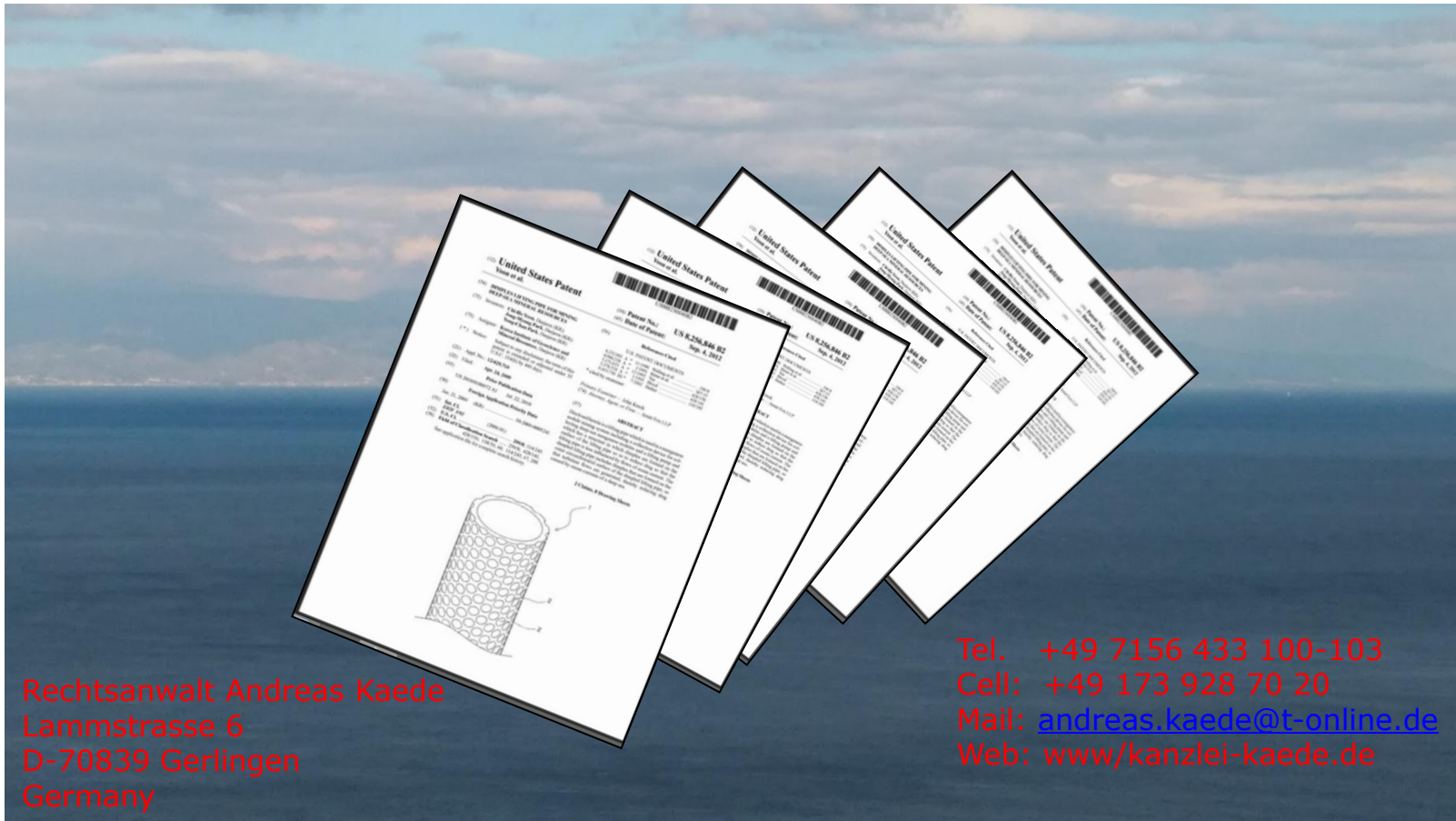


Deep Sea Miners' Obligations to Transfer Technology under UNCLOS and ISA Rules



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Disclaimer:

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.

