



LEIBNIZ CENTRE
for Tropical Marine Research

ZMT



Knowledge Exchange

Transfer Strategy for the ZMT

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1 Objective

Tropical marine coastal areas are home to some of the most diverse habitats on the planet and provide the basis for the livelihood of countless people. Climate change, pollution and the depletion of natural resources already have a serious impact on these fragile ecosystems.

These challenges can only be successfully addressed by applying a knowledge-based approach. The work of the Leibniz Centre for Tropical Marine Research (ZMT) focuses on tropical coastal systems and thus helps to promote the understanding, protection and sustainable use of these habitats. Making this knowledge available for use by society – i.e. achieving a transfer – is the [mission of the ZMT](#) and the responsibility of all scientists.

2 Knowledge and Technology Transfer

2.1 Definition of Terms

The transfer of research findings, processes and technologies is aimed at different target groups. Technology transfer, i.e. the transfer into (business) applications, also covers the commercial utilisation of research findings, while knowledge transfer means enabling the utilisation of research findings outside the research institute but without any direct commercial objectives. Technology and knowledge transfer occasionally overlap because they share similar and/or multiple objectives and target groups.

The ZMT regards transfer not as a unilateral action, but as the transdisciplinary exchange of knowledge and/or technology with partners at eye level, a process which benefits all parties.

Transfer activities can be allocated to three different areas, which occasionally overlap:



