

## Technological Innovation for Ocean Resource Management: The Patent System

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### Background

Sustainable use and conservation of the oceans and its living and non-living resources have become a highly visible issue on the global agenda. In that respect, the international community is addressing, among other initiatives, the UN Sustainable Development Goals (SDGs), specifically Objective 14 dealing with “Life under the seas”, and negotiations taking place at the UN Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction in New York (commonly referred to as BBNJ), the latter being of a binding nature.

However, whatever progress made will face the limitation that 80-90% of the ocean remains unmapped, unobserved and unexplored. The degree of uncertainty, thus, remains high and, most certainly, decades of research and technological innovation will be essential to better understand life under the seas and face the challenges to maintain oceans healthy and sustainably developed through science-based sustainable use and conservation, two sides of the same coin.

### WIPO and Patents

The World Intellectual Property Organization (WIPO) ([www.wipo.int](http://www.wipo.int)) is the United Nations specialized agency in intellectual property (IP) matters. It is the center of the debate on innovation of which IP is a tool and not an end in itself. WIPO is a successful case in an, otherwise, struggling UN “family”. It has seen continuous growth in demands for IP services that it administers, mainly the Patent Cooperation Treaty (PCT) and the Madrid System for trademarks. The services it provides makes WIPO a financially self-sustainable, member driven specialized agency. Further, at a time where multilateralism seems to be at an impasse, WIPO continues to adopt global treaties.

The good news is that WIPO’s World Intellectual Property Indicators for 2018 published last December show that patent applications in the field of

environmental technologies increased at an unprecedented annual rate of 8.5% in the period 2006-2016.

This dramatic increase means that research institutes, universities, inventors, entrepreneurs, the creativity ecosystem at large, listened and responded to market and societal demands. Technology brought humankind to this point, and it will lead the way forward.

Thousands of marine and fisheries technologies patents were granted or filed through WIPO's ([www.wipo.int](http://www.wipo.int)) Patent Cooperation Treaty (PCT) can be accessed to solve complex solutions in a practical way, avoiding politicization or philosophical considerations that, at times, seem to dominate the debate.

Patents are generally accepted to promote innovation, protect creativity and share technology by divulging information that can be used to solve challenges and multiply opportunities, as they apply to ocean management of living and non-living resources and biodiversity.

### How does PatentScope work?

WIPO makes available, free of cost, its patent database called PatentScope. It currently holds 90 million patent documents, 3.8 million approved and the rest filed.

It also provides information on the country of origin of the patent, the names of the countries in which it was filed, the name of the inventor, the company, research institute, university among others entities, which claims the patent rights, where the markets are, in which direction and in which technological sectors research is being prioritized, trends, tendencies and all marine, fisheries, plastic debris and ocean-related innovation in general.

The following link allow free access to conduct a simple or advanced search on PatentScope,

<https://patentscope.wipo.int/search/en/search.jsf>

While online, type the subject of interest on the interface. For example, “marine technologies” or simply “Marine” or “Ocean” or even “illegal fishing”

Under “Environment”, there are over 1.2 million entries. “Marine” or “Ocean”, close to 500.000. “Illegal Fishing”, over 1000, including, as an example, number 6 and 7. These are, again, all patent applications filed or granted for technological innovation and they all provide some sort of knowledge-based solution, mitigation or opportunities to ocean -related management issues.

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6.3109659 SATELLITE **FISHING** SURVEILLANCE CONSTELLATION AND METHOD

EP - 28.12.2016

Int.Class **G01S 5/00** Appl.No 15447009 Applicant M&M CORP COMM VA Inventor MERGEAY MAURICE FRANÇOIS Systems, satellites and methods are described relating to low earth orbital (LEO) satellites for obtaining satellite surveillance for searching and tracking **illegal fishing** vessels in a region having thousands of islands, a very lengthy coast line, huge area and large distances of thousands of kilometres.

7.1020150049270 **ILLEGAL FISHING** VESSEL MONITORING SYSTEM

KR - 08.05.2015

Int.Class **G06Q 50/26** Appl.No 1020130129578 Applicant 한국해양과학기술원 Inventor KIM, SEUNG GEUN

The present invention relates to a system to monitor **illegal fishing** vessels. The invention consists of the following units: a monitoring ship which broadcasts messages requesting for vessel information including **fishing** authorizations and receives the given area by receiving reply signals; a database attached on the **fishing** authorization processing unit and storage; a communications terminal mounted on the monitoring ship, which processes communications with the **fishing** authorization processing unit in response to the message requesting for vessel information including **fishing** authorization broadcast from the **fishing** authorization processing unit. In the system to monitor **illegal fishing** vessels, the monitoring ship can find out information on permission remotely, thereby monitoring **illegal fishing** vessels. COPYRIGHT KIPO 2015

You should be aware, however, of fact that a patent search is a very complex endeavor and that WIPO offers basic to advanced courses to its own staff from time to time to be able to fully take advantage of the potential value of PatentScope. You will notice that a video-manual and information on webinars are made available in the PatentScope site. The assistance of your national IP office will greatly enhance the information you will access. The link to PatentScope is,

<https://www.wipo.int/patentscope/en/>

## Technology Transfer

The debate on Technology Transfer (TT) and Intellectual Property, as anticipated, is a thorny issue in every negotiation. From WTO, WIPO, UNCTAD to Climate

Change to BBNJ. In the April negotiating round of the latter, both issues were debated with little headway made. It is not about States TT to other States. States own 3-5 per cent of patents. The rest is strictly private sector and patent title holders expect a return for their investment, the risks taken and the fact that creativity and ingenuity should be incentivized and rewarded in order to reinvest and continue to advance technological solutions and opportunities to what, ultimately, are human challenges.

Creating Public, Private Partnerships (PPPs) seems to be a way forward to TT, TT, in fact, is more of a "package" concept that, to be effective, needs to include know-how, maintenance, parts, training and even the achievement of self-sustainability to really have an impact. How to pay for all this? Public funds, climate funds, international development institutions, the Global Environmental Facility (GEF), philanthropic foundations that could license or buy and share the patents, private sector companies willing to collect marine debris and recycle it for free. Even in the case when patents are in the public domain, it should be regarded as part of development aid and technical cooperation as well as business opportunities with national entrepreneurs and foreign investors.