

European Maritime Day 2017

Summary Report from the workshop on “Marine Knowledge Transfer & Innovation: Learning from Regional & European Initiatives”

National Oceanography Centre, Southampton, UK
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Introduction

COLUMBUS is the European Commission’s flagship project for Knowledge Transfer for Blue Growth, developing best practices that provide open access to and facilitate effective transfer of marine and maritime research. This workshop was hosted by four COLUMBUS partners (AquaTT, EurOcean, Marine South East and National Oceanography Centre Southampton) and was structured in two sessions and employed both facilitated debate and World Café formats. Following a number of presentations on Knowledge transfer issues, experiences and the COLUMBUS project itself, the attendees explored two principal questions in the context of the COLUMBUS project:

1. *What measures could further promote and enhance the impact of Knowledge Transfer to achieve Blue Growth in Europe?*
 - a) *Could funding systems be better aligned to achieve desired impact?*
 - b) *Could knowledge be better captured and accessed?*
 - c) *Whose role is it to transfer knowledge to end-users?*
2. *How could regional maritime clusters be used to facilitate this knowledge transfer?*

Challenges and Solutions

The key challenges and potential solutions emerging from the workshop are presented below under three headings.

How can research programmes target knowledge of greatest potential impact?

Some key barriers were identified. Firstly, it can be difficult for funding programmes to understand what knowledge already exists in the programme domain. Furthermore, consultations to identify knowledge gaps mostly involve institutions and companies with established research agendas, and do not involve smaller and younger entities that can contribute disruptive ideas. As a result, potentially innovative fields of research are not supported because their importance is unrecognised. Secondly, impact achieved by research is often not properly measured, and research assessment metrics favour dissemination to the research community (science-to-science), rather than to potential users.

Possible solutions were highlighted, to improve the design of funding programmes and the development of collaborative proposals, including:

- Programmes should include an obligation for all projects to determine quantitative knowledge impact measures;
- Projects should have the flexibility to accommodate change (in markets or state-of-the-art) and thereby maintain relevance to knowledge users as the project progresses;
- Training should be provided for future coordinators to allow them to develop pathways to impact at project design stage; and,
- Regional clusters that enable thematic networks of stakeholders (triple helix) can be used to better understand knowledge needs and identify potential knowledge users.

How can this new knowledge be made more accessible?

There are inherent barriers that inhibit access to scientific Knowledge Outputs by non-scientists. First and foremost, scientists without experience outside of academia may not be aware of the needs of industry or policy. Moreover, the communicators of scientific Knowledge Outputs are generally scientists, most of whom are unfamiliar with talking the “language” of business. Commercial users of knowledge, therefore, are unable to quantify the relevance and value of Knowledge Outputs. Furthermore, the scientists leading a research project are often redeployed or otherwise unavailable to communicate and transfer knowledge after the project has finished; and, so, knowledge is left on the shelf.

A range of possible measures were identified to address these barriers, including:

- Mandated use by projects of open-access publications (eg wiki-based) and searchable Knowledge Output platforms (such as the Marine Knowledge Gate), and syndication to industry journals. Potential knowledge users could then perform thematic and/or semantic searches to generate demand-pull for knowledge;
- Projects could also be required to construct use-cases (or case studies) in non-specialist language showing how specific project generated knowledge could be applied. Ideally, these would be created during the life of the project and stimulate business engagement on an ongoing basis. This would require research teams to identify and communicate with target users as part of their project delivery; and,
- Knowledge Brokers could be appointed by projects (or groups of thematically-linked projects) to transfer the knowledge generated to potential end users. Regional clusters could play a role in assisting knowledge brokerage, such as identifying target users in a systematic way.

How can transfer of new knowledge into real user applications be accelerated?

One of the fundamental barriers to efficient knowledge transfer lies in the fact that no stakeholder currently perceives sufficient motivation to invest in high-risk processes. For academics, there is more value in peer-review publications; while businesses perceive engaging in early-stage research (low TRL) as the beginning of a risky, lengthy and costly journey to market. This problem is especially severe for SMEs who often find that even high-value innovation struggles to break through against mainstream business models.

These barriers could be broken down by action at both project and strategic levels. At the project or programme level, the following solutions were identified:

- A specific Knowledge Transfer fund could allow projects to bid for additional budget to finance actions that accelerate knowledge application, up to and beyond the formal project completion date; and,
- Non-profit regional clusters can support projects by functioning as honest brokers.

At a strategic level, potential solutions include:

- Adjustment of academic reward structures so that knowledge transfer into business (e.g. licensing, spin-offs, patents, investment) can enhance career progression in the same way as academic recognition (e.g. research income, peer-reviewed publication, presentations, committee representation);
- Better coupling of innovation and skills agendas since, for SMEs, innovation often depends upon access to new skills; and,
- Government-funded agencies could provide coordination of the above at national level, and invest in the various elements (public-private partnerships, clusters, knowledge brokerage, etc) that would comprise an effective knowledge transfer infrastructure.

Conclusions

The workshop pin-pointed some real barriers to knowledge transfer within Blue Growth; and it also identified a wide range of practical measures that could overcome these barriers. The COLUMBUS project and the workshop organisers are actively advancing some of these measures, and demonstrating their value to achieving knowledge transfer. In addition, at European level, the Commission could consider:

- Ensuring that projects have champions for collection and transfer of their outputs, either within the consortium or through an external provider;
- Encouraging more incentives for creating impact beyond current metrics of research quality (i.e. scientific publications);
- Requiring better consideration within project deliverables of language and needs of different stakeholders;
- Supporting the development of knowledge broker organisations to ensure that impact potential of research is achieved;
- Investing in improved channels for knowledge access both from marine projects and from other sectors whose expertise could be applied to Blue Growth; and
- Embedding the leverage available from regional clusters within solutions for knowledge transfer, especially for the benefit of SMEs. Maybe: taking advantage of the know-how and experience of regional marine and maritime clusters to actively support knowledge transfer, especially for the benefit of SMEs