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1. The "Field of Tension"

- 1.1 industry's interest
- 1.2 World/ocean community interest

2. Instruments of protection

- 2.1 Patents
- 2.2 Copyrights
- 2.3 Non-Disclosure re. Know-how
- 2.4 Communication Policy

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- 3.1 ISA Rules: procedural
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5. Outlook

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- 5.2 Standardization

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1.1 Field of Tension – Industry Interest

- **High invest in resources for DSM**
- **Perception of DSM as chance & challenge for technical development**
- **Broad activities in other fields with established technology & creative workforce**

→Interest to protect, compete, control – also in DSM

ISBA24/LTC/WP1 Rev.1, Draft. Reg. 2, Para 3:

Ensure that the Resources of the Area are Exploited in accordance with sound commercial principles, and that Exploitation is carried out in accordance with Good Industry Practice;

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1.2 Field of Tension – Community Interest

- **Common heritage**
- **Preservation of the environment**
- **Claims of developing countries / right of economical self determination**

→ **share, contribute, support**

ISBA24/LTC/WP1 Rev.1, Draft. Reg. 2, Para 2c: The participation in revenues by the Authority and the **transfer of technology to the Enterprise and developing States** as provided for in the Convention and the Agreement

ISBA24/LTC/WP1 Rev.1, Draft. Reg. 2, Para 2d: The **protection of developing countries from serious adverse effects on their economies** or on their export earnings resulting from a reduction in the price of an affected Mineral or in the volume of exports of that Mineral, to the extent that such reduction is caused by activities in the Area;

ISBA24/LTC/WP1 Rev.1, Draft. Reg. 2, Para 5: Provide for the effective **protection of the Marine Environment** from the harmful effects that may arise from Exploitation

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1.2 Field of Tension – Community Interest

ISBA24/LTC/WP1 Rev.1, Draft. Reg. 2, Para 5d: (provide) **Access to data** and information relating to the protection and preservation of the Marine Environment, accountability and transparency and encouragement of effective public participation;

ISBA24/LTC/WP1 Rev.1, Draft. Reg. 2, Para 7: Ensure the effective management and regulation of the Area and its Resources in a way that promotes the development of the **common heritage** of mankind.

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1

Field of Tension

Result of both vectors:

Regulated access of industry to the Area

As brought about (or attempted to bring about) by the ISA Draft Regulations on Exploitation of Mineral Resources in the Area – actual: **ISBA24/LTC/WP1 Rev.1**, - (details cf. previous presentation), → **“Draft”**

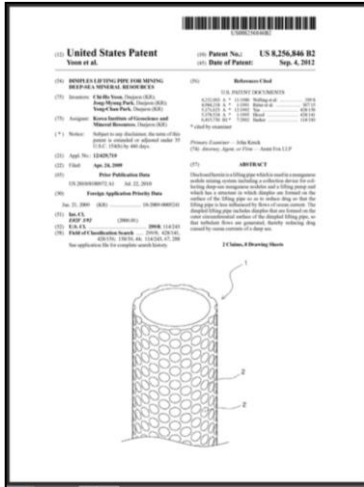
- Stakeholders should always be **aware of the existence** of the tension field when discussing/implementing the Draft
- Effectively the sea floor/subsoil is the **only area** outside national jurisdiction with a regulated industry access régime:
 - **Space & Celestial Bodies**: (almost) free peaceful use
 - **High Seas**: (rather) free peaceful use
 - **Antarctica**: ban on exploitation

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2.1

Instruments of Protection: Patents



Type

Patent

Features

- Protects **new and inventive technical solutions** (device or process) against practising by 3rd parties
- Examination before grant (in most major jurisdictions)
- Runs 20 years from application
- Annual renewal fees
- **Territorial** (= valid only in countries where granted)
- **DSM relevant**

