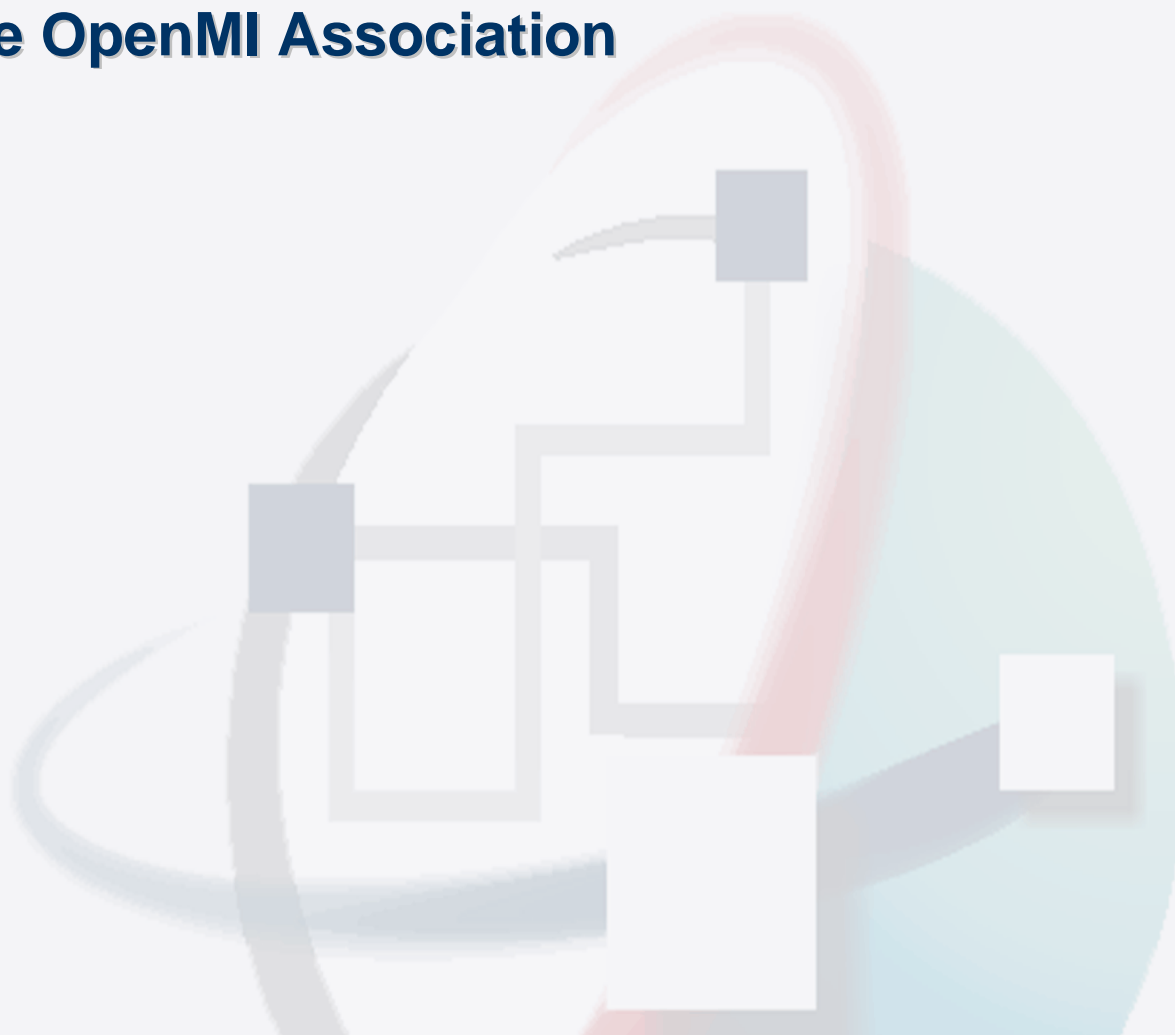




The OpenMI Association



The OpenMI Association

Annual Report 2007

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CHAIRMAN'S INTRODUCTION

Welcome to the first annual report of the OpenMI Association.

The creation of the OpenMI Association on the 6th June 2007 was an important moment in the life of the OpenMI¹. It was the climax and culmination of eighteen months of planning and fund raising and of four years research. But, it was also the start of a new and even more challenging phase; one in which the OpenMI has to be transformed from research prototype to operational standard, the modelling world informed of its existence and the Association made into a credible and sustainable support organisation for the OpenMI and its users. These therefore are the initial tasks of the founder members.