Communication



Consultation



Application

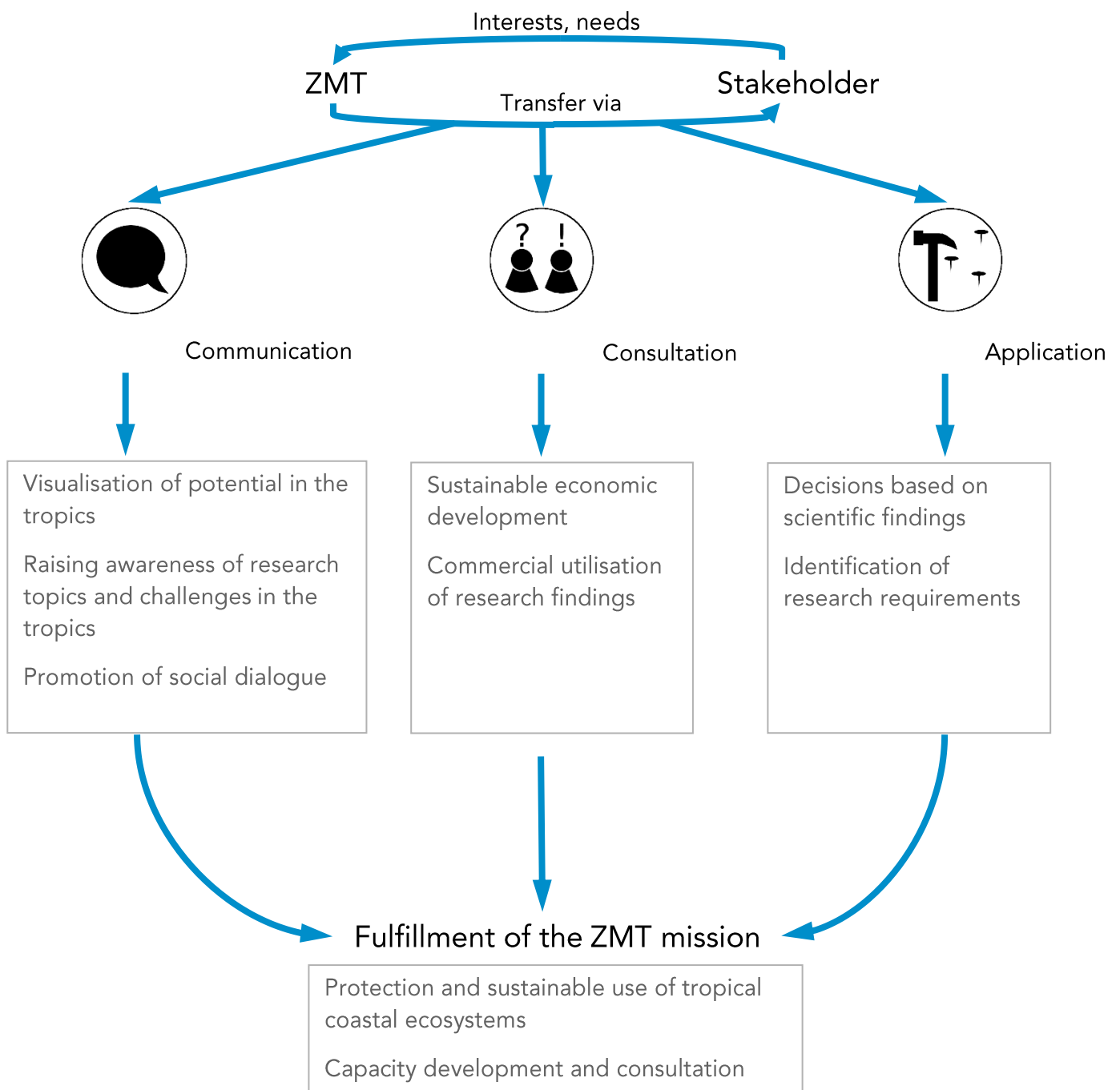
2.2 Transfer Objectives

The transfer of research findings gives the ZMT the opportunity to achieve the targets set forth in its mission statement. The problems facing society can only be resolved by

means of interdisciplinary and transdisciplinary cooperation, which is facilitated by transfer activities. Transfer through multipliers – i.e. through qualified staff – plays a key role. Moreover, transfer is also a source of outside funding for the institute.

Transfer informs the general public about the relevance of publicly funded research and above all raises public awareness of ecological and social challenges in tropical coastal areas.

In all these cases, transfer activities with the different target groups mean that the ZMT helps to promote sustainable development in society and knowledge-based decisions, which in turn promote accomplishment of the ZMT mission.



2.3 A Transfer Strategy for the ZMT

Networking, transfer and the exchange of knowledge have meanwhile become central political issues that are demanded of scientific institutions. They are set forth, for example, in the [Pact for Research and Innovation](#)¹. The German Council of Science and Humanities, an advisory body to the German Federal and State (Länder) governments, has issued comprehensive recommendations on [Knowledge and Technology Transfer as an Element of Institutional Strategies](#)². By developing strategies at institutional level, we aim to establish transfer activities as a core element of scientific institutes which ranks on a par with research, teaching and infrastructure.

The Office for Knowledge Exchange (OKE) was set up at the ZMT as an interface with non-scientific stakeholders. The OKE staff provides support for our scientists in connection with transfer projects, identifying transfer opportunities and raising awareness of the importance of knowledge exchange. One of the ZMT's objectives is to promote the transfer of research findings generated at the institute on a comprehensive scale and to a greater extent. This transfer strategy is aimed at

Informing

What are the objectives of the ZMT culture of transfer?
In what areas is transfer already established at the ZMT?
In what areas is transfer to be developed at the ZMT?
Where can I find further information?

Motivating

What scope is there for transfer in my own field of work?
What reasons are there for me to become involved in transfer activities?

Inspiring

How is the ZMT planning to establish a culture of transfer?
What support is already available, what support is planned?

its readers.

This strategy concept is to be continuously adapted in line with the accumulated transfer experience.

¹ GWK, Gemeinsame Wissenschaftskonferenz (2005): Pakt für Forschung und Innovation, Bonn. URL: https://www.gwk-bonn.de/fileadmin/Redaktion/Dokumente/Papers/pakt_fuer_forschung_und_innovation__1_.pdf

² Wissenschaftsrat (2016): Wissens- und Technologietransfer als Gegenstand institutioneller Strategien. Positionspapier (Drs. 5665-16), Weimar. URL: <https://www.wissenschaftsrat.de/download/archiv/5665-16.pdf> [20.02.2018].

3 Knowledge and Technology Transfer at the ZMT



Capacity Development (CD) is a central element of the ZMT mission. The basic scientific findings acquired at the ZMT for the protection and sustainable use of tropical marine ecosystems can only be transferred into practical applications by involving all the relevant stakeholders right from the start of the project. At the interface between science and society, the ZMT works in close cooperation with national and international partners in order to encourage knowledge transfer and thus promote global sustainability. By cooperating with tropical developing countries, the ZMT contributes to sustainable and independent resource management at local level. The establishment of scientific infrastructure and teaching is a core element of this process. The OKE provides assistance, for example, with the organisation and implementation of stakeholder workshops and discussion forums and helps to draft policy briefs, i.e. recommended courses of action for decision-makers. CD is already a central element of many research projects at the ZMT and its partner institutions. In future, we intend to promote an even greater exchange of information within the CD framework, for instance by means of complementary activities such as massive open online courses and e-learning. Greater involvement in future of society in general can be achieved both by providing open access to data and literature and also by general environmental education and citizen science. Detailed information about CD is provided in the [Capacity Development Strategy 2025](#)³.



