PROJECT FINAL REPORT

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MarineTT Project Executive Summary

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Executive Summary

The MarineTT project, an FP7 Support Action (February 2010- July 2012) aimed to unlock Marine Research Knowledge using innovative approaches to identify and collect Knowledge Outputs from EU funded research and subsequently carry out an analysis for impact potential. Where high potential Knowledge Outputs were identified, MarineTT piloted a knowledge transfer methodology consisting of three key steps: a) due diligence, b) transfer and c) impact measurement. The focus of the knowledge transfer was not necessarily to generate a financial return either to individuals, research groups or institutions, but to deliver the widest range of benefits to society from marine research being conducted at European level.

Major successes of the MarineTT Project include:

- Development of a new approach to identifying relevant knowledge from research by focusing on "Knowledge Outputs"
- Conceptualisation and successful piloting of a new methodology for collecting knowledge from research
- Identification of all marine research projects funded in FP6 & FP7
- Capture of 593 knowledge outputs from 148 marine research projects
- Implementation of a range of analysis techniques to validate and assess the potential of knowledge outputs generated in research projects
- Development of an online portal, the Marine Knowledge Gate 1.0 (www.marinett.eu) - a living web resource and repository for marine research knowledge
- Identification and mapping of 24 major research project clusters
- Customising information and knowledge, rendering it ready for uptake by different target end-users
- Conducting nine knowledge transfer pilot case studies
- Development of a system map showing the inter-relationships between different barriers that hinder the exploitation of innovation generated by research
- Sharing knowledge and collaboration with other knowledge transfer initiatives to increase the uptake of knowledge

In addition, MarineTT, having gained a number of insights into how knowledge from EC-funded projects is managed, recorded several barriers preventing stakeholder access and uptake of relevant knowledge and innovation from research. These barriers were discussed at two dedicated MarineTT workshops:

- From Marine RTD to Measurable Value Creation - An Open Stakeholder Workshop to Explore the Challenges and Solutions to Effective Knowledge Capture and Transfer (23 May, 2012)
- How do we get more Innovation from Research? - Bringing Together and Learning from Pioneering Initiatives and Novel Approaches (19 July, 2012).

Participants were drawn from other research sectors that also dealt with different aspects of managing and transferring research knowledge. The MarineTT workshops brought these participants

together so that their accumulated experiences could be explored. It was recognised that a lack of understanding on what knowledge transfer is, what it involves and how best to execute it, are the main barriers to transfer, which in turn, affects innovation. In response to this need for a coherent strategy for effective Knowledge Transfer, MarineTT intends to develop a non-contractual deliverable:

- Best Practice Guidelines for Knowledge Management and Transfer

The knowledge management approach developed by the MarineTT project is having a positive impact within the knowledge management and transfer arena and continues to draw attention from within the research community. The legacy of MarineTT includes the deliverables and methodologies developed by the partnership and the insights it has acquired. It is anticipated that MarineTT will be used to inform and direct future strategies that seek to ensure measurable value creation from European funded research is achieved.

Summary of Project Context and Objectives

Context

The European Commission has provided significant investment in marine research and development in the last twelve years across FP6 and FP7. The latest figures estimate that more than €1.98 billion was allocated to almost 985 marine projects (€863 million for 471 FP6 projects and €1,123 million for 514 FP7 projects; Source: EurOcean). A strong scientific knowledge base has traditionally been one of Europe's key assets and has enabled Europe to achieve world-class status in several research fields. Generating new knowledge and turning it into new products and services is crucial to maintaining and enhancing Europe's competitiveness. Knowledge is a major source of competitive advantage in business and, if skilfully exploited, research outcomes can help drive Europe's Knowledge Economy and boost innovation. At present, Europe seems to be better at producing high-level knowledge than converting it into socio-economic benefits (EUR 22836 - Improving knowledge transfer between research institutions and industry across Europe: embracing open innovation)[2].

Knowledge transfer involves capturing knowledge, skills and competences from those who generate and possess them, and transmitting this collective wealth of knowledge to those who will derive benefit from it. Effective knowledge transfer constitutes a key mechanism of the European Research Area and can ensure that publicly-funded research exerts a powerful impact on EU competitiveness[3]. The EC insists on improved systems and methodologies for knowledge generation, capture and transfer within Framework Programme 7 (FP7) and its upcoming successor programme – HORIZON 2020.

The Europe 2020 Flagship Initiative - Innovation Union (COM (2010) 546 final) states the need for the EU and its Member States to adopt a much more strategic approach to innovation and has identified the importance of improving knowledge transfer between public research institutions and third parties, including industry and civil society organisations. According to the Innovation Union document, "We need to get more innovation out of our research. Cooperation between the worlds of science and the world of business must be enhanced, obstacles removed and incentives put in place."

[2] http://ec.europa.eu/invest-in-research/pdf/download_en/knowledge_transfe_07.pdf)
[3] EUR 22836 - Improving knowledge transfer between research institutions and industry across Europe: embracing open innovation (http://ec.europa.eu/invest-in-research/pdf/download_en/knowledge_transfe_07.pdf)

The ultimate goal of knowledge transfer is the exploitation of innovatory research results in order to impact in a beneficial way upon its chosen field or environment . Knowledge transfer however covers a much broader range of activities than commercialisation *per se* and these activities must be put in place and utilised to deliver benefit and impact. Although it can be argued that all excellent research does have impact sooner or later, in certain cases knowledge transfer is unlikely to generate income. Nevertheless, knowledge transfer constitutes a vital part of the processes which deliver benefit through other less tangible means, for example, influence on policy or development of education, scientific advancement, public good, public understanding of science, and much more besides[4].

The MarineTT project was developed to respond to the lack of a coherent strategy of knowledge management and transfer, with a view to achieving optimal exploitation and enhancing the impact of EC-funded marine research and to deliver the widest range of benefits to society from the marine research being conducted at European level.

MarineTT Objectives

The aim of knowledge management, as stated above, is to capture, organise and make knowledge widely available. Knowledge can be explicit (i.e. in recorded form - patented or published) or tacit (i.e., not formally documented or verbalised, generally derived from experiences of an individual) and may not be easily accessible for transfer. **The** MarineTT project aimed to unlock some of this knowledge potential using an innovative approach to address the issue of information and data rescue, widely recognised as one of the barriers to knowledge transfer.

One of the central aims of MarineTT was to improve "access to EU research results for industry, multipliers, the civil society and policy-makers"[5]. MarineTT has developed a Knowledge Management and Transfer Methodology that can be used to detect and compile usable knowledge from past and in-progress EC research projects and transform it in order to increase available opportunities for its use and exploitation. Access to knowledge, analysis of the knowledge and transfer of the knowledge to the correct end-user will undoubtedly make a major contribution to value creation and innovation.

The aims of MarineTT can be summarised as follows:

- To obtain a more comprehensive understanding of the knowledge generated from marine projects by reviewing the research outcomes with a view to identifying what knowledge can be transferred for exploitation

- To unlock the potential of knowledge by developing and trialling an innovative analysis mechanism to identify research activities that have the most potential to generate benefit for society

- To connect and transfer knowledge to key stakeholders, customising communication methods to end-user needs and making best use of cost-effective and innovative channels for communication.

MarineTT devoted considerable efforts to strengthen knowledge identification, monitoring, and analysis systems and capacities so that research outcomes, in the form of exploitable results, could be effectively transferred to end-users. A number of other objectives were achieved using this strategy, including:

- Improving the quality of the existing EurOcean internet portal through the addition of collected knowledge outputs resulting in the *Marine Knowledge Gate 1.0*

[4] http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/07/127
[5] MarineTT Description of Work

- Validation of the MarineTT Knowledge Management methodology through impartial assessment of knowledge potential and extensive consultation with stakeholders, i.e. RTD performers and potential end-users
- Clustering of knowledge from related fields
- Analysis of the potential impact of transferring knowledge
- Measuring the impact of transferred knowledge.

