

SIXTH FRAMEWORK PROGRAMME



Management and Exploitation of Solar Resource Knowledge

MESOR

D.4.6 – “Report on Dissemination and Awareness”

Plan for using and disseminating knowledge

Project/Contract no.: 038655
Date of preparation of D4.6: Aug 28, 2009
Nature: R
Dissemination level: PU



Version History

| Version | Date | Author(s) | Changes made | by | Sent to |
|---------|------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------|------------|
| 2.0 | | Elena Gaboardi iCons | | EG iCons | |
| 3.0 | 28-06-2009 | Carsten Hoyer-Klick DLR | Added more publications, section on exploitation of knowledge necessary for the plan for using and disseminating knowledge | Carsten Hoyer-Klick | Commission |

Contributing Authors

D. Dumortier, ENTPE, F
 E. Gaboardi, iCons, I
 C. Hoyer Click, DLR, D
 E. Lorenz, Univ. Oldenburg, D
 M. Martinoli, iCons, I
 L. Menard, Mines Paristech, F
 J. Remund, Meteotest, CH
 M. Schroedter-Homscheidt, DLR, D
 L. Wald, Ecole des Mines de Paris, F

Acknowledgement and Disclaimer

The MESOR team acknowledges the financial support of the European Union under contract CA – Contract No. 038665. We would also like to thank all reviewers for their valuable comments.

No member of the MESOR team or any person acting on their behalf (a) makes any warranty, express or implied, with respect to the use of any information or methods disclosed in this report or (b) assumes any liability with respect to the use of any information or methods disclosed in this report.

Table of Contents

| | |
|------------------------------------------------------------------------------------------------------------------------|----|
| Executive Summary | 4 |
| 1 Introduction, objectives and approach..... | 4 |
| 2 Description of the MESoR dissemination instruments | 5 |
| 2.1 The project web site | 6 |
| 2.2 Continuous exchange with the stakeholders' community | 8 |
| 2.3 Written material | 10 |
| 2.4 Training material | 13 |
| 3 Description of the MESoR dissemination activities | 13 |
| 3.1 Dissemination to research organisations and to industrial & commercial organisations..... | 13 |
| 3.2 Connecting with other initiatives in earth observation, geo data and solar resource management (MESoR WP3)..... | 15 |
| 3.3 The MESoR reach..... | 16 |
| 4 Exploitable knowledge and its use | 5 |
| 5 Conclusions about dissemination..... | 18 |

Executive Summary

This document reports on the dissemination activities of the MESoR project. It describes how knowledge and results have been exchanged among the partners, with the MESoR stakeholders' community and with the scientific community at large, as well as with relevant European bodies and initiatives.

Through a combination of activities, means and channels, MESoR has disseminated the results to a broad, qualified and representative audience and reached a major project milestone, i.e., the establishment of the MESoR stakeholder's community.

As a final result, MESoR can rely on a "closer" community of about 150 people from about 140 organisations that have interest in solar radiation knowledge, based in all European countries and overseas. These people actively participated to the various MESoR events (webinar, training seminar) and activities (surveys and consultation) and provided their input and feedback to the MESoR outputs and especially to the prototype. In addition to this "closer" community, MESoR reached an additional target of about 400 contacts that were informed about the project outputs and deployment. Moreover, MESoR disseminated and raised awareness in the scientific and industrial community at large, both directly and through multipliers. This audience can be estimated in a few thousands people.

The consortium privileged a customised and individual approach to the core group of stakeholders, while it adopted a "broadcast" approach to communication and dissemination to the scientific community at large, by relying also on multipliers organisations.

The dissemination activities relied on a vast array of means, including: the project web site, written material, training material, the participation to conferences and events and the organisation of a webinar and a training seminar.

1 Introduction, objectives and approach

This document reports on the dissemination activities of the MESoR project. It describes how knowledge and results have been exchanged among the partners, with the MESoR stakeholders' community and with the scientific community at large, as well as with relevant European bodies and initiatives active in the field of solar radiation.

Dissemination of the project results is an important activity within MESoR. It draws upon the results of the technical work carried out in WP1 (Guiding) and WP2 (Unifying access), and exploits the work done in WP3 (connecting with other initiatives in earth observation, geo data and solar resource management), and all partners are contributing to its achievements. The dissemination activity is part of WP4 ('Stakeholders' involvement and dissemination') and runs over the total duration of the project and beyond it.

Since the beginning, MESoR has developed dissemination instruments, such as the website - both for introducing MESoR to its intended audience and for easing the exchange of information among the project partners- and the list of the stakeholders to be involved in the MESoR stakeholders' community.

Besides making results available to the stakeholders' community and providing input to other initiatives (such as IEA Task36), dissemination also enables the evaluation and advancement of project plan and project objectives, by using the feedback and opinions received from external parties, especially for the finalisation of the service prototype.

Dissemination consists of the following sub-activities:

- Construction and development of a project website
- Production of written material (papers, articles, contribution)
- Participation to conferences and workshops
- Preparation and realisation of seminars
- Contributions and coordination with other initiatives
- Monitoring of the project achievements

This deliverable provides an overview of the dissemination results achieved during the project lifetime. Some topics (such as Users' meeting, Training, Seminar, Connecting with other initiatives) are also presented in Deliverables, D4-4, D3, and are only shortly described in the current document. The present document focuses on the achievements made in dissemination to the stakeholders' community and to the scientific and industrial community at large.