Making the transition from research to operational status is possibly the most difficult step in the life of any new idea. Therefore, very careful thought has been given to maximise the chance of success. In this report, the Association outlines its strategy for demonstrating how the OpenMI can contribute to making integrated modelling a useful and useable tool in the field of integrated management. Here, managers are being required to predict not just the immediate impact of their proposed policies and plans but also the wider consequences. The only practical way to do this today is by linking simulation models. At present, the OpenMI is the front runner among the options for model linking and, as importantly, is the only standard with substantial financial backing and commercial support.

I would like to end this introduction by acknowledging the role of the Directorates of Research and Environment in the European Commission, who have been extremely helpful throughout the research phase of the OpenMI and now, as we move towards operational status. I would similarly like to acknowledge the contribution of all the partners in the HarmonIT and OpenMI-Life projects; without their unflinching commitment, the OpenMI would not have come into being. Finally, I would like to thank those first 'real' users of the OpenMI, who have had the courage to take the plunge and use it commercially. This surely is the best proof that the OpenMI really has something to offer.

Roger Moore

Chairman of the OpenMI Association

¹ Readers who are not familiar with the OpenMI can find a short description in Appendix 2.

MAJOR HIGHLIGHTS

Foundation of the Association

From the moment of conception, it was clear that if the OpenMI was to achieve its aim of being among the global standards for model linking, then a support organisation would need to be in place. With the release of version 1, the OpenMI moved out of the research and into the operational world. Immediately, a new set of requirements emerged. It is to address these that the OpenMI Association has been formed. For the widespread adoption of the OpenMI by government agencies, commercial developers, and the modelling community, they require a support organisation that will:

- Maintain and develop the OpenMI
- Support users
- Provide access to software and documentation
- Set acceptable conditions of use
- Confirm compliance
- Give users influence over the future direction

It is these requirements that have shaped the initial structure of the Association. To meet these requirements, the strategy is to build on the 'open source' model. The intention is to gradually develop an OpenMI community. This has two functions: one to share knowledge and experience, and the other to contribute ideas for the development of the OpenMI. This community will be served by the OpenMI Association, which will provide the decision making forum, commission the development of new versions, actively promote the OpenMI and provide the support structure necessary.

Second OpenMI Workshop

At the end of November 2007, the Second OpenMI Workshop was held at Wallingford in the UK, hosted jointly by the Centre for Ecology and Hydrology and Wallingford Software Ltd. The workshop was very successful containing presentations from the Scheldt and Pinios use cases within the LIFE² project and a number of presentations where the OpenMI is being used commercially within Europe. People from a wide variety of organisation types, including some who have yet to use OpenMI, but who are keen to find out how to get started, attended the workshop. Although mainly from Western Europe, it was good to see interaction between those on the OpenMI-Life project, commercial users, and others from the competent authorities.

During the Workshop there were presentations regarding the role of the Association. Workshop attendees were invited to an open session of the Technical Committee and there was a session presenting the current OpenMI Association strategy. The feedback received was positive and many of the suggestions put forward have been positive and many suggestions put forward have now been incorporated into a revised strategy document, which will now be implemented. This strategy will be elaborated later in this report.

² For more information on the OpenMI-Life project, please see <http://www.openmi-life.org/>.

Release 1.4

Version 1.4.0.0 of the OpenMI Standard, configuration editor and SDK was released on schedule on 21st December 2007. This was the culmination of considerable work by the Technical Committee. More details can be found regarding the new release at <http://www.openmi.org/reloaded/about/using-openmi.php>.

Key features include:

- Java is now supported (although it is not yet possible to link .Net and Java complaint models).
- The OpenMI SDK (software development kit) is released as source code only (no binaries).
- The 1.4 release consists of three items:
 - The OpenMI standard – released under LGPL licence by the Association.
 - The SDK (coded in C#), released under a new BSD licence by the Technical Committee.
 - The configuration editor (coded in C#), released under a new BSD licence by the Technical Committee.
- There are two variants of OpenMI compliance. Components can be either OpenMI 1.4 .Net compliant or OpenMI 1.4 Java compliant.
- The namespace for the OpenMI .Net standard is changed from org.OpenMI.Standard to OpenMI.Standard. For the OpenMI Java standard the name space is org.OpenMI.Standard.

Strategy development

The objective of the Association is: ‘The promotion of the development, use, management and maintenance of the Open Modelling Interface (the OpenMI), a standard for the exchange of data between computer software in environmental management.’ An important element of the Association work will be continuing the dissemination activities after the LIFE project.