In order to achieve its stated objectives, MarineTT was organised into six work packages:

Work Package 1 – Project Management and Internal Communication

WP1 dealt with planning, organising and managing resources to bring about the successful completion of project goals and objectives. WP1 supported the other work packages for the duration of the project. It aimed to facilitate communication (e.g., written, verbal, interpersonal and virtual) within the consortium to ensure that concerns were addressed, to establish formal roles and responsibilities and to provide clarity.

Specific objectives of WP1 were to:

- Plan, organise and manage resources to bring about the successful completion of project goals and objectives
- Facilitate all communication (e.g. written, verbal, interpersonal, virtual) within the consortium to ensure that concerns are addressed, to establish formal roles and responsibilities, and to provide clarity.

Work Package 2 – Knowledge Collection

WP2 was responsible for upgrading the existing EurOcean infobase of European marine research-funded projects (www.mapinfobase.eurocean.org/) and increasing the content, both in terms of the number of projects profiled and to provide more relevant information per project. The profiles were updated to include new fields, such as stated aims and objectives vs. actual outputs, research performers, research outcomes, research methodologies, products, and other relevant information.

The specific objectives of WP2 were to:

- Collect and manage information from one or more sources
- Make that information accessible to end-users
- Involve those who have a stake in, or a right to the information
- Organise and control the structure, processing and delivery of information

Work Package 3 – Knowledge Analysis

MarineTT introduced an innovative model of knowledge evaluation to select the most valuable knowledge for pilot case studies. The analysis was carried out both internally by project partners and externally using experts with different perspectives from industry, policy and research.

The specific objectives of WP3 were to:

- Refine and trial a knowledge analysis matrix
- Measure knowledge in terms of a cost-benefit analysis

Work Package 4 – Consultation with RTD Performers and Stakeholders

Activities in WP4 related to planning consultation workshops across areas of marine environment research. Each workshop was a one-day event and RTD coordinators, policy-makers and other stakeholders were invited to participate in order to develop a recommended plan of action covering: 1) future RTD requirements; 2) current knowledge transfer requirements and 3) other challenges to the sector such as challenges in governance, business structure, coordination etc.

The specific objectives of WP4 were to:

- Gain a better appreciation for the knowledge already generated from European marine research projects funded under the 6th Framework and underway in FP7
- Identify needs in terms of research, knowledge transfer and policy
- Confirm and/or refine the knowledge analysis

Work Package 5 – Knowledge Transfer

WP5 addressed the final stage of the knowledge management process, i.e. piloting methods to transfer knowledge to target end-users for uptake and exploitation. Knowledge was customised to target end-users and effectively transferred using a variety of standard and innovative mechanisms. The knowledge collection undertaken during WP2 and the knowledge analysis performed in WP3 informed the volume of transfer to be carried out. Completion of these WPs allowed the partnership to determine how much knowledge needed to be transferred and to whom.

The specific objectives of WP5 were to:

- Transfer marine research outputs (e.g. products, methodologies, findings) to end-users who can make best use of those results
- Customise information and knowledge so that it is ready for uptake by different target end-users
- Develop and make use of the latest tools, resources and communication channels resulting in cost effectiveness and maximum impact
- Measure the impact of the uptake of knowledge

WP6 – Project promotion

WP6 was another horizontal WP that supported the other WPs, raising public and sectorial awareness of the MarineTT project, its objectives, and results. It also aimed to promote the MarineTT project activities and its major events. The final aim was to disseminate the products developed during the MarineTT project to make known the potential transferable knowledge identified in the FP6 and FP7 marine science and technology-funded projects analysed through MarineTT activities. Various media were used to disseminate relevant and appropriate information from the project to ensure that all stakeholders were updated with pertinent news about the projects.

The specific objectives of WP6 were to:

- Disseminate information about the project – i.e. its objectives, activities, partners, major events

Description of Main S&T Results/Foreground

Work Package 1 – Project Management and Internal Communication

All deliverables in WP1 were successfully developed and submitted. MarineTT was a small partnership with only two partners which allowed for the efficient implementation of the project and good internal communication. In the end, six formal partnership meetings took place in addition to several more informal meetings based around attendance at common events.

Work Package 2 - Information Management

All deliverables in WP2 were successfully developed and submitted. WP2 was devoted to the collection of knowledge and the development of an upgraded infobase to host the additional knowledge. WP2 included the design and implementation of the MarineTT online survey, the collection of the survey responses and all associated documentation. The success of MarineTT hinged on this collection process and as such, necessary additional time was allocated to the design of the survey. Thereafter, four months were devoted to the implementation and collection of the survey responses and the additional documentation which was derived from the responses. Nonetheless, significantly more time was needed to collect the various types of knowledge that had been generated from the research projects. Major issues which were encountered included:

- Difficulties in establishing the contact details for project coordinators - especially evident for FP6 projects
- Low initial responses to the survey which required EurOcean to adopt time-consuming procedures such as chasing project coordinators by email and even making phone calls requesting their assistance in completing the survey
- Poor-quality survey responses, which also entailed follow-up with the coordinators to ask them to repeat the survey or to carry out a phone interview[6]

These poor-quality survey responses held up the overall project process, as significant project time and manpower had to be devoted to sourcing additional information from project sources (final reports, websites, publications) in order to be able to fill the gaps in survey responses. However, given the innovatory nature of the aims of the MarineTT project, it was felt to be not only desirable but absolutely necessary to explain in concrete terms what was required from the coordinators.

MarineTT Infobase Development and Implementation (WP2)

A significant milestone in the MarineTT project was the development of the Marine Knowledge Gate 1.0[7], an online infrastructure to collate, manage and deliver information from EC-funded marine research projects and the Knowledge Outputs (KOs) generated. Developed to provide easy access to the information gathered via WP2 and WP3, the Marine Knowledge Gate 1.0 was launched in March 2012. The Marine Knowledge Gate 1.0 is an upgrade of the EurOcean European Marine Research Funded Projects' Infobase (EurOcean_MaP Infobase)[8], which had already provided a wealth of information on marine science and technology projects

[6] Refer to Deliverable 2.4 Knowledge Collection methodology for additional information on the issues encountered and lessons learned from the survey process.
[7] Marine Knowledge Gate 1.0: http://www.kg.eurocean.org/
[8] EurOcean_MaP Infobase – available online on EurOcean Portal since March 2007, provided an inventory of 772 marine science and technology projects funded through seven Funding Programmes (COST, EUROCORES, EUREKA, LIFE, INTERREG III, SMAP & FP6).

funded through several Funding Programmes, including FP6. The system was upgraded in order to include the information gathered through MarineTT on the knowledge generated by FP6 and FP7 marine projects.

The Marine Knowledge Gate 1.0 can be seen as a library of EU-funded marine research projects with the addition of the KOs collected in MarineTT as well as added functionality. The Marine Knowledge Gate has the potential to become the most relevant repository of Marine Research knowledge as it will be managed and updated regularly by EurOcean, which has an ongoing mandate from its members to maintain this resource. In addition, to ensure its future sustainability, the Marine Knowledge Gate 1.0 has a user interface whereby project coordinators can add and update projects and KO information.

The Marine Knowledge Gate 1.0 (final version of the MarineTT Infobase) was developed once the new fields and search options for the gathered information on 'Knowledge Outputs' were determined, based on the findings of the analysis of survey responses and following the validation by experts from different marine sectors. The Marine Knowledge Gate 1.0 includes two interlinked components to facilitate navigation: a 'Projects' component; and a new 'KOs' component, with the information on KOs provided by project coordinators and further completed during the analysis and consultation phase of the MarineTT project.

