SEEFIRE Project Partners

Although the partners have not been explicitly mentioned as potential targets, they have been among those that have benefits more from a project like SEEFIRE, which has allowed them to get out their isolation and to start working in a cooperative way with other neighbours' countries and to learn from the experiences of the most advanced NRENs in the southeast region.

Furthermore the NRENs involved in SEEFIRE have been 'forced' by SEEFIRE to identify the key people among their stakeholders, which can be beneficial to them for future activities.

Furthermore TERENA has introduced SEEFIRE partners not active in the TERENA community to other relevant activities that are ongoing in Europe and in which TERENA is directly involved, providing the countries in the region with broader possibility of cooperation.

3.4. SEEFIRE Website

The SEEFIRE public web site available at <http://www.seefire.org> has been up and running since the beginning of the project. The website contains all the information about the project as well as the deliverables produced so far, new items and press releases. The web site provides also links to other related events.

An FTP area, available at <http://www.seefire.org/engine>, has been also up and running and it is used only by the SEEFIRE partners to exchange documents and as a working project library.

Both the SEEFIRE public website and the SEEFIRE FTP website follow the SEEFIRE branding, which was detailed in the Deliverable 4.1 “Project Web Site and Project Presentation” [R4].

The Web and FTP site together with the mailing lists, documents templates and communication rules constitute the communication infrastructure of the SEEFIRE consortium.

TERENA and GRNET have been working together to make sure that the information on the website is kept up-to-date. Due to the value of SEEFIRE findings for other institutions not involved in SEEFIRE which can be interested in deploying an optical network or in for other regions that suffer for digital divide, the SEEFIRE web site will remain available beyond the project lifetime.

Usage statistics for the domain www.seefire.org are being maintained at <http://seefirestats.ebusiness.uoc.gr> in order to assess the visitor’s interest and to correct any errors.

The pictures below depict the statistics of SEEFIRE Website.