The document is structured as follows. Chapter 2 provides information about the MESoR dissemination instruments. Chapter 3 lists the contributions to research conferences, workshops and meetings, and explains the information exchange with other European research projects. Chapter 4 provides an overview of the main project achievements.

This document is also the plan for using and disseminating knowledge. The proposed section I "Exploitable knowledge and its use" is found in chapter 2 of this document. The Section II "Dissemination of knowledge" in chapters 3 and 4. Since there is now exploitable knowledge as all generated knowledge is public, there is no Section III "Publishable results".

2 Exploitable knowledge and its use

The generated knowledge of the MESoR project is available to the public through the MESoR reports and publications. There are no plans for commercial exploitation of the generated knowledge.

3 Description of the MESoR dissemination instruments

The project logo

An important item to establish the project's identity is the project's logo. This logo is on the project web site, it is included in all presentations, documents, and communication material of the project. It evokes colours and shapes of solar radiation.



3.1 The project web site

The MESoR project website is publicly accessible at the following URLs:

<http://www.mesor.org:80/>

<http://project.mesor.net/web/guest/home>,

The address where the internal wiki stands is:

<http://www.mesor.org/mediawiki>,

Dissemination

The project website is the main dissemination channel towards anyone interested in the MESoR project. The website provides the stakeholders' community and the general public with results and presentations, information on current events and, most importantly, provides access to the MESoR prototype.

Exhibit 3.1-1: The MESoR project site

The screenshot displays the MESoR project website interface. At the top, there is a navigation menu with options like 'Welcome', 'Resources & Services', and 'Helioclim 3'. The main content area features a satellite-style map of Europe and Africa. A red location pin is placed over Germany. To the right of the map, there are several input fields and controls: 'Cursor position: 63.26, 20.21', 'Selected position: 48.86, 2.35', 'From date: 2005-01-01', 'To date: 2005-12-31', 'Integration time: Month', 'Elevation: -999', 'Ground albedo: 0.2', 'Computation mode: Titled plan', 'Tilt: 0', and 'Azimuth: 0'. Below the map, there are tabs for 'Web Service Description', 'IPR & Credits', 'Inputs Description', 'Outputs Description', and 'Results'. The 'Web Service Description' tab is active, showing a detailed description of the Helioclim-3 service, including its purpose, data sources, and coverage. The text below the tabs reads: 'Helioclim-3 is a service providing irradiance data from 15 minutes to month, for Europe and Africa. Irradiance values from the database Helioclim-3, are computed from images of the Meteosat satellites since February 2004. Provider: ANRES ParisTech / Armines (France).'

Statistics about the visits to the website project.mesor.net have been collected. From these statistics it is learned that web site visitors represent an important and numerous audience of MESoR. In all, unique visitors to the site in the period August 2008-May 2009 (the period for which the system has tracked visits) summed up to 1,595. The total number of visit was, in the same period, 2,589 (accessing 25,881 pages) and the overall ratio visits/visitors has been 1.63.

Exhibit 3.1-2: MESoR web site: number of unique visitors, number of visits and pages, August 2008-May 2009

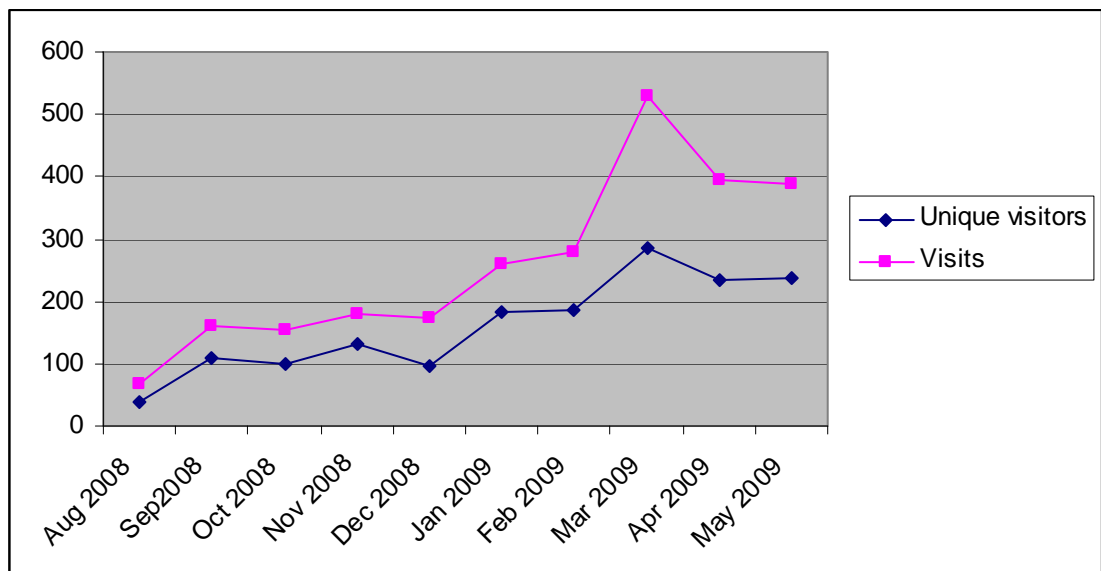
| Month | Unique visitors | Number of visits | Pages |
|----------|-----------------|------------------|--------|
| Aug 2008 | 38 | 66 | 318 |
| Sep 2008 | 108 | 162 | 1028 |
| Oct 2008 | 99 | 154 | 1031 |
| Nov 2008 | 130 | 181 | 1274 |
| Dec 2008 | 97 | 172 | 1786 |
| Jan 2009 | 182 | 261 | 1551 |
| Feb 2009 | 186 | 280 | 3356 |
| Mar 2009 | 285 | 530 | 8018 |
| Apr 2009 | 233 | 395 | 3581 |
| May 2009 | 237 | 388 | 3938 |
| Total | 1 595 | 2 589 | 25 881 |

Source: MESoR 2009

The number of visitors has been steadily increasing over the project life time and the preliminary statistics referred to June 2009, indicate that the trend is continuing (140 unique visitors and 213 visits at June 13, 2009).