The vision of the OpenMI Association for the mid and long term future is one where the concept of integrated modelling is widely accepted by authorities as leading to better decisions, and where it is standard practice in environmental management. Preconditions for such a wide acceptance and adoption are seen as there being a general confidence that integrated modelling has benefits, and that there is a credible strategy that this can be achieved.

To achieve this vision, we need to achieve the following:

- 1. Create a culture in which integrated modelling is accepted.** This requires a top down approach in that we need to ensure the key decision makers (competent authorities) are aware of the added value of integrated modelling and of the role of the OpenMI as a standard for integrated modelling. It also requires a bottom up approach to ensure that the OpenMI technology becomes a standard topic in education, by encouraging universities to include OpenMI modules in their educational programmes, and by encouraging PhD projects to be based on integrated modelling and the OpenMI.
- 2. Support the OpenMI user community** through help forums, training etc.
- 3. Disseminate information**
- 4. Make the technology available** The OpenMI Association will ensure that there is always at least one Software Develop Kit (SDK) and Graphical User Interface (GUI) available under suitable open source licence conditions.

5. **Establish a compliancy service** By developing a procedure for establishing that models comply with a particular release and encouraging third parties to provide an auditing service.

REVIEW OF 2007

Case Studies

During 2007, it was exciting to see the OpenMI being used operationally for the first time. As part of the OpenMI LIFE project there are a number of use cases within the Scheldt and Pinios case studies. For further information regarding their current status, please see <http://www.openmi-life.org/events/secondWorkshop.php#presentations>.

There are also a number of projects where the OpenMI is being used, including the SEAMLESS project. SEAMLESS is a large scale agricultural project using the OpenMI to link various models. For further information please see <http://www.seamless-ip.org>.

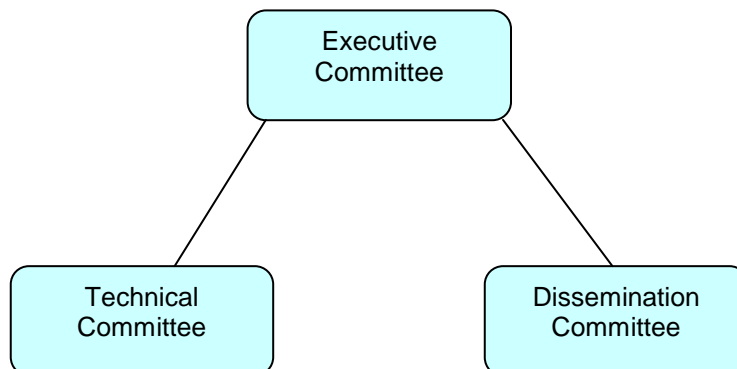
It has also been good to see the first successful use of OpenMI within the commercial environment. A number of these case studies were presented at the recent Second OpenMI Workshop held in November 2007. Case studies were presented by Peter Schade of Bundesanstalt für Wasserbau (BAW), Hamburg, Germany, Dr Margaretta Ayoung of Atkins, UK and Jamie Margetts of Clear Environmental Consultants. The feedback received was very positive regarding the benefits of using OpenMI to link models that had previously had to run separately.

There is also increasing interest and usage of the OpenMI outside Europe including the US and Chuou Sekkei Engineering, Japan. For more information, please see <http://www.openmi.org/reloaded/users/case-studies.php>.

Association Committees

The aim is that the OpenMI Association will be a small open group run by and for its members and the wider OpenMI user community. It has a large task in front of it. To make the best use of its resources, it has established three working groups as shown in Figure 1 below.

Figure 1 Organogram for the OpenMI Association



Please see appendix 1 for details of the current membership of these committees, and appendix 3 for the contact details for committee members.

Executive Committee

It is the role of the Executive Committee to take a strategic view, make decisions and seek resources. To enable it to achieve this aim, it delegates responsibility to two working groups, the Technical Committee, which deals with support and technical development, and the Dissemination Committee, whose role is to keep the world informed. During 2007, the Executive Committee formalised a Strategy for the Association, and drafted Standing Orders to govern day to day practice. Over the next year, it needs to ensure the Strategy is implemented, and that the Association working groups take over all key functions necessary for the long term maintenance and support of the OpenMI.

Dissemination Committee

The Dissemination Committee is responsible for the dissemination of information about the OpenMI and its promotion across the world. Transforming the OpenMI from research output to a sustainable operational product of international standing requires a combined approach that addresses the technological as well as the communication aspects. To achieve this, a dissemination plan has been developed, which aims to cover scientific, technical and popular publications, press articles, conferences and workshops, training promotion, feedback procedures and the design and maintenance of the Association's website at www.openmi.org. Recently, the focus of the Dissemination Committee has been on developing a new OpenMI Association website, the distribution of a quarterly newsletter, and the design of an OpenMI Association Poster.