This innovative online tool also includes a tailored search functionality, which directs users to the most relevant information they might need, consequently improving the access to EU research results for industry, multipliers, policy-makers and the civil society. The Marine Knowledge Gate 1.0 makes results of EU-funded Marine research accessible to interested and relevant stakeholders. The search functionality allows the user to navigate and consult the existing KO information by: KO types (case studies, prototypes, RTD protocols, etc.); potential end-user groups (scientific community, policy-makers, industry, environmental managers, educators and others); sectors and sub-sectors which could potentially benefit; KO status (whether it is completed or in progress); and KO availability (whether the knowledge is publicly available or not). The Short Title and Knowledge Description fields provide a concise summary of the KO that, together with the information on the related project, provide sufficient information to allow users of the service to determine if the knowledge is relevant to them. The Marine Knowledge Gate 1.0 also provides contact details for the project coordinator and links to the project website so that interested stakeholders can access the source of the knowledge should they require further information.

The search functionality is also based on project-related relevant indicators such as Funding Programmes and related areas (FP6 Activity Areas, FP7 Themes, Interreg Regional Areas) and FP6 & FP7 Funding Instruments. Other search fields include EU allocated funding, countries, institutions (from FP6 and FP7 projects) and project duration (year of start and end).

The available search fields for projects and KOs allows users of the service to extract quantitative and qualitative information for further analysis, thereby offering powerful analytical potential for different types of stakeholders.

The Marine Knowledge Gate 1.0 also provides interactive graphs on the homepage. These graphs display the information available at the time of accessing the infobase in terms of number of 'Projects' and 'Knowledge Outputs' by Programme, Country and Funding, hence providing users with a rapid analytical overview of the infobase content by using the most relevant indicators. The homepage interactive graphs, besides visually displaying the content of the infobase, also provide pre-determined search options that guide users through the information available in the infobase.

The Marine Knowledge Gate 1.0 has been continuously updated with FP7 marine projects during the lifetime of MarineTT, with the last update on the 26th June 2012. The Marine Knowledge Gate 1.0 will be in place after the end of the MarineTT project and different Funding Programmes will be further updated on a regular basis and also at particular times when relevant events take place (i.e. specific European calls).

Potential improvements based on future requirements or on users' feedback may take place if required (e.g. including national level projects). Other projects are already starting to use the Marine Knowledge Gate with KOs generated by the MG4U (FP7 Support Action) already scheduled to be added to the Knowledge Gate before the end of 2012.

Work Package3 –Knowledge Analysis

All deliverables in WP3 were successfully developed and submitted.

The MarineTT survey gathered information on 593 Knowledge Outputs from 148 FP6 & 7 marine projects (432 KOs from 102 FP6 marine projects and 161 KOs from 46 FP7 marine projects). In order to facilitate the analysis of the KOs, MarineTT developed an analysis matrix. This matrix was known as the "Knowledge Outputs Table" (KOT). The KOT provided a standard format for the presentation of the KOs from all projects and formed the basis of the knowledge analysis phase of the MarineTT methodology. The KOT was amended and evolved further during the Knowledge Analysis process and was constantly updated and improved.

The main fields in the final KOT table included: Project Acronym; Framework; End Year; Website; Knowledge ID number; Short title; Knowledge Description; Knowledge Type; Marine Sector to potentially benefit; End-User and Application; IP/Confidentiality Issues; Details of IP/Confidentiality Issues; In Public Domain; Output Complete; Output Completion Details; and Knowledge Transfer Information. All of the information required to analyse each KO in the project was recorded in the Knowledge Outputs Tables.

Due to the variation in the quality of information provided in the completed surveys, MarineTT devoted significant additional time to additional post-survey knowledge collection. The documentation received for each of the projects was studied in detail and in some cases online searches were conducted to find additional project-related information to aid the completion of the KOTs. Additional resources that were typically reviewed included the completed survey, the project website and any other documentation which was collected: final report, activity reports, publications, project brochures etc. For certain projects, the post-survey knowledge collection revealed a number of previously unrecorded KOs and also provided more details on the recorded KOs. Based on this review, the KOT was amended per project. Project coordinators were asked to validate the amended KOTs. These amended KOTs were then used for the internal and external validation process. This additional (but essential) work carried out on the KOTs represented a significant investment of person months in the project.

Once the KOT tables had been prepared by a project officer, the full MarineTT partnership carried out an internal validation of each of the thematic combined knowledge output tables (Aquaculture, Environmental Monitoring, Ocean Energy, Climate Change, Fisheries and Water Resource Management) encompassing all 593 KOs gathered. The purpose of the internal validation was to ensure that the information contained in the tables was clear and concise, to reach agreement on the end-user and application and to assign a preliminary ranking for potential benefit of transfer for each of the outputs.

Each potential benefit of transfer was assigned a preliminary score of Low, Medium or High. An internal validation session was held for each of the marine themes. Questions to be posed to the coordinator were also noted and the MarineTT team followed up with the project coordinators to seek clarification prior to the external validation by the expert groups. Dealing with over 148 projects, the follow-up represented yet another significant time investment.

External Validation of the Knowledge Outputs

The final step in the knowledge analysis process was the external validation of the combined KOTs for each of the themes by a group of experts. The experts were provided with the combined thematic tables which had been internally validated by the MarineTT team. Experts contacted the MarineTT team to request any additional information, e.g. completed surveys and additional project documentation needed to complete their review. The expert groups consisted of thematic experts representing research, policy and industry. The experts received the thematic KOTs electronically and were asked to complete a desk study of the outputs in advance of a group session with the other experts. The purpose of the external validation was to validate the results of the internal validation session and to highlight the highest potential outputs. The expert validation process ran from May to August 2012.

Five expert review and validation thematic panel meetings were held – one each for Aquaculture, Climate Change, Ocean Energy and Fisheries. KOs from Water Resource Management and Environmental Monitoring were reviewed by the same panel of experts. Of the 148 projects (593 KOs) reviewed by experts, 55 projects (37.2%) were considered to have KOs with high potential to impact end-users. Deliverable 3.3, Recommendations for Consideration, provides details of the main findings and lessons learnt during the expert review of KOs.

During the course of the expert evaluation, projects of a related nature or which would be of interest to a particular research sector were clustered. A total of 24 knowledge clusters were identified and have been mapped on the MarineTT website. Knowledge clusters were deemed to be a useful resource that could map research activity in specific sub-domain areas and link directly into the projects and KOs in the Knowledge Gate. Deliverable 5.1, Sorting Knowledge, provides more details on the expert Knowledge Clustering.

Work Package 4 – Consultation with RTD Performers and Stakeholders

All deliverables from WP4 were successfully developed and submitted.

A change in the focus of MarineTT during the execution of WP5, Knowledge Transfer, in turn affected the implementation of WP4, Consultation with RTD Performers and Stakeholders. WP4 was initially envisaged as the natural progression of WP3, where high-potential KOs from the analysis would be presented to stakeholders for input and validation as well as direct transfer. However, it was decided by the partnership and agreed by the Advisory Board that the workshops were not the correct tool for such objectives and the validation would be more appropriately carried out by the External Experts in WP3. The outputs of WP3 were therefore moved straight to WP5.

Nevertheless, WP4 still had an important function to fulfil. During the course of implementing WP3 and WP5, it became apparent that even though MarineTT had developed best practice knowledge transfer activities, it had encountered many other barriers across the research lifecycle which were preventing uptake of relevant knowledge and innovation from research. Inherent differences between the research community and industry, policy-makers and other end-users of the knowledge, such as different languages, different priorities, different agendas and different time scales, resulted in barriers that prevent effective knowledge transfer and innovation.