The following figure also highlights that the strong dissemination activity that the consortium carried out starting from February-March 2009 has both expanded the audience and supported the customer loyalty, expressed by the increased number of visits and accessed pages. This is also mirrored by statistics showing that, since March 2009, the length of visits has also been increasing.

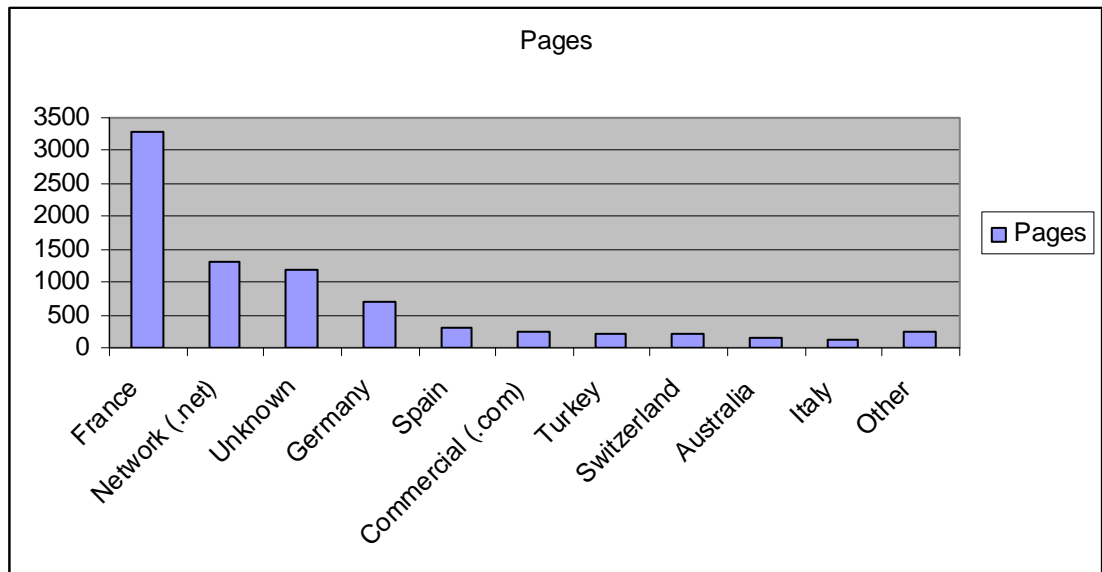
Figure 3.1-3: MESoR web site: trend of the number of unique visitors and the number of visits, August 2008-May 2009



Source: MESoR 2009

The analysis of the country/domain of visitors provides only indicative data as the country of origin of the .net and .com visitors cannot be identified and a large share of visitors could not be identified at all. Among the European countries, France is by far the most represented country. The following graph provides the situation as for May 2009

Figure 3.1-4: MESoR web site: origin of visitors, by number of pages, May 2009



Source: MESoR 2009

Community portal

MESoR can also rely on the community portal (<http://www.webservice-energy.org/resources.html>), which hosts and advertises MESoR Partners Web Services (Armines, DLR, NCEP, Meteotest, Meteocontrol, JRC). Webservice-energy.org contributes to the international efforts made towards the construction of the single information space for a better share of knowledge on solar resource. Webservice-energy.org Service contributes, besides MESoR, to the Global Earth Observation System of Systems (GEOSS) and the International Energy Agency (IEA, SHC Task 36). The community portal hosts a video for the GEOSS Pilot with credits to MESoR, it also Provides access to various resources: XML Schemas and Web Service Tutorial «How to».

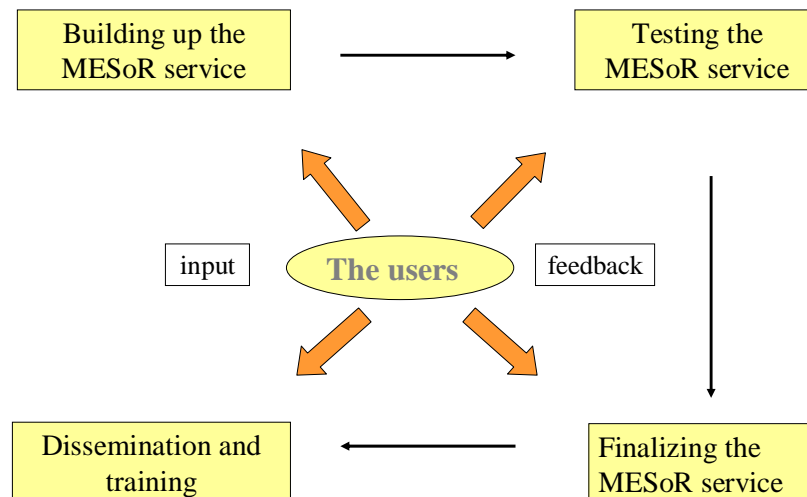
Internal communication

The web is also used as a mean for project internal communication that is accessible only by authorised project members.