Technical Committee

The Technical committee has the task of firstly building the capacity to support large scale commercial modelling and secondly to set up processes for the technical support, maintenance and co-ordination of OpenMI long term. In 2007, the Technical Committee released v1.4.0.0 of the OpenMI Standard, configuration editor and SDK, and established the SourceForge forum to register feature requests and obtain help from the OpenMI community. In 2008, the focus is on the new v2.0 release, more details of which are given later on in this report.

ONGOING WORK AND PLANS FOR 2008

OpenMI Version 2.0 Research and Development

Now that v1.4.0.0 has been released, the Technical Committee are to re-focus on version 2.0. A lot of work for v1.4.0.0 went into organising the future responsibilities and its implications in structuring and enabling both .Net and Java OpenMI compliance to be defined and to separate the OpenMI Standard from the SDK and Configuration Editor. This was to enable OpenMI SDKs to be released under the OpenMI Standard by groups independent of the OpenMI Association Executive Committee. Version 2.0 is currently in the process of being scoped out in detail by the Technical Committee, and more details will be published when they are available. The current target date for the beta version is June 2008.

Collaboration with the US

There has been significant interest from the US regarding the OpenMI, and Roger Moore was able to visit the US at the end of November 2007, and speak to a number of interested parties. It is hoped to plan two workshops with the US, one with the

National Science Foundation (NSF) and the other with the Environmental Protection Agency (EPA), with a view to setting up collaborative projects. The dates of 7th – 10th April 2008 have been agreed for the NSF workshop, which will be held at Wallingford, UK.

iEMSSs

This is being held from the 6-10th July 2008 in Barcelona in Spain. Roger Moore and Peter Gijssbers will be running an OpenMI session entitled ‘OpenMI applications and innovations’ and a workshop entitled ‘Taking the OpenMI forward’. For more information on iEMSSs, please see <http://www.iemss.org/iemss2008/>.

Scheldt Workshop

This will be held at the offices of VMM in Aalst, Belgium in last week of November 2008. Although part of the OpenMI LIFE project, all are welcome to attend, and it is hoped to obtain as broad an audience as possible, including key decision makers from the competent authorities.

Website

A new Association website was launched in early 2008. The new website is much more comprehensive than the old website and it is hoped that it will provide a good source of information regarding the OpenMI, including news/events, releases and downloads, OpenMI compliance, case studies and much more. Members are able to post items onto the website by completing the form on the website. To view the new website, please see <http://www.openmi.org/>.

Future Funding

Currently the development of the OpenMI and the Association is funded under the EU LIFE program until January 2010. However, the Association is already exploring options for future funding and collaborative projects with new organisations. Possible sources to be explored include the European Commission FP7 program, also the Marie Curie fund for PhD funding. These options will be explored in greater detail during 2008.

FINANCIAL REPORT

Except for the costs associated with the actual foundation of the legal entity under Dutch Law, no financial transactions have been performed in 2007. All costs of the Notary and the Chamber of Commerce have kindly been covered by an in-kind donation of the Dutch Ministry of Public Works, Transport and water Management.

The plan to open a bank account in 2007 proved to be more complicated than had originally been foreseen. European Commission regulations require the entire Executive Committee to be present in person, unless the Statutes allow such act to be conducted by a smaller group of Executive Committee members. Since the Statutes allow a legal act to be conducted by two out of the trilogy, Chairman, Treasurer and Secretary, this may be an alternative solution. However, these persons would still require written confirmation from all of the Executive Committee members, including legal proof of entitlement. This fact, combined with the legal termination of WL | Delft Hydraulics as an organisation, and its merger into Stichting Deltares have resulted in the decision to delay to opening an Association bank account until 2008.

APPENDICES

APPENDIX 1 COMMITTEE MEMBERSHIP

Management Committee

- Chairman: Roger Moore
- Deputy Chairman: David Fortune
- Secretary: Michiel Blind
- Treasurer: Peter Gijsbers

Executive Committee

- Chairman: Roger Moore
- Deputy Chairman: David Fortune
- Secretary: Michiel Blind
- Treasurer: Peter Gijsbers
- Members: Eleftheria Safiolea (on behalf of Prof. Maria Mimikou)
Jan B. Gregersen

Dissemination Committee

- Chairman: Eleftheria Safiolea (on behalf of Prof. Maria Mimikou)
- Members: Johan Van Assel
Michiel Blind

Technical Committee

- Chairman: Jan Gregersen
- Members: Adrian Harper
Peter Sinding
Stef Hummel
Peter Gijsbers

APPENDIX 2 WHAT IS THE OPENMI?