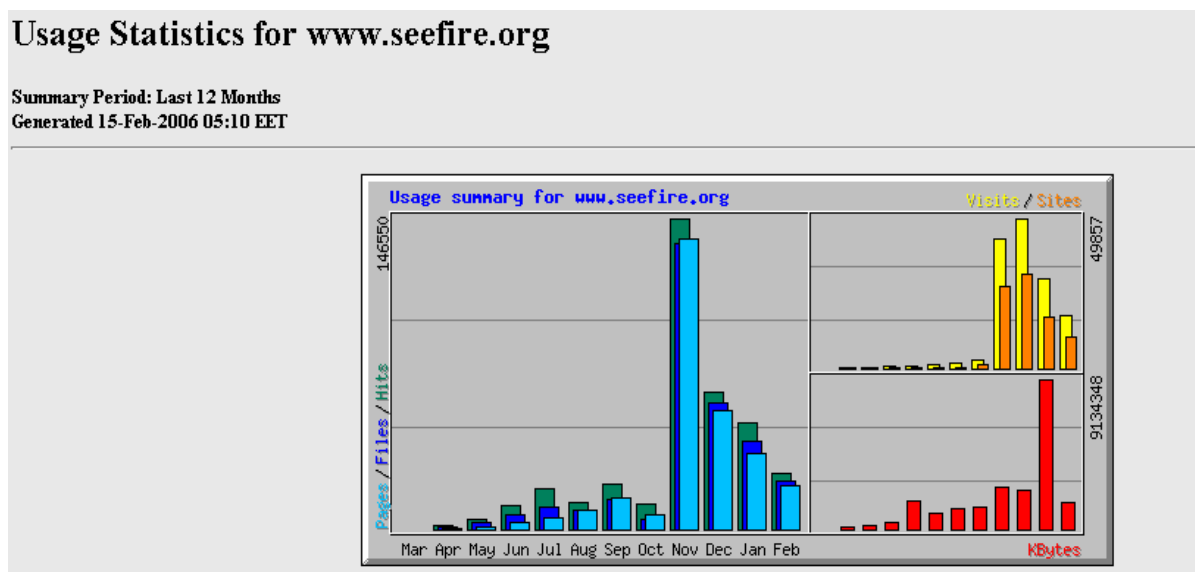


Figure 1: Usage statistics for www.seefire.org

Summary by Month										
Month	Daily Avg				Monthly Totals					
	Hits	Files	Pages	Visits	Sites	KBytes	Visits	Pages	Files	Hits
Feb 2006	1733	1517	1361	1181	10192	1664470	17728	20425	22758	26006
Jan 2006	1607	1328	1162	963	17104	9134348	29860	36051	41185	49831
Dec 2005	2086	1916	1793	1608	31101	2419865	49857	55599	59405	64667
Nov 2005	4885	4497	4556	1435	27318	2571020	43074	136709	134936	146550
Oct 2005	383	154	222	83	1084	1391738	2578	6890	4782	11892
Sep 2005	707	462	483	55	430	1232230	1670	14516	13876	21215
Aug 2005	416	302	290	34	326	1005328	1055	8997	9384	12897
Jul 2005	624	339	163	26	326	1701275	828	5054	10514	19373
Jun 2005	383	224	110	18	265	389080	550	3328	6740	11503
May 2005	155	97	42	9	155	261828	292	1307	3012	4822
Apr 2005	158	86	49	6	53	120462	87	637	1124	2058
Totals						21891644	147579	289513	307716	370814

Figure 2: Statistics of access to SEEFIRE web site summarised by Month

As the graphs show, November has been a month with a lot of hits and it can therefore be worth getting more information about these hits. The system allows knowing the usage per country in a certain period, users' agents, total URLs and so on. An example is shown below.

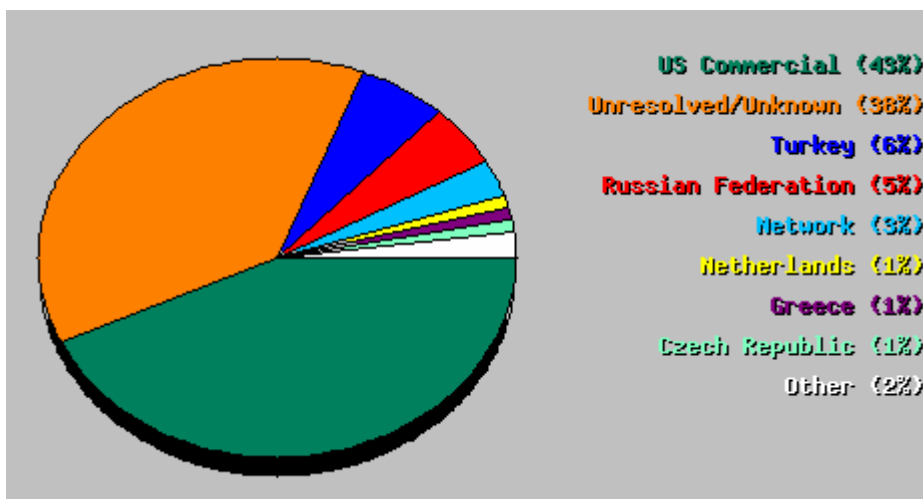


Figure 3: Usage by country in November 2005

3.5. Publicity Material

The publicity material includes SEEFIRE power point template, SEEFIRE brochure and SEEFIRE fact sheet. Most of the publicity material was produced in the first months of the project following the SEEFIRE branding in order to make the project easily recognisable.

The **SEEFIRE fact sheet** was produced at the beginning of the project to provide a first leaflet about the SEEFIRE objectives, its action plan, its international aspect and the impact on the region.

A **SEEFIRE brochure** to highlight the objectives of the project has been produced and it is being used to promote the project during external events. The SEEFIRE brochure aims to attract interest of international organizations that are actively involved in the SEE region, the governments of the countries that participate in the project, the industrial world and the research and education communities in Europe. It also contributes to ensuring the viability of SEEFIRE beyond the project's lifetime.

The generic **SEEFIRE Power Point presentation** developed at Month1 is being used by all partners to disseminate the project objectives, its status and the expected results. It currently details the structure of the project in terms of budget, objectives and main results that the project aims to achieve.

The publicity material can be downloaded from the SEEFIRE website:

http://www.seefire.org/publicity_material.php?language=en .

3.6. News Releases

A number of news releases have been generated covering the major milestone of the project namely: the official launch of the project; the SEEFIRE Technical Workshop; events where SEEFIRE has been presented and the SEEFIRE Policy Workshop.

