Technology Transfer under UNCLOS: Advantages, Limits and Risks of Licensing

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The following presentation sets out the personal findings and opinions of the author. It is not intended to provide (a) a comprehensive treatise on the subject, or (b) legal advice in any manner.

The „Harvester"

It is always good to have something palpable to imagine when talking about such a dry subject.

So, imagine your company has invented the autonomously walking **Harvester**, collecting on-surface matériel by lowering nets between its structural parts, from where after hoisting them the matériel (say, manganese nodules) is slid onto ducts on which, by a pulsating suction, it is propelled in the interior of the apparatus for being hoisted to the surface. This shall be the technology to be licensed.

Advantages:

- **Economy**: modular construction, can be easily scaled;

- **Ecology**: „walking" and nets as harvesting means reduce the footprint on the seafloor.

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1.1 Examples for Technical Cooperation Obligations

Common Heritage Principles
Art. 144 UNCLOS: Authority and States promote co-operation;

Marine Scientific Research
Art 244 UNCLOS: States to promote the dissemination of data and other results of marine research;

Development & Transfer of Marine Technology
Art. 266 et seq. UNCLOS: States to promote dissemination of marine technology, particularly to (land locked) developing countries;

DSM Régime
Section 5 of Annex to 1994 Amendment of UNCLOS: (now) about same degree of obligation for DSM as in rest of UNCLOS

1.2 Reasons for/Purposes of Cooperation Obligations

Ocean as a „Shared Resource"
important for all to be on the – largely - same level of knowledge (i.a. re environment);

Historical Reasons
UNCLOS as a „child" of late decolonization phase: High demands from the 3rd world on the (technical) resources of the 1st and 2nd;

Synergies for Mankind's „Single Shot"
in many fields (e.g. DSM) we have one chance to extract, one chance to pollute. Thus try to bring knowledge together to have the best means available;

Cost Control
Co-operation can entail standardization thus reducing TCOP for both gear and harvest.

1.3 (Legal) Nature of the Obligations

Primary Adressees of Obligations
The States Parties to the Convention.

Character of Obligations
to promote, encourage,facilitate etc. ➡ Cause others, e.g. companies, institutes to act.

Implementation
States may create voluntary cooperative R&D programmes to develop marine technology, or also make participation in consortia for exploration/exploitation dependent on readiness to transfer technology.

DSM Régime
ISA, dealing directly with consortia composed of e.g. industry and institutes, requires technology transfer (Cf. e.g. in the Mining Code Nodules –Exploration - , Regulation 27 and Model Contract Section 8)

1.4 Types of Cooperation (selected)

Informational Data Sharing
Pure information exchange. No IP protection involved save perhaps database rights. All kinds of data covering the properties of the environment encountered by the explorator.

Mutual Supply
Company A supplies specialized products to company B, e.g. a positioning system for a harvester underneath a mining ship. This requires intensive finetuning of interfaces and specs. Other than maybe software, no licensing usually involved.

Joint Development
R&D by diverse entities, using technical or scientific synergies, under joint management and with joint objective (e.g. development of new harvester). Right of use for all parties.

1.4 Types of Cooperation (selected) **(2)**

Licensing
One entity (corporation, institute) discloses technology to another and permits commercial use of the know-how and IP under certain conditions (UNCLOS: „fair and reasonable"). Example: You as institute A license a design developed for a harvester to company B which intends to build and employ, or resell, the harvester commercially.

Joint Venture
Closest form of Co-Operation: companies contribute e.g. technology and production capacities into a jointly held new company. Usually, the JV is licensed by the parent companies to use their non-transferred IP in its operations. Example: operating a licensed harvester, or: manufacturing and selling said harvester.

2.1 Technical Cooperation by Licensing – Why?

Licensing
The most appropriate means to foster the objectives of UNCLOS' demand for co-operation, because….

- knowledge/technology is effectively spread (in contrast to supplies)
- The technology is (should be!) mature and proven (in contrast to R&D co-operation results)
- Less dependance from licensor than in a JV situation.

As always, upsides are accompanied by downsides, limits and risks. These should be carefully examined before deciding. Examples are shown in the following slides.