Therefore, WP4 drew on the overall MarineTT experience and the outcomes from the activities of WP2 and WP3, which culminated in two stakeholder consultations in which the insights to Knowledge Transfer gained and barriers encountered though the implementation of the MarineTT Methodology were evaluated, validated and discussed at two dedicated MarineTT workshops:

- From Marine RTD to Measurable Value Creation - An Open Stakeholder Workshop to Explore the Challenges and Solutions to Effective Knowledge Capture and Transfer (23rd May, 2012)

- How do we get more Innovation from Research? Bringing together and learning from pioneering initiatives and novel approaches (19th July, 2012)

The workshops provided an extremely valuable consultation process that could be seen to authenticate both the MarineTT knowledge management and transfer methodology and its tools. By shifting the focus of the project from knowledge transfer of high-potential KOs to an inter-sectorial review of the current barriers to effective knowledge transfer and management, MarineTT has gathered insights and developed tools that can inform the continued evolution of a rounded knowledge transfer strategy for researchers in Europe across all domains.

Several other initiatives running in parallel to MarineTT also dealt with different aspects of managing and transferring research knowledge. The MarineTT workshops brought these initiatives together and with the input of policy-makers and knowledge transfer professionals the accumulated experiences were explored and solutions to various barriers proposed and evaluated. It was recognised that a lack of understanding on what knowledge transfer is, what it involves and how best to execute it, are the main barriers to transfer, which in turn, affects innovation. The workshops provided several important deliverables including:

- Workshop proceedings

- Workshop reports with discussion of the issues affecting knowledge transfer, and conclusions and recommendations for improvement

In response to the need for a coherent strategy for effective knowledge transfer, MarineTT has developed Best Practice Guidelines for Knowledge Management and Transfer that can be used to inform researchers how to communicate results for impact. The guidelines will be useful for multiple stakeholders across multiple sectors. The Guidelines are not a deliverable of the project and are not ready for submission with the final report but the partnership has committed to producing the product post-project.

Work Package 5 – Knowledge Transfer

All deliverables from WP5 were successfully developed and submitted.

The work completed in WP2, Knowledge Collection, and WP3, Knowledge Analysis, culminated in the implementation of WP5, Knowledge Transfer. However, during WP3, specifically during the expert validation and review of knowledge, it became apparent that another review of the knowledge compilation was needed to establish the relevance of what had been collected. This additional review step, which was entitled Due Diligence, was carried out on all of the 47 projects that were considered to have knowledge of high potential to impact end-users (originally 55 projects were identified, but experts considered that high-potential outputs from eight projects should be transferred through other knowledge transfer initiatives).

The Due Diligence review phase aimed to identify any barriers to transfer and to establish a working relationship with the project coordinator to optimise knowledge transfer efforts. This phase had six specific steps:

1. To verify all final "**Knowledge Output**" details

2. To determine **willingness** of KO owner(s) to help in knowledge transfer

3. To clarify **Intellectual Property** rights (IP)

4. To confirm **End User(s)**, their motivation and capacity for uptake

5. To identify suitable **Transfer Methodology**: technical level, medium, channel

6. To decide whether knowledge can be **clustered** or is stand-alone for transfer

Considerable effort and time was needed to complete Due Diligence for all 47 projects with high-potential KOs to impact end-users. Once Due Diligence was completed, a decision to proceed to Case Study was taken by the MarineTT team.

Due Diligence identified a number of barriers to transfer that significantly affected the transfer potential of the knowledge and in consequence the development of individual tailor-made transfer plans per KO.

Due Diligence recorded the following barriers including:

- Lack of willingness of coordinator to engage with MarineTT process

- KOs originally identified during the survey were obsolete or outdated, i.e. later projects had further developed the knowledge

- Coordinators considered that the knowledge transfer undertaken during the lifetime of the project had identified the appropriate end-user and was sufficient

- KOs were not fully developed

- Intellectual property rights precluded the transfer of the knowledge

Of the 47 projects with knowledge with high potential to impact end-users, nine passed the Due Diligence phase and were forwarded to the second step of the knowledge transfer process, individual tailor-made knowledge transfer plans and actual transfer. As a result of the time devoted to conduct the Due Diligence phase, there was not enough remaining project time to carry out further tailor-made transfers. Refer to Deliverable 4.6, Action Items for Transfer, for full disclosure of the Due Diligence process, the protracted nature of the process and also the issues encountered.

Deliverable 5.3, Knowledge Delivery Plans, details the effort dedicated to the development of the individual Case Studies for Transfer and provides an indication of the level of resources needed to carry out effective Knowledge Transfer. Despite the relatively low number of tailor-made transfer undertaken during WP5, the intention was to pilot a methodology and trial the methodology using case studies. Significant learning was obtained during the Due Diligence phase where many of the barriers to transfer previously described were encountered.

In addition, the barriers encountered during WP5 and Due Diligence provided the impetus for the organisation of the dedicated MarineTT workshops on barriers to knowledge transfer and innovation from research. Both of these workshops provided a forum for the open exchange of experiences and have contributed to the state-of-the-art for knowledge transfer. The Best Practice Guidelines for Knowledge Management and Transfer were informed by discussion at these workshops.

The implementation of WP5 has informed Deliverable 5.5, Guidelines on the Sustainable Management of Marine Resources. Insights to knowledge transfer and innovation gained through MarineTT can ensure that knowledge is managed more sustainably and not lost to future users.

Work Package 6 – Project Promotion

All deliverables in WP6 were successfully developed and submitted.

Deliverable 6.4, the MarineTT project promotion and dissemination plan, describes the promotion and dissemination activities of the MarineTT project, including both (a) the promotion of the MarineTT project and (b) the dissemination of at least part of the potential transferable knowledge identified in the FP6 and FP7 marine science and technology-funded projects analysed through MarineTT activities.

Press releases in several newsletters, such as Cordis Wire, AquaTT Training News, EurOcean and the Aqua-tnet newsletter informed the public of the project activities on a regular basis. A dedicated website (www.marinett.eu) was created, where information about the project could be downloaded. In addition to the dedicated project website, another website hosts the Marine Knowledge Gate 1.0 - www.kg.eurocean.eu and is the repository of the knowledge gathered and analysed during the Knowledge Collection (WP2) and the Knowledge Analysis (WP3) work packages. Both websites will continue to exist after the project has ended and will contribute to the sustainability of the project results, as interested parties will continue to be able to access information on and results from the project.

The 'Media Centre' section of the website was regularly updated and provided links to MarineTT press articles and e-news. The homepage 'News' section was also regularly updated and announced major MarineTT activities such as the launch of the online survey, the announcement of the two stakeholder workshops and the publication of the workshop reports.

In addition, MarineTT established a *LinkedIn* Group, MarineTT - Marine Knowledge Transfer. There are currently 215 members of the group and it has become a valuable resource in communicating issues of knowledge transfer to a wider audience.

The MarineTT project methodology, outcomes, approach and findings have been presented at numerous European conferences and meetings. Noteworthy opportunities where the MarineTT project was invited to present the outcomes of the project include:

- Regional Advisory Councils (RACs) Steering Committee meeting - 21st February 2012
- European Science Foundation – Marine Board 3rd Marine Board Forum – 18th April 2012
- Aqua 2012 - World Aquaculture Society, 1-5 September 2012
- ProTon Europe Convention – 21st September 2012

The MarineTT knowledge management methodology along with the outcomes of the MarineTT project are having a positive impact within the knowledge management and transfer arena and continue to attract attention from other research sectors.