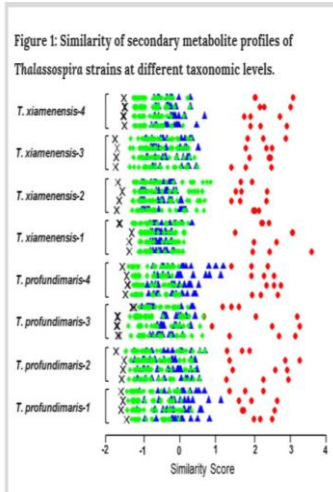
Utility model



- **Subject of protection same as patent**
- **Less stringent examination, also less protection (shorter term, easier to be attacked)**
- **Territorial**
- **Potentially DSM relevant**

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2.2



Type	Features
Database Protection	<ul style="list-style-type: none"> Protects the result of a substantial effort of collecting large data amounts against extraction and re-use of a substantial part thereof; only selected jurisdictions (e.g. EU, directive 96/9/C), certain overlap with ©, no registration Term 15 years (EU), no fees Enforcement territorial (= only where provided in national laws), existence outside national territory possible, depending on the law applicable to the author (e.g. in DE) Potentially relevant for DSM (e.g. environmental and minerals related data)
Copyright	<ul style="list-style-type: none"> Protects a work of authorship with a minimum degree of originality against derivatives and distribution/publication Contents (= underlying idea, technical solution etc) not protected No registration in most jurisdictions Term: minimum 50 years (Berne Convention), several jurisdictions 70 (e.g. EU, US), after authors death Territoriality see above Low relevance for DSM (papers, pictures)

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2.3



Type	Features
Business Secret	<ul style="list-style-type: none">• In many jurisdictions, misappropriation of business secrets (such as sensitive commercial and technical data, kept effectively secret by owner) is sanctioned by criminal law.• Best initial protection is of course the secrecy kept by owner himself, including, when unavoidable, partial disclosure under secrecy (= non-disclosure-) agreements (NDA)• In many cases, „know-how“ will not be patentable, thus secrecy/NDA may remain the protection method of choice• Territoriality (for legal enforcement) see Copyright & Database Protection• Relevant for DSM (e.g. mining technology including any documentation thereof)

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2.4 Communication Policy

- With much of the technology presumably consisting of **know-how** (i.E. unpatentable secret essential information), a proven way of protecting this is
- To meticulously and comprehensively **document** it
- To only disclose a **necessary minimum**, carefully **weighing** what is necessary to provide, and what can be kept secret. Result of weighing may differ according to **purpose of disclosure:**
- **Example:**
- A novel (yet assumption: unpatentable) electro-mechanical component of a dredging apparatus, disclosure purpose: Project description.
 - **disclosable:** functionality, operation modes, measurements, system environment, input- and output values of interfaces
 - **Secret:** FMEA, production tolerances, special choice of material

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Conclusion so far:

- For DSM purposes,
 - **patents and utility models** may be the most relevant statutory means of technology protection
 - **database protection** rights can also be important, however respective law exists in fewer countries than e.g. patent laws
 - **secrecy** (re „know-how“) may be the most suitable means of protection of technology in many cases; most effective of secrecy may be not NDA, but communication policy.

With all of these instruments, the holder may be able to **exclude others** from using all or part of his technology, and thus create/support a favorable market position.