To support intra-project communication, a mailing list and a project intranet have been set up. The mailing list is hosted by DLR, the intranet is based on the mediawiki software and hosted by Armines. The project wiki, besides communication via e-mail and phone, is the major collaboration instrument between the project partners. The structure of the MESoR wiki provides a folder and document structure which is closely oriented at the structure of the whole project, and is used for the exchange and collaborative work on documents, and as repository for finalised documents, publications, and presentations. The MESoR Wiki has contributed set up a common knowledge as it has been used to define common terms (e.g. in the glossary) and common procedures (e.g. in the Benchmarking). It has also been used as a collaborative tool for developing deliverables to which various partners contributed.

3.2 Continuous exchange with the stakeholders' community

A major goal of MESoR, and especially of WP4, has been the set up, development and management of the stakeholders¹ community. The entire project aims at putting the users of the MESoR service at the centre. Integration and standardisation of solar knowledge have been driven by the guidance of the users, whom have been constantly consulted during the project life, as illustrated in the following scheme.



The deployment of the activities towards the users and the results of such activities are fully documented in the Deliverables D 4.1, D4.2, D4.3 D4.4, D4.5.

In building the stakeholders' community MESoR relied on partners' experience and background. Since the very beginning, all partners contributed to develop and consolidate a list of organisations and people that constituted the preferred target of the MESoR initiative. This initial list continuously expanded, both for the partners' contribution and by spread-the-word of users. The continuous exchange with the MESoR stakeholders' community took place through a broad range of means of communications: interviews, one-to-one contacts, phone interviews, on-line surveys and e-mail messages. These instruments allowed implementing efficient bi-directional communication between stakeholders and the MESoR consortium. All these means were used both for collecting inputs and feedback (to be used for the design and development of the MESoR services), for dissemination and communication purposes (to raise awareness about MESoR and its progress over time) and, finally, for validating the results of MESoR.

Towards the kernel of the stakeholders' community, the consortium privileged personalised one-to-one communication, while the aim activities and events were made know to a wider public through publication on the web site, extensive mailings to relevant associations and multipliers.

The following scheme summarizes the various means of communications that were used for communicating with the MESoR stakeholders' community in the various phases of the MESoR service deployment.

¹ By stakeholder it is meant a user who has a special interest, involvement and expertise in solar radiation knowledge. The words may sometimes be swapped

Exhibit 3.2-1: Awareness raising and dissemination activities towards the MESoR stakeholders' community, actions and instruments

| Time | Target | Action/Purpose | Instruments |
|--------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Aug-Sep 2007 | Initial list of stakeholders | Awareness raising about MESoR | Initial contacts, Phone calls |
| Sep-Nov 2007 | Selected Stakeholders | Survey on users' requirements | Questionnaires, phone calls |
| Nov 07-Jun 08 | Selected stakeholders; partners' main customers; representatives from other EU initiatives | Bilateral consultation for prototype development | 1to1 meetings, calls, |
| Nov 08 –Mar 09 | Broader MESoR community, partners' customer base; other EU initiatives | Information and dissemination about the MESoR prototype, pushing users to test the prototype | Calls, meetings, e-mail messages, MESoR website |
| Feb-May 09 | Broader MESoR community, partners' customer base; multipliers (about 300 new contacts) | Information and dissemination about the MESoR training activities (webinar and training seminar) | e-mail messages, MESoR web site, e-mail and advertising on specialised web sites and online magazines |
| Whole project life | IEA Task 36 | Cooperation | Joint meetings |
| Whole project life | The scientific community | Information and dissemination about the progress of the MESoR activities | Partners' participation to conferences and scientific events |
| Whole project life | The industrial community | Information and dissemination about the progress of the MESoR activities | Partners' participation to conferences and workshops |
| May-Jun 09 | Selected stakeholders | Feedback to MESoR Roadmap | e-mail, phone calls |

3.3 Written material

During the entire project life, MESoR partners have presented the MESoR project, the project's vision, expected gains and challenges at scientific meetings, conferences and workshops. A list of presentations and papers is provided in the following sections.

Project presentation

Presentations about the project were based on a format, developed at the beginning of the project and constantly updated with the projects achievements and customised according to the various situations. An example of project presentation is available on the project web site.

Papers

Scientific papers were prepared for several scientific events and were related to the main scientific topics addressed by MESoR, particularly:

- Benchmarking, including
 - Collection of a reference data set of high quality ground measurements (Baseline Surface Radiation Network (BSRN), International Daylight Measurement Programme (IDMP), Global Atmospheric Watch (GAW), Other high quality measurements
 - Common procedure for quality control of the ground data
 - Common set of benchmarking measures and rules
 - Benchmarking of Time Series Products
 - Benchmarking of maps
- Best practice examples on how solar resource data is used

A list of given speeches and publications is provided in the following sections.