TERENA has also published the relevant news items on the TERENA Executive Newsletter, issued once per month and addressed to members of the TERENA General Assembly and of course on the TERENA Website.

TERENA has also published SEEFIRE news items on Pear News Agency:

<http://www.terena.nl/news/pr/agency/posts.php>, which enables collaboration between research and education networking organisations in Europe in the areas of public relations and information dissemination.

The table below lists all the SEEFIRE news items issued so far.

News item/press release	Date	Issued by
SEEFIRE Project launched http://www.seefire.org/news/press.php?language=en	March 1st, 2005	TERENA
SEEFIRE Project http://www.ces.net/doc/press/2005/pr050314.html	March 14th, 2005	CESNET
Početak projekta SEEFIRE http://www.carnet.hr/medjunarodna-suradnja/novosti/?newsId=415	March 23rd, 2005	CARNET
SEEFIRE Newsletter, Issue No1	July 2005	GRNET
SEEFIRE Workshop Opens Doors to Acquisition of Dark Fibres in South East Europe	July 28th, 2005	TERENA
SEEFIRE Technical Workshop Briefing	August 10th, 2005	TERENA
SEEFIRE Workshop in Bucharest Raised Awareness About Benefits of Dark Fibre	January 23th, 2006	TERENA
SEEFIRE Newsletter, Issue No2 ¹	March, 2006	TERENA

Table 2: List of the news items and press releases issued as of February 2006

¹ At the time this deliverable is being written the newsletter is being prepared and therefore no URL is available yet.

3.7. SEEFIRE Presence at Relevant Events

Another way to make the project known was to ensure that SEEFIRE was presented at events attended by possible target audiences.

All partners kept track of the events they attended and a complete list is reported in the table below.

Event – Dates and Location	Type	Type of audience	Attended by
Customer Empowered Fibre Networks workshop 16-18 May 2005 – Prague, Czech Republic	Workshop	Research	Valentino Cavalli –TERENA, Jorge-A. Sanchez-P and Afroditi Sevasti – GRNET
ROEDUNET Conference, 20-22 May 2005 - Sovata, Romania	Conference	Research- Academic	Octavian Rusu - RoEduNet
Hypermedia and Grid Systems Conference 30 May- 3 June 2005 – Zagreb, Croatia	Conference	Research- Academic	A. Jorge, P. Sanchez, N. Vogiatzis – GRNET
TERENA Conference 6-9 June 2005 – Poznan, Poland	Conference	Research	Valentino Cavalli – TERENA, Jorge-A. Sanchez-P, Thanassis Liakopoulos – GRNET
African Research & Education Networking 25-27 September 2005 CERN - Geneva, Switzerland	Conference	Research- Academic	Jorge-A Sanchez-P. - GRNET
GridNet2005 6-7 October 2005 – Boston, (MA) USA	Workshop	Research- Industry	Licia Florio – TERENA
CARNET Internet Users Conference 21-23 November 2005 - Dubrovnik, Croatia	Conference	Academic	Valentino Cavalli – TERENA

Table 3: Updated table of SEEFIRE related presentations as February 2006

3.8. SEEFIRE Technical Workshop

SEEFIRE organised two workshops during the duration of the project: a technical workshop and a policy workshop.

The first SEEFIRE Workshop was held in Sofia on 14 and 15 July 2005 and focused on technical and practical aspects of own dark fibre network deployment targeting technicians and managers of NRENs responsible for the network planning in the SEE.

The objective of the workshop was to highlight the optical technologies and equipment that are needed to implement optical networks and how this can be a solution to reduce the digital divide in the Balkan region. Experiences from countries currently running an optical network were also reported.

The workshop attracted 52 people coming from the National Research and Education Networks (NRENs) and industrial worlds.

The workshop proceedings, including the programme, the presentation material and the list of attendees are available online at:

<http://www.seefire.org/schedule.php?ctn=1&language=en> .

The workshop provided a way for the NRENs to present their work and to describe why their role is important to support research and development in the academic environment. During the workshop it was many times emphasised that NRENs are not competitors of commercial ISPs and telecom operators, but should rather be seen as collaborators, complementing them in the provision of a reliable infrastructure for the research and education community as well as acting as a national drive in the design and deployment of advanced and innovative projects.