2.2 Characteristics of Licensing

Licensing usually includes

- A **right** to make/have made and sell use or practice…
- ….a **product, method, or service**…
- …under **patents** and/or **know-how** of licensor,….
- … which right is **non-exclusive** and **non-transferrable**, ….
- …can be used in an agreed **territory**, or worldwide…
- …usually for a fixed period of **time**…
- …and mostly against a monetary **compensation**.

2.3 Key Features of a License Agreement

- Most important: the **definitions**!
- License **grant**
- Specifics of **know-how-transfer**
- **Compensation**
- Possibly **grant-back** on improvements
- **Warranties/liabilites**
- **Confidentiality**
- **Term, termination** and post termination rights if any

2.4 Advantages of Licensing for Licensor

...apart from complying with your seat country's demand:

- Spreading a technology may **help the holder/licensor to sell own related products** to more customers (quasi-standardization) – such as spare parts for the harvester.
- The licensor may **earn money** from products **in a market he cannot reach**.
- Discussing homologation of licensor's technology with licensee may **introduce** him to **new system environments, new specs, or new applications.**
- Being known as a technology licensor may **raise profile**.

2.5 Downsides of Licensing for Licensor

- He will be **nurturing competitors**!
- He will **slacken the control** over his know-how.
- While training and homologation are usually paid by licensee, licensor may find valuable **expert resource grounded** at critical times, which no money makes good.
- Licensor may **face claims** from 3rd parties based on faulty implementation of his technology by his licensee. Although many claims may be groundless, the **defense causes effort** and cost.

2.6 Risks from Licensing for Licensor

- **Damage to licensor's reputation** through faulty implementation on licensee's part;
- Economical problems at licensee may cause **interrupt** of **royalty flow**;
- Aggressive **competition** from licensee;
- Real third party or licensee **damage claims** costing money;
- Last not least, potential **loss of a unique selling proposition**!

2.7 Limits: What one should **not** do in a License

Non-exhaustive enumeration!

- Restrict the licensee to **only supply to named customers**;
- Prescribe licensee‘s **prices** to customers;
- Restrict licensee‘s **output**;
- **Prohibit** licensee‘s in at least the EU; **challenge of licensed patents**
- Require licensee to convey to licensor exclusive license or ownership in the **improvements** licensee finds to the licensed technology.

3 Liability

Preface

- Licensing means to enable **somebody else** to act in the marine environment with your technology. Thus,
- wherever the rules (e.g. the Mining Code Nodules – Exploration – Regulation 30) spell out liability of him who acts directly - e.g. damaging the environment – if that is the licensee, then it will **primarily be him** who is responsible. One caveat to this will be pointed out later.
- Yet, the **licensee may raise claims** against licensor asserting e.g. that the harvester has a design flaw and works out of spec.,
- or even **approval** of an exploration/exploitation permit **may fail** due to non-compliance of the technology with the environmental standards (cf. *ibid*, Regulation 21).

3.1 Extreme Liability Contract Clauses

Licensee-friendly

- Licensor warrants that the licensed products will be conform to the specification of the customer, free from defects, and free of patents of 3rd parties. Licensor will be liable for all damage incurred by licensee and/or ist costumers based on a breach of this warrantiy.

Licensor-friendly

- Licensor excludes all warranties and liabilities with respect to the licensed product, even in case the licensed know-how conveyed to licensee may have been technically defective or incomplete.

We will later return to what would be reasonable/feasible…..

3.2 Cases that Happen

Collapsing Housing

- The housing of the vacuum pump operating the ducts collapses under deepsea pressure. It was manufactured by the letter according to the license documentation. Licensee claims damages based on design flaw („licensor should have been aware of deepsea employment involving high pressure").

Congealing Duct Intakes

- In practical application it turns out that the duct intakes are too large to avoid debris slipping in, blocking the machinery. Licensee reduces the intake size, now the intakes congeal. A customer of licensee, knowing that your company owns the technology, claims compensation from you for damages resulting from bad performance.

3.3 Possibilities of Limitation of Warranties/Liabilites

In general,

- warrany/liability restriction only towards contract partner, not third parties (however, „Hold harmless" possible);
- liability for intent or gross negligence cannot be excluded;
- liability for loss of life and damage to people cannot be excluded.