Contributions in Conferences

- Gracia A., Torres JL., de Blas M., Illanes R., 2008. Comparación de las distintas clasificaciones de estados de cielo empleados en diferentes modelos de distribución angular de radiación o luminancia (Comparison between different sky types classifications used in different radiance or luminance angular distribution models). XIV Congreso Ibérico y IX Iberoamericano de Energía Solar (IXV Iberian and IX Iberoamerican Congress of Solar Energy) Vigo (Spain), 17-21 June 2008.
- Gracia A., Torres JL., de Blas M., García A., 2008. Comparación de medidas de distribución angular de radiación procedentes de dos equipos: Solar Igel y Sky Scanner (Comparison between radiance angular distribution measurements taken by two instruments: Solar Igel and Sky Scanner). XIV Congreso Ibérico y IX Iberoamericano de Energía Solar (IXV Iberian and IX Iberoamerican Congress of Solar Energy) Vigo (Spain), 17th-21st June 2008.
- Gracia A., Torres JL., García A., Illanes R., 2009. Aplicación del modelo de Perez de distribución angular de radiación. Diferentes variantes (Application of Perez's model for radiance angular distribution. Different variants). V Congreso Nacional y II Congreso Ibérico de Agroingeniería (V National and II Iberian Congress of Agricultural Engineering). Lugo (Spain), 28th-30th September 2009.
- Gracia A., Torres JL., de Blas M., De Francisco A., 2009. Comparación entre distintos procedimientos de control de calidad de datos de irradiancia (Comparison between different quality control procedures for irradiance data). V Congreso Nacional y II Congreso Ibérico de Agroingeniería (V National and II Iberian Congress of Agricultural Engineering). Lugo (Spain), 28th-30th September 2009.
- Gschwind, B., Menard, L. Ranchin, T., Wald, L., Stackhouse, 2007: A proposal for a thesaurus for web services in solar radiation. In Proceedings EnviroInfo 2007, Hrynewicz, O., Studzinski, J., Romaniuk, M (Eds.), pp. 135-142.
- Hoyer-Klick, C., Beyer, H.G., Lorenz, E., Heinemann, D., Ramirez, L, Polo, J. Wald, L., Huld, T., Suri, M. (2008): Bereitstellung gütebewerteter Datenbasen und Modelle

zur Einstrahlungsklimatologie im Rahmen des Europäischen Projektes MESoR. OTTI PV Konferenz Bad Staffelstein, 2008.

- Hoyer-Klick, C., Beyer, H.G., Dumortier, D., Schroedter-Homscheidt, M., Wald, L., Martinoli, M., Schillings, C., Gschwind, B., Menard, L., Garboardi, E., Ramirez, L., Polo, J., Cebecauer, T., Huld, T., Suri, M., de Blas, M., Lorenz, E., Pfatischer, R., Remund, J., Ineichen, P., Tsvetkov, A., Hofierka, J. (2008): Management and Exploitation of Solar Resource Knowledge. Eurosun 2008, Lisbon.
- Hoyer-Klick, C., Beyer, H.G., Dumortier, D., Schroedter-Homscheidt, M., Wald, L., Martinoli, M., Schillings, C., Gschwind, B., Menard, L., Gaboardi, E., Polo, J., Cebecauer, T., Huld, T., Scheidtsteger, T., Suri, M., de Blas, M., Lorenz, E., Kurz, C., Remund, J., Ineichen, P., Tsvetkov, A., Hofierka, J. (2009): MESor-Management and Exploitation of Solar Resource Knowledge, SolarPaces Conference, Berlin 2009.
- Menard, L., Wald, L., Blanc, Ph., Ranchin, T. (2009): Siting of a solar power plant: Development of a Web Service bases on GEOSS data and guidance. In Proceedings of the ISRSE Conference, Stresa Italy, May 4-8, 2009.
- Remund, J., Schilter, C., Dierer, S., Stettler, S., Toggweiler, P. (2008): Operational Forecast of PV Production, PVSEC 2008.
- Remund J., Perez, R., Lorenz E. (2008): Comparison of Solar Radiation Forecasts for the USA. PVSET 2008
- Šúri M., Remund J., Cebecauer T., Dumortier D., Wald L., Huld T., Blanc T., 2008. First steps in the cross-comparison of solar resource spatial products in Europe. Proceeding of the EUROSUN 2008, October 2008, Lisbon, Portugal.
- Šúri M., Remund J., Cebecauer T., Hoyer-Klick, C., Dumortier D., Huld T., Stackhouse P.W., Ineichen P., 2008. Comparison of Direct Normal Irradiation Maps for Europe. Proceeding of SolarPACES 2009 Conference, September 2009, Berlin, Germany.

Articles in scientific magazines

- Articles that exploit part of the knowledge acquired during the MESoR project:
- Abdel Wahab M., El-Metwally M., Hassan R., Lefèvre M., Oumbe A., Wald L., 2009. Assessing surface solar irradiance in Northern Africa desert climate and its long-term variations from Meteosat images. International Journal of Remote Sensing, in press
- Bois B., Pieri Ph., Van Leeuwen C., Wald L., Huard F., Gaudillere J.-P., and Saur E., 2008. Using remotely sensed solar radiation data for reference evapotranspiration estimation at a daily time step. Agricultural and Forest Meteorology, 148, 619-630.
- Bois B., Wald L., Pieri Ph., Van Leeuwen C., Commagnac L., Chery Ph., Christen M., Gaudillere J.-P., and Saur E., 2008. Estimating spatial and temporal variations in solar radiation within Bordeaux winegrowing region using remotely sensed data. Journal International des Sciences de la Vigne et du Vin - International Journal of Vine and Wine Sciences, vol. 42(1), 15-25.
- Drews, A., Beyer, H.G., Rindelhardt, U. (2008) : Quality of performance assessment of PV plants based on irradiation maps. Solar Energy (82), pp. 1067-1075.