In the specific context of dark fibre, the main motivation for NRENs to acquire dark fibre is to provide the bandwidth needed for advanced services not available on the market. Such services, like for instance Grid applications, require high capacity which is not affordable to an NREN other than by owning its fibre infrastructure. NRENs in the region have proved to have sufficient knowledge to run and operate optical networks.

During the workshop the following topics were discussed:

- ways for industry and NRENS to establish more closer relationships;
- ways for the NRENs to make their work known outside the academic environment and therefore make sure that it is clear to anybody that they have no intention to compete with commercial companies
- the importance of an advanced network to promote research and development for the southeast European region.

Although some of the operators who attended the workshop appeared initially rather sceptical about the need for owning a fibre infrastructure by NREN, the discussion during the workshop showed an increase of interest on their side to understand the rationale for the deployment of (dark) fibre in the region. In particular alternative telecom operators appeared to well receive the problematic and seemed keen to have further discussions to allow NRENs to acquire dark fibres.

3.9. SEEFIRE Policy Workshops

The second SEEFIRE workshop took place on 17 January of 2006, in Bucharest, a few months before the end of the project.

Science, research and technological development are essential for the future growth of countries in southeast Europe. Most of the countries in the region have established NRENs in some form, in order to provide research users with networking services. However their existence is not secured and in some cases they are not able to keep up with the progresses of the technology.

This workshop focused on the strategic and economic benefits of National Research and Education Networks (NRENs) owning and operating their own dark-fibre networks in southeast Europe and targeted end-users, university directors, telecommunication operators and other stakeholders of research networks as well as decision makers and representatives at the political level.

The objectives of the workshop were inline with the SEEFIRE project objectives, to promote the importance of an advanced network to support research and development in the SEE region. Furthermore the workshop wanted to raise awareness on the dark fibre network as a cost effective way to allow the National Research and Education Networks in the region to provide high bandwidth at reduced costs.

The workshop addressed also the need of NRENs to access dark fibre to improve their networks, rather than lease complete services from telecommunications operators or commercial Internet Service Providers (ISPs).

The political support is essential for the NRENs in these countries to obtain stability of financial and human resources to sustain their activities. Therefore the workshop addressed the political class in order to raise awareness on the role on the NRENs, the importance for NRENs to access (dark) fibre, why dark fibre is so crucial for the region to build a cost effective network.

The workshop was attended by more than forty people and attracted representatives from all the NRENs in southeast Europe (including Croatia, Moldova and Turkey whose NRENs are not partners in SEEFIRE), representatives of academic institutions, telecommunications operators that have strong business interests in the region, research networking organisations in Romania (RoEduNet, ICI and RNC), as well as representatives from the Romanian Ministry of Education and Research and the Romanian Ministry of Communications and Information Technology.

The workshop proceedings, including the programme, the presentation material and the list of attendees are available online at:

<http://www.seefire.org/schedule.php?ctn=4&language=en>

3.10. SEEFIRE White Paper

One of the major goals of SEEFIRE was to raise awareness among key-players such as politicians and government officials responsible for policies and funding of research and education in the concerned countries. One of the key messages that SEEFIRE wanted to bring across is that cost-effective higher bandwidth (such as the one based on fibre) available for research and education networks would allow more users to obtain high-standard services and would contribute significantly in building the Information Society in the region and in bringing it closer to the rest of Europe.

To help achieve this, a white paper summarising the SEEFIRE findings from a strategic perspective was delivered at Month 12. The document provides an executive summary about the SEEFIRE studies and addresses the digital divide and inhibitors factors of research and education networking in SEE countries as well as potential impact on NREN-initiated effort for dark-fibre acquisition.

For his strategic contents, the white paper is also an instrument to be used beyond SEEFIRE any time it is necessary to reach out the decision makers and highlight the importance of dark fibre.

TERENA has coordinated this activity, with contributions from all partners.

3.11. Media Relations

Maintaining media relations is normally a key dissemination method and can assist in raising the profile of a project, especially in the early stages. However considering the nature of the project media relations were expected and in fact were quite limited.

Most of the partners involved in SEEFIRE have already gained experience working on other European projects and have used local media to promote past or ongoing projects, therefore they could rely on the media contacts they already had.