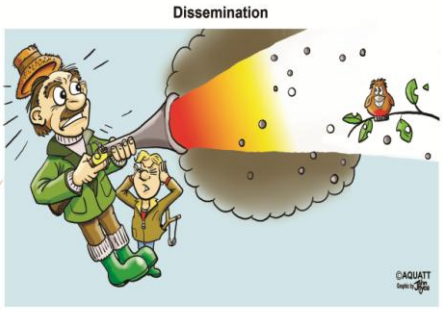
Throughout the lifetime of MarineTT partners have been active in engaging with and collaborating with other initiatives. The organisation of the two MarineTT stakeholder workshops provided a unique opportunity for discussion of common issues of knowledge transfer across different research sectors. MarineTT has created dynamic and synergistic relationships which have improved all parties' understanding of knowledge management and transfer in Europe. Relationships formed during these collaborations will continue to be fostered after the lifetime of MarineTT and it is anticipated that further opportunities to build on the findings of MarineTT will be developed. The project outputs and products are sustainable and will continue to evolve beyond the lifetime of the project.

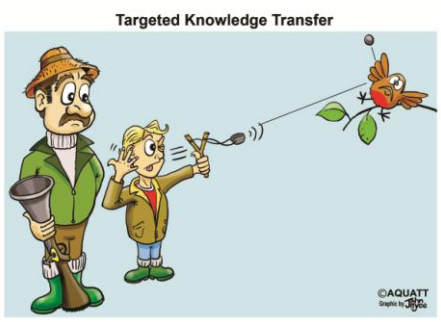
Conclusions (David Murphy - Coordinators Assessment)

MarineTT was ambitious in its objectives and scope given the limited resources and time available. The hard work and efforts of the partnership team are reflected in the amount of work carried out. The project implemented pilot methodologies to collect, analyse and transfer knowledge and in each phase insights were gained and processes refined so that if future initiatives were to try and carry out similar exercises, they could build upon the significant efforts of MarineTT. MarineTT has made strenuous efforts to record the processes it implemented at every stage and these will be made publicly available on the project website beyond the funding period.

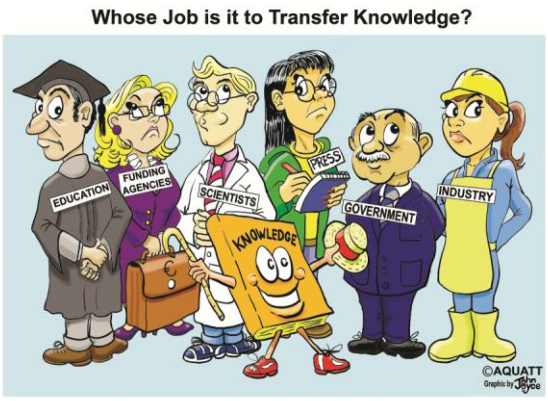
The findings from MarineTT also illustrate that numerous Knowledge Outputs have been generated from EC marine research projects including de-novo knowledge, methodologies, products, tools and data. The Knowledge Outputs have applications to end users that have the potential to result in varying types of value creation at different levels in society. All the Knowledge Outputs identified are now housed in the Marine Knowledge Gate 1.0 (www.marinett.eu) and EurOcean has committed to maintaining the portal. Widespread dissemination and networking has taken place so that marine stakeholders are aware of the resource and already other projects have committed to house their Knowledge Outputs in the system (MG4U, Aquainnova, STAGES, CO-EXIST). Furthermore, the resource is already under further development and by early 2013 will be able to host member state funded projects. With continued buy-in it is hoped that the Knowledge Gate will become a comprehensive resource with a variety of uses for a range of stakeholders, reducing duplication and replication of research.

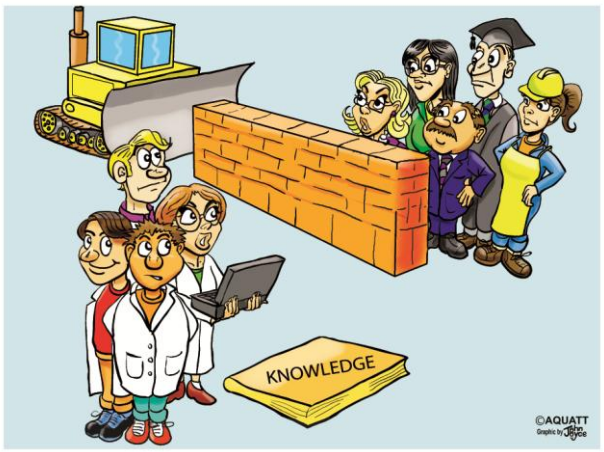
Reflecting on the overall process, what is clear is that there is a lack of established terminology and processes for knowledge transfer. Currently there is no roadmap of Knowledge Transfer for European-funded research and as such the methods of Knowledge Transfer vary widely from project to project. There is a need to better define the objectives and methods for different communication activities within projects – dissemination vs outreach vs knowledge transfer vs technology transfer.





There is also a need for upskilling of all actors in the research system to help them better understand the concepts and methodologies for different communication activities and how to measure success in effective communications. T**he roles and responsibilities of actors in the process need to be reassessed as in many cases it is not clear who has the responsibility for knowledge transfer.** Incentives and capacity building should be clearly established.





What is also clear from the experiences of the project is that whilst there are challenges with regard to the knowledge transfer process (what it is, how to carry it out, how to measure impact), there are also bigger issues at play which concern the manner in which the European Union carries out scientific research and the role it plays in society.

Inherent differences exist between the research community, industry, policy-makers and other end users of knowledge, e.g., different technical levels, different priorities, different agendas, and different time scales, resulting in multiple barriers that prevent effective knowledge transfer and innovation. These issues were highlighted in the two MarineTT workshops and the needs analysis survey (see D4.3, 4.4, 4.5).

Due to the broader system barriers that exist, MarineTT believes that collective action by multiple actors is required in order to bring about the change the Commission demands and Europe requires to maintain the European societal vision. All actors and institutional stakeholders need to re-assess the role of their research in society and take measures to orientate their efforts to the needs of society at large. Closer engagement with end-users is essential to ensure that research is timely and responding to societal needs as well as ensuring that researchers have better accessibility to the value chains for their knowledge.

There also needs to be a change in culture within the research community with less emphasis on peer-reviewed publications, and more incentives to ensure that results are transferred and utilised by end-users. Both top down and bottom actions will be required to bring about a culture change at an institutional level. This can lead to an evolution of the entire scientific research lifecycle which in turn could result in an increased return on investment in research and a stronger, more robust knowledge-based economy. Measurement of value creation will be a crucial element going forward in order to demonstrate how actors are responding to the ever-changing needs of society.

With regard to the Marine community, it should not be forgotten that the oceans cover 71% of the Earth's surface and contain 97% of the planet's water. The oceans play a key role in the world's weather and are essential for the production of oxygen and the absorption of atmospheric carbon dioxide. Nearly half of all living things on the Earth live in the oceans - some at extremes of temperature and pressure. Their abilities to live and thrive in such alien environments hold the key to new chemical processes for industry and medicinal compounds to promote human health. The oceans provide five percent of the total protein in the human diet. They transport 95% of the world's trade. Their waves and tides are a potential source of renewable energy, while the ocean floor is a major source of oil and gas. Its coastlines are not only home to the majority of the world's population but also a place to relax and commune with nature.

Yet, in spite of the importance of the oceans for human life on this planet, only 5% of the seabed has ever been observed by human eyes. Public knowledge of the ocean, the key roles it plays in supporting life on this planet and how we might minimise human impact on its delicate and complex ecosystems is vital.

Given the importance of the seas for planet Earth, it is essential that the marine community is better able to transfer its knowledge to policy, industry and society at large as protecting the oceans is indeed a “Grand Challenge” for the planet.