- Espinar, B., Ramirz, L., Drews, A., Beyer H.G., Zarzalejo, L.F. Polo, J., Martin, L. (2009) : Analysis of different comparison parameters applied to solar radiation data from satellite and German radiometric stations, *Solar Energy* (83), pp. 118-125.
- Espinar, B., Ramirez, L., Polo, J., Zarzalejo, L.F., Wald, L. (2009): Analysis of the influences of uncertainties in input variables on the outcomes of the Heliosat-2 method, *Solar Energy*, Vol. 83, pp. 1731-1741.
- Article in eStrategies report, 2009: Shedding Light upon Solar Resource Knowledge, pp. 40-41.
- Hoyer-Klick et al., Getting Solar Energy to Work: Resource Assessment by Remote Sensing as a Base for Investment Decisions, *earthzine*, May 2009. Available at <http://www.earthzine.org/2009/05/05/getting-solar-energy-work-resource-assessment-remote-sensing-base-investment-decisions/>
- Lorenz E. , Hurka J., Heinemann D., and Beyer H.G.: Irradiance Forecasting for the Power Prediction of Grid-connected Photovoltaic Systems *IEEE Journal of Selected Topics in Applied Earth Observations and remote sensing*, Vol. 2, No. 1, March 2009

Document with IEA-PVPS:

- MAYER, Didier, WALD, Lucien, POISSANT, Yves, and PELLAND, Sophie. Performance Prediction of Grid-Connected Photovoltaic Systems Using Remote Sensing. Technical report, International Energy Agency - Photovoltaic Power Systems Programme (IEA - PVPS Task 2), report IEA-PVPS T2-07:2008, March 2008, 43 pages.

Poster

A poster of the project was produced and at the German PV-Conference in Staffelstein in Spring 2008. This is the major annual German PV event.

3.4 Training material

MESoR developed a concept and a manual for a seminar "Using solar resource knowledge" targeting industrial users. D4.4 provides detailed description of the organisation and structure of the seminar and on how MESoR partners plan to hold the seminar to further disseminate.

The training material consists of a set of ready-to-use presentations addressing:

- User's needs
- Review of solar resource products
- Results of the benchmarking of the solar resource products
- The MESoR Portal
- Example case studies
- Practical examples of the application of solar radiance data.

4 Description of the MESoR dissemination activities

4.1 Dissemination to research organisations and to industrial

& commercial organisations

The achievements of MESoR have been presented in workshops and seminars during various events, including major conferences on solar radiation. The target audiences include the scientific community at large -particularly solar energy researchers- representatives from relevant bodies and institutions active in the field of solar radiation, associations and multipliers.

MESoR has addressed industrial and business categories, from public and private sectors in the fields of: architecture/Building, PV, Solar radiations. The target groups are located in various European countries and overseas. Besides individual contacts, described in section 2.2, the consortium partners have organised and attended the following events

Exhibit 4.1-1: Dissemination activities through scientific meetings, conferences and workshops

| Activity | Date and Place (if applicable) | By | Countries addressed | Type of audience | Size of audience |
|----------------------------------------------------------------|--------------------------------|--------------------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------|------------------|
| Poster presentation at PVSEC | Sep. 08 | UniOL, Meteotest, (SUNY) | Europe | Solar energy researchers and users | Several thousand |
| Stakeholder Workshop on Application of Solar Resource Products | 16.10.08, Hamburg | Consortium partners, hosted by Sun Technics GmbH | Germany | Local engineers and planners active in the field of PV, Solar Heating & Cooling and Solar Thermal Power Plants | |
| Paper presentation at PV Conference in Staffelstein | April 08, Staffelstein | DLR, H2M, UniOL, Meteocontrol | Mainly Germany | PV researchers and users | Several hundreds |
| Speech and paper at Eurosun | October 2008 | Consortium partners | Mainly EU | Solar energy researchers and users | Several thousand |
| Online User Workshop for the evaluation of the prototype | March 2009 | Consortium partners | Mainly EU | Solar radiation data users. | 15 |
| User Workshop at the Intersolar 2009 | May 2009 | Consortium partners | Mainly EU | Solar energy industry and users | 50 |

Finally, major dissemination activities in MESoR have been carried out in order to organise two project events:

- the MESoR users' meeting (webinar) for testing the prototype, and
- the training seminar.

Target audience of the **MESoR webinar** was mainly the community of the MESoR stakeholders plus the MESoR partners' customer base at large. The availability of the prototype, its aims and features were made available to a large audience of potential users. It is estimated that information about the availability of the MESoR prototype

reached a target of about 150 potential users². Out of these about 30 actively contributed to the test of the prototype, both participating to the seminar and filling the questionnaire for the assessment of the prototype.

The organisation of the **training seminar at Intersolar**, in May 2009, required a relevant dissemination effort. Besides the already consolidated MESoR stakeholders' community, the dissemination activity about the seminar reached about 200 additional contacts, including about 40 multipliers (such as associations and magazines).

As a result of this activity, it can be estimated that several hundreds people from relevant organisations are presently aware of MESoR. A list of about 50 participants to the training seminar held at the Intersolar fair in Munich on May 27, 2009 can be considered as a measure of the success of the adopted approach.

Dissemination activities after project end

The MESoR consortium has also planned the following activities, taking place after the project conclusion:

- In July 2009, the e-strategies report (<http://bpl.uk.com/e-strategies/>) will publish the article: "Shedding light upon Solar Resource Knowledge", which provides an overview of the main achievements of MESOR and highlight the expected benefits for the users. The target of this article is expected to be thousands of readers across the R&D Community in Europe
- In September 2009, the consortium will hold talks and presentations at the SolarPaces Conference, addressing a World wide audience of thousand people.