SEEFIRE partners were also encouraged to create publicity about the project at local level, providing the messages were in line with the overall messages of the project. Partners were also requested to keep track of all publicity created at local level and to inform TERENA about all coverage in order to detail this information in the next version of this deliverable.

Partners provided to TERENA information such as:

- Publication news item appeared in (online and traditional) magazines
- country
- language
- title of cutting
- date of the publication

4. Publishable Results

All SEEFIRE results have been published on line on the SEEFIRE website (<http://www.seefire.org/publications.php?language=en>). SEEFIRE partners have produced also a list of links to dark fibre maps or related information that can be of general interest.

The complete list is reported below.

4.1. Lists of SEEFIRE Deliverables

As said many times in this document, SEEFIRE has produced many useful documents and deliverables. The complete list is shown in the table below.

Deliverable Name	Description
D1.1 Dark Fibre Footprint Database	This is an internal (not publicly available) project deliverable providing information about the installed base of dark fibre in the SEEFIRE target countries. The deliverable has been submitted to the EC in August 2005.
D1.2 Dark Fibre Installation and Long-term Acquisition Experiences in SEE	A public report on the networking status of NRENs in southeast Europe, which includes case studies describing the experience in deployment of a national network infrastructure by NRENs in the region and, to a limited extent, in other countries that have faced similar issues. The deliverable has been submitted to the European Commission in September 2005.
DWDM Equipment Vendors List (working document)	A list of DWDM equipment vendors was prepared by the project partners. The list is meant to provide information to people that are new to the technology but need to buy equipments. The list does not and is not meant to provide products comparisons.
D2.1 NREN Empowered Dark Fibre Transmission Technologies	A report on technologies and equipment for enabling dark fibre infrastructures in southeast Europe at different levels national, regional and international incorporating available results from individual dark fibre deployment activities taking place in the region and elsewhere.
D2.2 Support for Deployment of Customer Empowered Fibre Infrastructure	A report on solutions for enabling a dark fibre infrastructure for southeast European NRENs targeting different deployment cases with respect to costs and operation needs, providing examples of documents and specifications used for procurement in other countries and reporting on known adaptations needed for their application to NRENs in the region.
D3.1 Regulatory and Legal Framework for the Support of Dark Fibre Infrastructure in SE Europe	A report providing an overview of the evolving regulatory environment for the countries under consideration, taking into account inhibitors and opportunities for the ownership of dark fibre networks, and of approaches to influencing its development towards best standards.
D3.2 Economic Model for the Acquisition and Operation of Dark Fibre Networks in SE Europe	A report containing an analysis and evaluation of the different economic models for dark fibre acquisition at international and national level and showing the cross over points for the different approaches.
D4.1 Project Web site and Project Presentation	This deliverable will be a Powerpoint Presentation providing a standard overview of the project facts and planned results and providing a pointer to the project web site.
D4.2 Final plan for using and Disseminating knowledge	The “Plan for Using and Disseminating Knowledge” was an iterative document, which aimed to define a roadmap for the SEEFIRE dissemination activities, as defined in the technical annex. The first version of the deliverable was produced in month three to identify targets and responsibilities in the dissemination area. The second version was produced at month nine of the project to

	<p>revise what done and define guidelines and direction for the rest of the project.</p> <p>The last version was produced when the project was close the end (month 12) to summarise what done and to define an exploitation plan.</p>
D4.3 White Paper: Strategic Report on SE European Fibre Infrastructure for Research and Education	<p>This deliverable is an executive summary of the SEEFIRE project, to address the digital divide and inhibitors factors of research and education networking in SEE countries as well as the potential impact of NREN initiated efforts for dark fibre acquisition. A preliminary version of this document was given to the participants of the Policy Workshop to be held in the second half of the project.</p>
D4.4 Report on raising public participation and awareness	<p>A summary of the activities and actions carried out during the project to promote and transfer the SEEFIRE findings outside the project boundaries.</p>