The OpenMI standard defines an interface that allows time-dependent models to exchange data at run-time. When the standard is implemented, existing models can be run simultaneously and share information at each time step. This is the key to making model integration feasible at the operational level. Model integration helps the understanding and prediction of process interactions and is an essential capability for the achievement of the integrated approach to environmental management including integrated water management called for in the Water Framework Directive.

The aim of the OpenMI is to provide a mechanism by which physical and socio-economic process models can be linked to each other, to other data sources and to a variety of tools at run-time, hence enabling process interactions to be better modelled.

Specific objectives are that the mechanism's design should:

- Be applicable to new and existing models
- Impose as few restrictions as possible on the modeller's freedom
- Be applicable to most, if not all, time-based simulation techniques
- Require the minimum of change to the program code of existing applications
- Keep the cost, skill and time required to migrate an existing model to a minimum so that these factors are not a deterrent to the OpenMI's use
- Be easy to use
- Not unreasonably degrade performance

The OpenMI or Open Modelling Interface was originally developed under the very successful FP5 HarmonIT project, to address the needs for integrated modelling as driven by the European Union Water Framework Directive. The further development of the OpenMI is now being funded under the European Commission LIFE program until January 2010. For more information on the OpenMI-Life project please see <http://www.openmi-life.org/>.

APPENDIX 3 ASSOCIATION CONTACT DETAILS

Role	Name And Company Address	Own Address	Contact Details	Management Committee	Executive Committee	Dissemination Committee	Technical Committee
Chairman	Mr. Roger V. Moore CEH Wallingford Wallingford Oxon OX10 8BB. UK		Tel: +44 (0)1491 692235 Mobile: +44 7834 184334 Fax: +44 (0)1491 692424 Email: rvm@ceh.ac.uk	✓	✓		
Secretary	Mr Michiel Blind Deltares P.O. Box 85467 3508 AL Utrecht The Netherlands	Hofstede 5 8212 WB Lelystad The Netherlands	Tel: +31 30 256 47 50 Fax: +31 30 256 48 55 Email: OpenMI.Association.Secretary@gmail.com	✓	✓	✓	
Chairman of Technical Committee	Dr. Jan Gregersen representing DHI Water and Environment Agern Allé 11 DK-2950 Hørsholm Denmark	Own company: LicTek, Tingstedet 8, DK-4070, Kirke Hyllinge, Denmark	Tel: +45 4640 3626 Fax: +45 4516 9292 Email: Gregersen@LicTek.dk		✓		✓
Treasurer	Dr. Peter Gijbsbers Deltares – P.O. Box 177 2600 MH Delft The Netherlands		Tel: +31 15 285 89 28 Fax: +31 15 285 85 82 Email: peter.gijsbers@deltares.nl	✓	✓		✓
Deputy Chairman	Mr. David Fortune Wallingford Software Ltd. Howbery Park Wallingford OX10 8BA. UK		Tel: +44 (0)1491 822297 Fax: +44 (0)1491 826392 Email: david.fortune@wallingfordsoftware.com		✓		
Chairman of Dissemination Committee	Dr. Ria Safiolea Oh behalf of Prof. Maria Mimikou NTUA Iroon Polytechniou 5 157 80 Athens, Greece		Tel: +30 210 772 2885 Fax: +30 210 772 2879 Email: safiolea@chi.civil.ntua.gr		✓	✓	
Member of Dissemination Committee	Mr. Johan Van Assel AquaFin Dijkstraat 8 2630 Aartselaar Belgium		Tel: +32 3 450 4082 Fax: +32 3 450 4444 Email: johan.vanassel@aquafin.be			✓	
Deputy for Roger Moore	Miss Hazel Murphy CEH Wallingford Wallingford Oxon OX10 8BB. UK		Tel: +44 (0)1491 692205 Fax: +44 (0)1491 692424 Email: harp@ceh.ac.uk				

APPENDIX 4 OPENMI COMPLIANT MODELS

A list of OpenMI compliant software can be found at:

<http://www.openmi.org/reloaded/users/compliant-software.php>.

APPENDIX 5 ASSOCIATION STATISTICS

Publications and Posters

Details of all OpenMI publications and posters can be found at:

<http://www.openmi.org/reloaded/about/publications-documents.php>.

Members

In November 2007 the membership application form was finalized.

As to date eight members are registered.

APPENDIX 6 FINANCIAL STATEMENT OF ACCOUNTS

This information is available for members only.