4.2 Connecting with other initiatives in earth observation, geo data and solar resource management (MESoR WP3)

WP3 of MESoR has been dedicated to "*Connecting to other initiatives relevant in earth observation, geo data and solar resource management*". The detailed description of the activities carried out on WP3 is provided in D3 "Final report on linking to research communities and international initiatives". This documents only provides a brief overview of the main organisations with which connection *for dissemination purpose* has been established. The main activities are illustrated in the following table.

Exhibit 4.2-1: Dissemination and coordination activities towards other initiatives in the field of solar radiation

| Initiative | Area |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Task 36 of the IEA Solar Heating and Cooling (SHC) implementing agreement (IA), USA NASA "Power" initiative, Australian Bureau of Meteorology | Sharing expertise in benchmarking Sharing expertise in quality control of irradiance data Establishing jointly a series of reference data sets for assessments of satellite products Sharing metadata and tools for the purpose of standardisation Sharing knowledge on Web services and collaborative information systems Sharing expertise and proof-of-concept |

² Additional to the users that had been previously involved

| | |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | demonstrators Increasing the base of institutes sharing this expertise in the world Providing tutorials on Web services and portlets |
| Task 2 of the IEA Photovoltaic Power Systems (PVPS) IA | Exploiting the satellite products for the benefit of experienced users in PV and getting feedback |
| The Solar and Wind Energy Resource Assessment programme (SWERA) of UNEP | Sharing metadata and tools for the purpose of standardisation Sharing views on information systems dedicated to users |
| European Space Agency (ESA) | Exploitation of Earth observation (EO) data |
| Eumetsat | Exploitation of Earth observation (EO) data |
| World Meteorological Organisation (WMO) | Sharing views on information systems in the context of GEOSS |
| EC initiative INSPIRE ((Infrastructure for Spatial Information in Europe) | Exploiting INSPIRE documentation and tools for creating metadata. Feedback to INSPIRE on these tools, performances and benefits Creating awareness in INSPIRE team about efforts made in energy |
| Global Earth Observation Systems of Systems (GEOSS), | Contributing to the User Interface Committee and to the 10-Year Implementation Plan of the GEOSS Creating awareness about efforts made in energy in the Architecture and Data Committee (ADC) Setting up the Energy Scenario as a contribution to the Architecture Implementation Plan (Phase 2). Exploitation of tools and concepts proposed by the ADC. Implementation of the scenario in the MESoR portal. |
| EC initiative on Global Monitoring for Environment and Security (GMES) | Creating awareness about efforts made in energy Contributing to the GMES portal held in ESA Putting an unsuccessful proposal to the "Space" call in Nov. 2008 Meeting EC officials in GEOSS meetings or at JRC-Ispra |
| International Agency for Research on Cancer of the World Health Organisation (WHO) | Creating awareness on the availability of irradiation data. Provision of such data to the European project Eurosun. Specific user needs (UV, vertical standings, shadows...s) |

4.3 The MESoR reach

Since the very beginning, MESoR has established close links with the relevant stakeholders inside the consortium partner organisations **(1)**³ and from other organisations **(2)** connected with MESoR through relevant EU initiatives (MESoR WP3). These people have been constantly involved and consulted during the entire project life.

Starting in 2007, the consortium approached a group of users **(3)** –mainly customers of the consortium partners- in order to involve them in the MESoR community. These

³ See Table 3-3

organisations, and people inside the organisations- were selected for their proximity to the consortium partners, their expertise in the field of solar radiation, their geographical and thematic distribution.

Out of an initial list of 60 people that were approached and informed, about 30 actively contributed to the definition of the requirements to be used for the development of the MESoR prototype⁴. This group **(4)** constituted the initial kernel of the MESOR stakeholders' community, they were kept constantly informed about the developments of MESoR and were invited to participate to all major events and activities. Most of them also provided their inputs and feedback to MESoR (see Deliverable 4-2)

Since then, the MESoR secretariat run an on-going activity aimed at informing and eventually involving as many stakeholders as possible. This was done through a vast array of means and channels (see also Table 2.2-1 of this report). About 150 **(5)** new potential users were informed about the deployment of the MESoR prototype. They were also invited to test the prototype and to participate to the MESoR webinar Out of this group, about 30 people **(6)** participated to the webinar and/or filled the questionnaire.

In the last months of the project (March-May 2009), the MESoR consortium organised a final campaign of dissemination aimed at spreading information about the MESoR prototype and at inviting potential users to participate to the MESoR training seminar .

This campaign reached about 200 new contacts **(8)** from organisations all over Europe and overseas, and, finally, about 50 people **(9)** participated to the seminar.

Since August 2008, the web site of MESoR was accessed by more than 1 500 people **(7)**. This number includes also the groups mentioned above as, obviously, all of them accessed the project web site in order to get information and to test the prototype.