Within these limits, licensing practice uses to

- exclude warranty/liability of licensor for any defects in the **products licensee produces** under the license, or for their commercial success;

- exclude liability for infringement of **3rd parties' IP** by the licensed products made by licensee;

- obligate licensee to **indemnify licensor** against claims of 3rd parties based on one of these causes.

3.4 Special Considerations Regarding DSM

The „bad news"

- The Area is a very damage sensitive field, plus it provides extremely demanding conditions for any technology to be employed (depth, temperature, pressure, visibility etc).

- Thus although licensee may be primarily responsible for actions (cf. Preface, slide 21), ISA or a court may challenge the design if it neglects precautions in construction or process which a reasonable expert skilled in the art would have undertaken to account for these risks.

The „good news"

- At least presently, conditions in the deep sea are not fully predictable. Thus if otherwise following the advice above, licensor might exclude towards licensee his liability for damages a reasonably skilled expert would not have been able to foresee despite these precautions.

3.5 Liability Risk Reduction in Practice

Some more suggestions from practical experience:

- avoid boasting
- use matured technology for licensing
- either fully disclose technology or explain gaps
- Be considerate with granting trademark license or requiring „under license from" notations
- obtain a picture of licensee's capability and reliability
- make sure you understand the system environment and application parameters of the licensed product

Thank you for your attention!!

BACKUP: Source texts

Common Heritage Principle

Art 144 UNCLOS

1.
The Authority shall take measures in accordance with this Convention:
(a) to acquire technology and scientific knowledge relating to activities in the Area; and
(b) to promote and encourage the transfer to developing States of such technology and scientific knowledge so that all States Parties benefit therefrom.

2.
To this end the Authority and **States Parties shall cooperate in promoting the transfer of technology** and scientific knowledge relating to activities in the Area so that the Enterprise and all States Parties may benefit therefrom. In particular they shall initiate and promote:

(a) **programmes for the transfer of technology to** the Enterprise and to **developing States** with regard to activities in the Area, including, inter alia, **facilitating the access of the** Enterprise and of **developing States to the relevant technology, under fair and reasonable terms and conditions;**

(b) **…**

Marine Scientific Research

Article 244 UNCLOS

Publication and dissemination of information and knowledge

.....

2.

.....**States**, both individually and in cooperation with other States and with competent international organizations, **shall actively promote the flow of scientific data and information and the transfer of knowledge resulting from marine scientific research, especially to developing States**.....

Development and Transfer of Marine Technology

Article 266 UNCLOS

Promotion of the development and transfer of marine technology

1.
States, directly or through competent international organizations, shall cooperate in accordance with their capabilities to **promote** actively the development **and transfer of marine science and marine technology on fair and reasonable terms and conditions.**

2.
States shall promote the development of the marine scientific and technological capacity of States which may need and request technical assistance in this field, particularly eveloping States, ...

Article 269 UNCLOS

..... States, directly or through competent international organizations, shall endeavour, inter alia, , to:

(a) establish programmes of technical cooperation for **the effective transfer of all kinds of marine technology to States which may need and request technical assistance in this field, particularly the developing land-locked and geographically disadvantaged States**, as well as other developing States which have not been able either to establish or develop their own technological capacity in marine science and in the exploration and exploitation of marine resources or to develop the infrastructure of such technology.....

Challenges to the Protection of New Technologies Used in the Area

„**Transfer of Technology**" , Annex III, **Art. 5** of UNCLOS, replaced by the 1994 Amendment to UNCLOS by the latter's **„**Annex, **Section 5 ":**

Old „Art. 5" stated very detailed obligations of technology transfer and, among others, made a contractor's readiness to grant rights of use to the Enterprise and certain Developing States at fair&reasonable conditions a prerequisite for obtaining an exploration license from the authority.

New „Section 5" provides:

- The Authority may request states and contractors to co-operate with it to facilitate acquisition of technology at fair&reasonable conditions by Enterprise or Developing States, consistent with effective protection of intellectual property rights.
- States shall promote international technical and scientific co-operation regarding the Area