Table 4: *List of SEEFIRE Deliverables produced*

4.2. Information about Fibre Distribution in SEE region

http://www.iscpc.org/cabledb/medred_page.htm

<http://www.sigcables.com/cgi-bin/index.pl> -> cables

http://www.onelasvegas.com/wireless/Internet_Backbone_Providers.html

<http://www.pioneerconsulting.com/reporttoc.php3?report=18>

<http://www.turnkey.net/worldfiber.htm>

<http://home1.stofanet.dk/cables/hips/main-systems.htm>

4.3. Maps

<http://www.cybergeography.org/atlas/cables.html>

http://telegeography.com/products/map_cable/index.php

http://telegeography.com/products/map_europe/index.php

<http://www.kidorf.com/DBLandings.php>

<http://www.kidorf.com/DBSuppliers.php>

<http://research.lumeta.com/ches/map/you/index.html>

<http://www.linbrooke.co.uk/subsea.html>

<http://www.answers.com/topic/submarine-communications-cable>

<http://www.atlantic-cable.com/Cables/CableTimeLine/index.htm>

<http://www.atlantic-cable.com/Maps/MedarabtelMap.jpg>

<http://www.bsfocs.com/connectivity.php>

<http://www.alcatel.com/submarine/refs/cibles/med/>

http://www.alcatel.com/submarine/refs/cibles/med/med_nautilus.htm

<http://www.alcatel.com/submarine/refs/cibles/med/bsfocs.htm>
<http://www.alcatel.com/submarine/refs/cibles/med/sochipoti.htm>
<http://www.alcatel.com/submarine/refs/cibles/med/itur.htm>
<http://www.alcatel.com/submarine/refs/cibles/med/adria1.htm>
<http://www.alcatel.com/submarine/refs/cibles/med/ariane2.htm>
<http://www.alcatel.com/submarine/refs/cibles/med/cyprusgreece.htm>
<http://www.alcatel.com/submarine/refs/cibles/med/turmeos1.htm>
<http://www.alcatel.com/submarine/refs/cibles/med/emos1.htm>
<http://www.cytaglobal.com/cytaglobal/network-map.php>
<http://smw3cbp.francetelecom.com/smw3/SMW/SMWB2.htm>
<http://www.mpt.gov.lb/cadmos.htm#description>
<http://www.mednautilus.com/network.html>
<https://www.afb.net.al>
<http://www.bh-gas.ba/eng/gassistem.htm>
<http://www.oteglobe.com/en/coverage.shtml>
<http://www.tellas.gr/page.asp?gid=27&arid=42&lang=1>
<http://www.pantel.hu/index.php?id=116&L=1>
<http://www.teletrans.ro/Teletrans/files/Territorial%20coverage.htm>
http://www.globalcrossing.com/xml/network/net_map.xml
http://www.teleglobe.com/eng/network/networkMaps.cfm?nav_id=7.5
<http://www.interoute.com/networks.html> -> download network map

5. Conclusion

For such a short project it was important since the very beginning to have clear in mind what disseminating knowledge should be about.

The dissemination activity started immediately at the beginning of the project. SEEFIRE web site contains some useful information about what the objective of the projects, the deliverable produced and what has been achieved. Most of the information is publicly available, with the exclusion of a few documents, which are not meant to be distributed to a general audience and that are only available on the private area of the project.

However it is also worth mentioning that SEEFIRE is just a small step for such a difficult region, where the political events still have a big impact on the NRENs stability. Furthermore although many countries are in the process to join the European Union there still a lot to do before the market will be fully liberalised and will allow for more competition.

Liaisons with existing projects in Southeast Europe, such as SEEREN2, SEEGRID, SEELIGHT and in other world regions, such as EUMEDCONNECT, ALICE and TEIN2 will make sure that the findings of SEEFIRE will be useful to countries that for different reasons are suffering from the digital divide.

TERENA has been over the last year particularly active in the SEE region and its involvement in projects like SEEREN, SEEFIRE, SEEREN2 and GÉANT2 (NA4 activity) is a demonstration of this. TERENA is promoting workshops and strategic meetings in the SE region believing that these are the means to use to help reducing the digital divide and to transfer knowledge in the area.

6. References

- [R1] <http://www.seefire.org/> SEEFIRE Website
- [R2] [Final Plan for Using and Disseminating Knowledge v1](#) First iteration of the Dissemination Plan
- [R3] [Final Plan for Using and Disseminating Knowledge v2](#) Second iteration of the Dissemination Plan
- [R4] [Project Web Site and Project Presentation](#)