Exhibit 4-2: Overview of the MESOR stakeholders' community

| Stakeholders' groups involved in MESoR | Closer MESoR community | Broader MESoR community |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------|
| Users organizations inside the consortium (1) | 8 | |
| Organisations connected with MESoR WP3 (2) | 10 | |
| Users organisations informed about the MESoR development (3) , out of which | | 60 |
| □ users organisation contributing to users' requirements definition (4) | 30 | |
| Users organisations informed about the MESoR prototype, out of which (5) | | 150* |
| □ participated to the webinar and/or filled the questionnaire (6) | 30 | |
| Web visitors (7) | | 1 500** |
| Users organisation informed about the prototype and the training module of MESoR (via MESoR web site, e-mail and advertising on specialised web sties and online magazines) (8) | | 200*** |
| Users attending the MESoR training seminar (9) | 50 | |
| Other target groups | | |
| Multipliers informed about the prototype and the training module of MESoR (10) | | 40 |
| People aware of MESoR through conferences, scientific meetings, conferences and fairs (11) | | Thousands |

Legenda

⁴ More details on this group of stakeholders can be found in D4-1

- *Additional users from Satelight, SODA, Meteotest, DLR, CIEMAT
- ** Web visitors overlap with all the other groups
- ** *Additional to the previous

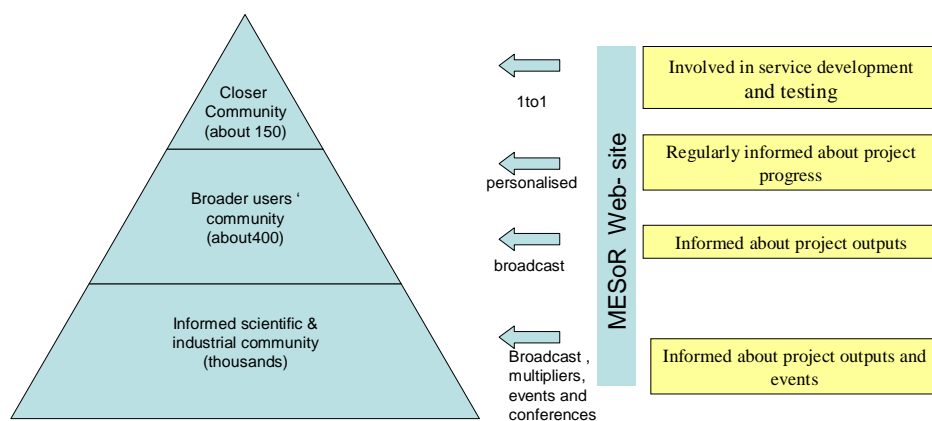
In addition, the MESoR consortium approached and informed multipliers **(10)** about the project in general and about the training seminar, with the aim to attract people to the training seminar to be held at Intersolar. These were associations active in PV and energy , web magazines and specialised websites. During the entire project life, thousands people received information about MESoR through scientific articles, speeches and proceedings **(11)**.

5 Conclusions about dissemination

Through a combination of activities, means and channels, MESoR has disseminated the results to a broad, qualified and representative audience and reached a major project milestone, i.e., the establishment of the MESoR stakeholders' community.

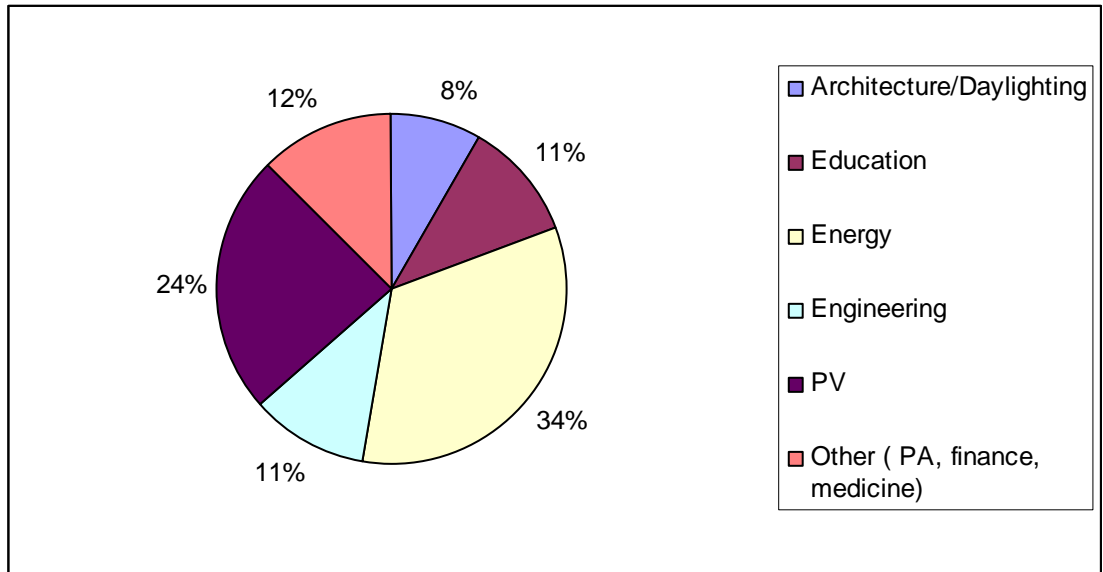
As a final result, MESoR can rely on a “closer” community of about 150 people from about 140 organisations that have interest in solar radiation knowledge, based in all European countries and overseas. These people actively participated to the various MESoR events (webinar, training seminar) and activities (surveys and consultation) and provided their input and feedback to the MESoR outputs and especially to the prototype. In addition to this “closer” community, MESoR disseminated and raised awareness in the scientific and industrial community at large, both directly and through multipliers. This audience can be estimated in a few thousands people.

MESoR dissemination: achievements and instruments



Most of stakeholders are active in the areas of energy and PV. Education and engineering are also well represented.

Exhibit 5-1: Breakdown of the MESOR stakeholders' community by sector of activity



As figure 4-2 shows, EU countries obviously represent the majority of users. Among the non-European users, there are a few users from the US and from African (Egypt, Nigeria) and Asian countries (Taiwan)

Exhibit 5-2: Breakdown of the MESOR stakeholders' community by country