The MarineTT partnership (AquaTT & EurOcean) are committed to continue their work to try and overcome the numerous barriers to demonstrable value creation from research. The work of MarineTT has helped progress the state-of-the-art but a lot more work and collective action is required.

1.9 Final plan for the use and dissemination of the foreground

TEMPLATE A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES										
NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers[9] (if available)	Is/Will open access[10] provided to this publication?
1	Observations on Knowledge Management and Transfer	David Murphy	Marine Policy	To be submitted	Elsevier	--	--	--	--	Yes

[9] A permanent identifier should be a persistent link to the published version full text if open access or abstract if article is pay per view) or to the final manuscript accepted for publication (link to article in repository).
[10] Open Access is defined as free of charge access for anyone via Internet. Please answer "yes" if the open access to the publication is already established and also if the embargo period for open access is not yet over but you intend to establish open access afterwards.

TEMPLATE A2: LIST OF DISSEMINATION ACTIVITIES								
NO.	Type of activities[11]	Main leader	Title	Date/Period	Place	Type of audience[12]	Size of audience	Countries addressed
1	Web	AquaTT	MarineTT Public Website	June 2010 onwards	www.marinett.eu	Scientific Community (higher education, Research), Industry, Civil Society, Policy makers, Media		Europe
2	Web	AquaTT & EurOcean	Marine Knowledge Gate 1.0	March 2012	EurOcean Portal, MarineTT website (www.kg.eurocean.org ; www.marinett.eu)	Scientific Community (higher education, Research), Industry, Policy makers		Europe
3	Web	AquaTT	Marine Knowledge Transfer Linkedin group	April 2012 onwards	MarineTT website (www.marinett.eu)	Scientific Community (higher education, Research), Industry, Policy makers, Medias	Around 180 members	Europe
4	Web application	AquaTT	Clusters of Knowledge Outputs	To be released	MarineTT website (www.marinett.eu)	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals		Europe
5	News item	AquaTT & EurOcean	MarineTT: Launch of the update and validation of the EC FP6 and FP7 collection of marine-related projects	July 2010	AQUAT-NET website, AquaTT Training News, EurOcean e-newsletter, EurOcean Portal, MarineTT website	Scientific Community (higher education, Research)	5.500 subscribers	Europe
6	News item	AquaTT & EurOcean	MarineTT - Analysing the potential impact of European Marine Research Knowledge	November 2010	AquaTT Training News, EurOcean e-newsletter, EurOcean Portal, MarineTT website	Scientific Community (higher education, Research)	5.500 subscribers	Europe
7	News item	AquaTT	MarineTT Advisory Board	January 2011	AquaTT Training News,	Scientific Community (higher	3.500	Europe

[11] A drop down list allows choosing the dissemination activity: publications, conferences, workshops, web, press releases, flyers, articles published in the popular press, videos, media briefings, presentations, exhibitions, thesis, interviews, films, TV clips, posters, Other.

[12] A drop down list allows choosing the type of public: Scientific Community (higher education, Research), Industry, Civil Society, Policy makers, Medias, Other ('multiple choices' is possible).

		& EurOcean	provides insight on maximising the impact of European Marine Results		MarineTT website	education, Research)	subscribers	
8	News item	AquaTT	MarineTT showcase – Unlocking Marine Knowledge	May & June 2011	AquaTT Training News, MarineTT website	Scientific Community (higher education, Research)	8.700 subscribers	Europe
9	News item	AquaTT & EurOcean	Launch of online Marine Knowledge Gate	February & March 2012	AQUAT-NET website, AquaTT Training News, EurOcean e-newsletter, EurOcean Portal, MarineTT website	Scientific Community (higher education, Research)	8.700 subscribers	Europe
10	News item	AquaTT & EurOcean	MarineTT Stakeholder Workshop on Barriers to Knowledge Capture and Transfer	April & May 2012	AquaTT Training News, EurOcean e-newsletter, EurOcean Portal, MarineTT website	Scientific Community (higher education, Research)	8.700 subscribers	Europe
11	News item	AquaTT & EurOcean	MarineTT - How do we get more Innovation from Research? (workshop announcement)	June 2012	AquaTT Training News, EurOcean e-newsletter, EurOcean Portal, MarineTT website	Scientific Community (higher education, Research)	8.700 subscribers	Europe
12	News item	AquaTT & EurOcean	MarineTT - How do we get more Innovation from Research? (workshop outcomes)	July 2012	AquaTT Training News, EurOcean e-newsletter, EurOcean Portal, MarineTT website	Scientific Community (higher education, Research)	8.700 subscribers	Europe
13	Press Release	AquaTT & EurOcean	MarineTT- Innovating to unlock the potential of European marine research	February & March 2010	AquaTT Training News, EurOcean e-newsletter, EurOcean Portal, MarineTT website	Scientific Community (higher education, Research)	5.500 subscribers, MarineTT website users	Europe
14	Press Release	AquaTT & EurOcean	MarineTT - Analysing the Knowledge Outputs from the MarineTT Survey	December 2010	Alfa Galileo, Atlantic Area newsletter, The CoastNet Magazine - The Edge, and SeafoodSource, MarineTT website	Scientific Community (higher education, Research); Industry, Media	Over 1,700 research organisations, nearly 8,000 journalists, MarineTT website users	Europe

15	Press Release	AquaTT & EurOcean	MarineTT – key insights in improving access to EU marine research guidelines released	July 2011	CORDIS Wire, Ecsite e-news and MegaPesca	Scientific Community (higher education, Research), Industry, Policy makers, Media		Europe
16	Press Release	AquaTT & EurOcean	Marine Knowledge Gate - The Key to Pandora's Box	March 2012 – Jun 2012	CORDIS Wire, OceanSp@ce, FarneTT Magazine (Spring-Summer 2012 issue), Aquaculture Europe Magazine (Jun12 issue), and EAS-SG newsletter (Apr/May12 issue)	Scientific Community (higher education, Research), Industry, Policy makers, Media		Europe
17	Press Release	AquaTT & EurOcean	MarineTT Stakeholder Workshop on Barriers to Knowledge Capture and Transfer in Brussels, Belgium	May 2012	CORDIS Wire, OceanSp@ce, and calendars of JPI Oceans and Aquaculture Europe	Scientific Community (higher education, Research), Industry, Policy makers, Media		Europe
18	Press Release	AquaTT & EurOcean	MarineTT - From Marine RTD to Measurable Value Creation	May 2012 & June 2012	CORDIS Wire and JPI Oceans News	Scientific Community (higher education, Research), Industry, Policy makers, Media		Europe
19	Press Release	AquaTT & EurOcean	MarineTT findings	To be released	--	Scientific Community (higher education, Research), Industry, Policy makers, Media	500	Europe
20	Brochure	AquaTT & EurOcean	MarineTT Factsheet	October 2010	In attended & organised events, MarineTT website	Scientific Community (higher education, Research), Industry, Policy makers, Media	1.000	Europe
21	Brochure	EurOcean	Marine Knowledge Gate 1.0	March 2012	In attended & organised events, MarineTT website	Scientific Community (higher education, Research), Industry, Policy makers	1.000	Europe
22	Poster	AquaTT & EurOcean	MarineTT - European Marine Research Knowledge Transfer and Uptake of Results		In attended & organised events, MarineTT website	Scientific Community (higher education, Research), Industry, Policy makers, Medias	--	Europe
23	Promotional products	AquaTT	MarineTT Mobile Screen Cleaners	September 2011	In attended & organised events	Scientific Community (higher education, Research), Industry,	2.000 units	Europe