Citizen science involves lay people in data collection and evaluation, thus facilitating access to science and reciprocal knowledge transfer. The focus in that respect is primarily on involving the populations of tropical coastal areas. Observing not only the incidence of certain species of animals and plants and incidents of environmental pollution, but also the social dynamics of tropical marine coastal areas are sectors where citizen science could deliver benefits for the ZMT and the tropical partner countries in future.



A holistic approach is the only appropriate response to environmental problems, which is why the ZMT is also committed to **environmental education**. In future, we want to raise awareness and involve the general public. A suitable framework for doing so consists of courses, information sessions and exhibitions aimed at various target groups, ranging from school classes to tourists.



The ZMT also offer **formal consultation** services, primarily for non-scientific stakeholders. These services include the preparation of expert opinions, strategy development and participation in committees and advisory bodies. The ZMT thus facilitates knowledge-based and sustainable societal decisions. In future, scientists

³ Westphal, H., Ekau, W., Horndige, A.-K., Wolff, M. (2017): ZMT Capacity Development Strategy 2025, Bremen. URL (Executive Summary): https://www.leibniz-zmt.de/images/content/pdf/Mission_Werte/ZMT_Capacity_Development_Strategy_2025_Executive_Summary.pdf

could offer formal consultation in the form of appropriately adapted fact sheets on the website and establish this process as a fixed contribution to knowledge transfer.



The ZMT has comprehensive infrastructure which includes laboratories, a marine experimental facility and the scientific diving centre. In future, the ZMT



plans to offer online analyses, training and consulting in the infrastructure units. A defined process will facilitate access by third parties.

The implementation of scientific activities in economically relevant formats is not only a source of outside funds: enabling the practical utilisation of sustainable technologies makes an important contribution to society and thus serves to fulfil the ZMT mission.



Cooperation with business enterprises and academic partners leads to practice-focussed technologies which promote more sustainable resource management on a national and international scale. Although the ZMT already collaborates with other scientific institutions and international organisations in a number of ways, the institute supports endeavours to expand the opportunities for cooperation with business enterprises.



A process has already been defined for reporting employee **inventions** and raising staff awareness in the interests of being able to raise the number of inventions filed for protection by ZMT staff in future.



Processes are currently being defined for subsequent **patenting or licensing** to facilitate these procedures and ultimately boost the exploitation of the newly developed technologies. A process is also being defined to govern the procedures for the provision of material – subject to payment – at the ZMT.

In future, the OKE will also continue to provide assistance on legal aspects of transfer. The OKE also provides assistance with drawing up contracts.

5 Spin-Offs at the ZMT



Independent companies are set up to enable the scientists to transfer the research and development findings of the ZMT into marketable products and services. These spin-offs provide the ZMT with a good opportunity for making society aware of its self-defined targets of sustainability and the protection of tropical coastal ecosystems. Again, the OKE provides support and can make use of the experience it has acquired in this sector.

6 Transfer Processes at the ZMT

Mastering the present and future societal and ecological challenges of tropical coastal ecosystems is a core element of the ZMT mission. The implementation and continuous enhancement of our transfer strategy helps to exploit the potential available at the ZMT more effectively for transfer to business, political and societal environments.

The ZMT aims to provide a working environment which facilitates transfer activities by its staff. The core elements of this environment include

- clearly defined structures, process and contacts
- support in the planning, implementation and documentation of the transfer activities by the Office for Knowledge Exchange and, if necessary, by external service providers
- the provision of support in connection with transfer activities to ease the time pressure on our staff
- financial support for transfer activities
- workshops and training courses for ZMT employees on various transfer aspects

7 Next Steps

The Office for Knowledge Exchange (OKE) provides support for the ZMT scientists in the planning and implementation of transfer processes. Contact details and supporting documents are provided on the [OKE website](#). A supplementary manual with more detailed information is also available at the OKE. The manual deals with all the topics which are outlined in the strategy in detail and explains precise courses of action and processes. The OKE also helps scientists draw up the appropriate contracts. All scientists who require assistance with transfer activities or have ideas for certain processes are welcome to contact the staff at the OKE at any time.

By conducting research in tropical coastal areas and the systematic exchange and transfer of knowledge, the ZMT makes an important contribution towards addressing ecological and social questions and thus to the global wellbeing of nature and society.

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