						Policy makers, Medias		
24	Promotional products	EurOcean	Marine Knowledge Gate Mobile Screen Cleaners	July 2012	To be distributed at events (post MarineTT)	Scientific Community (higher education, Research), Industry, Policy makers, Medias	2.200 units	Europe wide
25	Cartoons	AquaTT	MarineTT Knowledge Transfer Cartoons	July 2012	In attended & organised events, MarineTT website	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	MarineTT website users	Europe
26	Conference	EurOcean	European Maritime Day	19th - 21st May 2010	Gijon, Spain	Scientific Community (higher education, Research), Industry, Policy makers, Civil Society	800 participants	Europe
27	Conference	AquaTT & EurOcean	EurOCEAN 2010	12th - 13th October 2010	Oostende, Belgium	Scientific Community (higher education, Research), Industry, Policy makers	200 participants	Europe
28	Conference	AquaTT & EurOcean	ICES Annual Science Conference	19th - 23rd September 2011	Gdansk, Poland	Scientific Community (Research) Policy makers,	600 participants	Europe
29	Convention	AquaTT & EurOcean	1st Innovation Convention	5th - 6th December 2011	Brussels, Belgium	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	600 participants	Europe
30	Forum	AquaTT	3rd European Science Foundation Marine Board Forum "New Technologies for a Blue Future"	18th April 2012	Brussels, Belgium	Scientific Community (higher education, Research), Industry, Policy makers	71 organisations	Europe
31	Showcase	AquaTT & EurOcean	MarineTT Brussels Showcase	7th June 2011	Brussels, Belgium	Scientific Community (higher education, Research), Industry, Policy makers, Medias	17 participants	Europe
32	Workshop	AquaTT & EurOcean	1st MarineTT Stakeholder Workshop - From Marine RTD to Measurable Value Creation	23rd May 2012	Brussels, Belgium	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	18 participants	Europe
33	Workshop	AquaTT &	2nd MarineTT Stakeholder Workshop- - How do we get more	19th July 2012	Brussels, Belgium	Scientific Community (higher education, Research), Industry,	21 participants	Europe

		EurOcean	Innovation from Research? Bringing together and learning from pioneering initiatives and novel approaches			Policy makers, Knowledge Transfer Professionals		
34	Proceedings	AquaTT & EurOcean	1st MarineTT Stakeholder Workshop - From Marine RTD to Measurable Value Creation	23rd May 2012	MarineTT website	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	18 participants + MarineTT website users	Europe
35	Proceedings	AquaTT & EurOcean	2nd MarineTT Stakeholder Workshop - How do we get more Innovation from Research? Bringing together and learning from pioneering initiatives and novel approaches	19th July 2012	MarineTT website	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	21 participants + MarineTT website users	Europe
36	Report	AquaTT	1st MarineTT Stakeholder Workshop - From Marine RTD to Measurable Value Creation	28th June 2012	MarineTT website	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	MarineTT website users	Europe
37	Report	AquaTT	2nd MarineTT Stakeholder Workshop - How do we get more Innovation from Research? Bringing together and learning from pioneering initiatives and novel approaches	12th October 2012	MarineTT website	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	MarineTT website users	Europe
38	Booklet	AquaTT	MarineTT Knowledge Output Table (KOT) samples	7th June 2011	MarineTT Brussels Showcase and attended events	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	17 participants	Europe
39	Booklet	EurOcean	MarineTT Survey Methodological Materials	7th June 2011	MarineTT Brussels Showcase and attended events	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	17 participants	Europe
40	Booklet	AquaTT	MarineTT Best Practice Guidelines on Knowledge Management and Transfer	To be released	MarineTT workshop participants, MarineTT website, and others	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge	500 copies	Europe

						Transfer Professionals		
	Publication	AquaTT & EurOcean	Knowledge Transfer: The MarineTT Experience	To be released	MarineTT workshop participants, MarineTT website, and others	Scientific Community (higher education, Research), Industry, Policy makers, Knowledge Transfer Professionals	--	European

Report on wider societal implications

A General Information *(completed automatically when **Grant Agreement number** is entered.*	
Grant Agreement Number:	244164
Title of Project:	MarineTT - European Marine Research Knowledge Transfer and Uptake of Results
Name and Title of Coordinator:	Mr. David Murphy

B Ethics	
1. Did your project undergo an Ethics Review (and/or Screening)? • If Yes: have you described the progress of compliance with the relevant Ethics Review/Screening Requirements in the frame of the periodic/final project reports? Special Reminder: the progress of compliance with the Ethics Review/Screening Requirements should be described in the Period/Final Project Reports under the Section 3.2.2 *'Work Progress and Achievements'*	***No***
2. Please indicate whether your project involved any of the following issues (tick box) :	***No***
RESEARCH ON HUMANS	

• Did the project involve children?	
• Did the project involve patients?	
• Did the project involve persons not able to give consent?	
• Did the project involve adult healthy volunteers?	
• Did the project involve Human genetic material?	
• Did the project involve Human biological samples?	
• Did the project involve Human data collection?	
RESEARCH ON HUMAN EMBRYO/FOETUS	
• Did the project involve Human Embryos?	
• Did the project involve Human Foetal Tissue / Cells?	
• Did the project involve Human Embryonic Stem Cells (hESCs)?	
• Did the project on human Embryonic Stem Cells involve cells in culture?	
• Did the project on human Embryonic Stem Cells involve the derivation of cells from Embryos?	
PRIVACY	
• Did the project involve processing of genetic information or personal data (eg. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?	
• Did the project involve tracking the location or observation of people?	
RESEARCH ON ANIMALS	
• Did the project involve research on animals?	
• Were those animals transgenic small laboratory animals?	
• Were those animals transgenic farm animals?	
• Were those animals cloned farm animals?	
• Were those animals non-human primates?	
RESEARCH INVOLVING DEVELOPING COUNTRIES	
• Did the project involve the use of local resources (genetic, animal, plant etc)?	
• Was the project of benefit to local community (capacity building, access to healthcare, education etc)?	

DUAL USE	
• Research having direct military use	No
• Research having the potential for terrorist abuse	No

C Workforce Statistics

3. Workforce statistics for the project: Please indicate in the table below the number of people who worked on the project (on a headcount basis).

Type of Position	**Number of Women**	**Number of Men**
Scientific Coordinator		1
Work package leaders		2
Experienced researchers (i.e. PhD holders)	2	
PhD Students		
Other	2	

4. How many additional researchers (in companies and universities) were recruited specifically for this project?	**2**
Of which, indicate the number of men:	

D Gender Aspects		
5. Did you carry out specific Gender Equality Actions under the project?	○ X	Yes No

6. Which of the following actions did you carry out and how effective were they?

	Not at all effective				Very effective
❑ Design and implement an equal opportunity policy	○	○	○	○	○
❑ Set targets to achieve a gender balance in the workforce	○	○	○	○	○
❑ Organise conferences and workshops on gender	○	○	○	○	○
❑ Actions to improve work-life balance	○	○	○	○	○

○ Other:

7. Was there a gender dimension associated with the research content – i.e. wherever people were the focus of the research as, for example, consumers, users, patients or in trials, was the issue of gender considered and addressed?

○ Yes- please specify

X No

E Synergies with Science Education

8. Did your project involve working with students and/or school pupils (e.g. open days, participation in science festivals and events, prizes/competitions or joint projects)?

○ Yes- please specify

X No

9. Did the project generate any science education material (e.g. kits, websites, explanatory booklets, DVDs)?

○ Yes- please specify

X No

F Interdisciplinarity

10. Which disciplines (see list below) are involved in your project?

○ Main discipline[13]: 1.5

○ Associated discipline[13]: 2.3.

○ Associated discipline[13]:4.1

G Engaging with Civil society and policy makers

11a	**Did your project engage with societal actors beyond the research community?** *(if 'No', go to Question 14)*	X ○	Yes No

11b If yes, did you engage with citizens (citizens' panels / juries) or organised civil society (NGOs, patients' groups etc.)?

○ No

○ Yes- in determining what research should be performed

○ Yes - in implementing the research

X Yes, in communicating /disseminating / using the results of the project

11c	**In doing so, did your project involve actors whose role is mainly to organise the dialogue with citizens and organised civil society (e.g. professional mediator; communication company, science museums)?**	○ X	Yes No

[13] Insert number from list below (Frascati Manual).

12. Did you engage with government / public bodies or policy makers (including international organisations)

○	No
○	Yes- in framing the research agenda
○	Yes - in implementing the research agenda
X	Yes, in communicating /disseminating / using the results of the project

13a Will the project generate outputs (expertise or scientific advice) which could be used by policy makers?

X	Yes – as a **primary** objective (please indicate areas below- multiple answers possible)
○	Yes – as a **secondary** objective (please indicate areas below - multiple answer possible)
○	No

13b If Yes, in which fields?

Agriculture		Energy		Human rights	
Audiovisual and Media		Enlargement		Information Society	
Budget		Enterprise		Institutional affairs	
Competition		Environment	X	Internal Market	
Consumers		External Relations		Justice, freedom and security	
Culture		External Trade		Public Health	
Customs		Fisheries and Maritime	X	Regional Policy	
Development Economic and Monetary Affairs		Affairs		Research and Innovation	X
		Food Safety		Space	
Education, Training, Youth		Foreign and Security Policy		Taxation	
				Transport	
Employment and Social Affairs		Fraud			
		Humanitarian aid			

13c If Yes, at which level? ○ Local / regional levels ○ National level X European level ○ International level	
H Use and dissemination	
14. How many Articles were published/accepted for publication in peer-reviewed journals?	**0**
To how many of these is open access[14] provided?	
How many of these are published in open access journals?	
How many of these are published in open repositories?	
To how many of these is open access not provided?	
Please check all applicable reasons for not providing open access:	
❑ publisher's licensing agreement would not permit publishing in a repository ❑ no suitable repository available ❑ no suitable open access journal available ❑ no funds available to publish in an open access journal ❑ lack of time and resources ❑ lack of information on open access ❑ other[15]: ……	

[14] Open Access is defined as free of charge access for anyone via Internet.
[15] For instance: classification for security project.

15. How many new patent applications ('priority filings') have been made? *("Technologically unique": multiple applications for the same invention in different jurisdictions should be counted as just one application of grant).*		**0**
16. Indicate how many of the following Intellectual Property Rights were applied for (give number in each box).	Trademark	**0**
	Registered design	**0**
	Other	**0**
17. How many spin-off companies were created / are planned as a direct result of the project?		**0**
Indicate the approximate number of additional jobs in these companies:		

18. Please indicate whether your project has a potential impact on employment, in comparison with the situation before your project:

❑ Increase in employment, or	❑	In small & medium-sized enterprises
❑ Safeguard employment, or	❑	In large companies
❑ Decrease in employment,	X	None of the above / not relevant to the project
❑ Difficult to estimate / not possible to quantify		

19. For your project partnership please estimate the employment effect resulting directly from your participation in Full Time Equivalent (*FTE = one person working fulltime for a year*) jobs:	*Indicate figure:* *3*
Difficult to estimate / not possible to quantify	❑

I	Media and Communication to the general public
20.	**As part of the project, were any of the beneficiaries professionals in communication or media relations?** X Yes ○ No
21.	**As part of the project, have any beneficiaries received professional media / communication training / advice to improve communication with the general public?** X Yes ○ No
22	**Which of the following have been used to communicate information about your project to the general public, or have resulted from your project?**

X	Press Release	X	Coverage in specialist press
❑	Media briefing	❑	Coverage in general (non-specialist) press
❑	TV coverage / report	❑	Coverage in national press
❑	Radio coverage / report	❑	Coverage in international press
X	Brochures /posters / flyers	X	Website for the general public / internet
❑	DVD /Film /Multimedia	❑	Event targeting general public (festival, conference, exhibition, science café)

23 In which languages are the information products for the general public produced?

❑	Language of the coordinator	X	English
❑	Other language(s)		

***Question F-10*:** Classification of Scientific Disciplines according to the Frascati Manual 2002 (Proposed Standard Practice for Surveys on Research and Experimental Development, OECD 2002):

FIELDS OF SCIENCE AND TECHNOLOGY

1. NATURAL SCIENCES

1.1 Mathematics and computer sciences [mathematics and other allied fields: computer sciences and other allied subjects (software development only; hardware development should be classified in the engineering fields)]

1.2 Physical sciences (astronomy and space sciences, physics and other allied subjects)

1.3 Chemical sciences (chemistry, other allied subjects)

1.4 Earth and related environmental sciences (geology, geophysics, mineralogy, physical geography and other geosciences, meteorology and other atmospheric sciences including climatic research, oceanography, vulcanology, palaeoecology, other allied sciences)

1.5 Biological sciences (biology, botany, bacteriology, microbiology, zoology, entomology, genetics, biochemistry, biophysics, other allied sciences, excluding clinical and veterinary sciences)

2 ENGINEERING AND TECHNOLOGY

2.1 Civil engineering (architecture engineering, building science and engineering, construction engineering, municipal and structural engineering and other allied subjects)

2.2 Electrical engineering, electronics [electrical engineering, electronics, communication engineering and systems, computer engineering (hardware only) and other allied subjects]

2.3. Other engineering sciences (such as chemical, aeronautical and space, mechanical, metallurgical and materials engineering, and their specialised subdivisions; forest products; applied sciences such as geodesy, industrial chemistry, etc.; the science and technology of food production; specialised technologies of interdisciplinary fields, e.g. systems analysis, metallurgy, mining, textile technology and other applied subjects)

3. MEDICAL SCIENCES

3.1 Basic medicine (anatomy, cytology, physiology, genetics, pharmacy, pharmacology, toxicology, immunology and immunohaematology, clinical chemistry, clinical microbiology, pathology)

3.2 Clinical medicine (anaesthesiology, paediatrics, obstetrics and gynaecology, internal medicine, surgery, dentistry, neurology, psychiatry, radiology, therapeutics, otorhinolaryngology, ophthalmology)

3.3 Health sciences (public health services, social medicine, hygiene, nursing, epidemiology)

4. AGRICULTURAL SCIENCES

4.1 Agriculture, forestry, fisheries and allied sciences (agronomy, animal husbandry, fisheries, forestry, horticulture, other allied subjects)

4.2 Veterinary medicine

5. SOCIAL SCIENCES

5.1 Psychology

5.2 Economics

5.3 Educational sciences (education and training and other allied subjects)

5.4 Other social sciences [anthropology (social and cultural) and ethnology, demography, geography (human, economic and social), town and country planning, management, law, linguistics, political sciences, sociology, organisation and methods, miscellaneous social sciences and interdisciplinary , methodological and historical S1T activities relating to subjects in this group. Physical anthropology, physical geography and psychophysiology should normally be classified with the natural sciences].

6. HUMANITIES

6.1 History (history, prehistory and history, together with auxiliary historical disciplines such as archaeology, numismatics, palaeography, genealogy, etc.)

6.2 Languages and literature (ancient and modern)

6.3 Other humanities [philosophy (including the history of science and technology) arts, history of art, art criticism, painting, sculpture, musicology, dramatic art excluding artistic "research" of any kind, religion, theology, other fields and subjects pertaining to the humanities, methodological, historical and other S1T activities relating to the subjects in this group]