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3. Regulatory Framework

- **UNCLOS** requires that whoever intends to join the Game of DSM should **play by the rules**.
- → For **Holders of technology** and intellectual property rights e.g. in the field of mining, who are interested in performing DSM, this means to **share their technology** (without completely foregoing the rights therein)
- **Two basic purposes** of Technology Transfer (TT)
 - (a) In course of application for exploitation license, **disclose technology** to Authority (provisions mainly in the DRAFT)
 - (b) Based on the Common Heritage Principle, **share technology** with Enterprise and other countries, esp. Developing states (provisions in DRAFT and UNCLOS)

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3.1 ISA Rules: Procedural Requirements for TT

- **Addressee:** Contractor directly, or via Sponsoring State
- **Context:** in the course of the application for exploitation license, or as commitment under the exploitation contract
- **Purposes:** Allow ISA to assess, inter alia, the capabilities of the applicant to conduct DSM, and its preparedness to preserve the environment and to provide effective emergency response.
- **Effect on Contractor's Technology Position:** ISA requires only disclosure, no grant of (commercial) rights of use.
 - no substantial impediment to Contractor's position
 - however, right of Authority to publish some of that information (cf. [ISBA24/LTC/WP1 Rev.1, Draft. Reg. 11](#))

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3.1 Examples of Procedural TT Requirements

- „**Application**“, ISBA24/LTC/WP1 Rev.1, Annex I, Nr. 18: “ Provide detailed documentary **proof of the applicant’s technical capability**”
- “**Mining Workplan**” States sponsoring Contractors shall, in particular, take all necessary and appropriate measures to secure effective compliance by Contractors whom they have sponsored in accordance with Part XI of the Convention, the Agreement, the rules, regulations and procedures of the Authority and the terms and conditions of the exploitation contract. Annex II lit. d “Details of **equipment, methods and technology** expected to be used in carrying out the proposed Plan of Work”
- „**EIS**“, ISBA24/LTC/WP1 Rev.1, Annex IV, Template, item 3.3.2: “Provide **details of the technologies** to be employed, including relevant diagrams and drawings, that address: the Mining Workplan, timelines and the general mining sequence, the technologies to be employed to recover the resource from the seabed, the depth of penetration into the seabed and other details of the mining activities.”

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3.2 UNCLOS: Material TT Obligations

- **Addressee:** Contractor, by reference to obligation incumbent on States Parties (e.g. Sponsoring State)
- **Context:** As general obligation of conduct, once involved in "Activities in the Area"
- **Purposes/Causes:**
 - 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 (or prevent pollution). 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.

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3.2 UNCLOS/ISA Rules: Material TT Obligations

• Effect on Contractor's Technology Position:

- Creation of **competitor** (and be it the Enterprise or a Developing State – resp. industry working on behalf)
- Generation of **new protected technology of other party** not based on, but caused by, the technology first provided
- Other party may detect **strengths and weaknesses** in Contractor's technology and use for its benefit
- **Imbalance** in IP position, if no reciprocity is assured

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3.2 Examples for Material TT Obligations

- **Method “incorporation by reference”:** The contractor is held by a general clause in the Draft Regulations, or e.g. the contract, to comply, respect, or hold applicable the rules of other international instruments, mainly UNCLOS. This includes TT. Examples in the Draft Regulations:
 - ISBA24/LTC/WP1 Rev.1, Annex I, Nr. 24, to accept as enforceable the applicable Rules of the Convention & rules, regulations of the authority
 - ISBA24/LTC/WP1 Rev.1, Annex X, Section 17 „Standard Clauses for Exploitation Contracts” , whereby the Contract is governed by...the rules...of the Authority, and other rules of international law not incompatible with the Convention

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3.2 Examples for Material TT Obligations

- **Examples of UNCLOS rules referenced:**
- **Common Heritage Principles**
Art. 144 UNCLOS: Authority and States promote co-operation & TT;
- **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:
following slide

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3.2 Examples for Material TT Obligations

„**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.

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4.1

Licensing as Mode to Comply with the TT Obligations

- **Out of TT Methods**
 - Supply of products, services
 - Development co-operation
 - Joint Venture
 - Licensing between independent parties
- **Licensing** is the most practical for DSM:
 - TT more effective than in supplies
 - Technology more mature and proven than in Development co-operation
 - Ties between parties less severe than in JV situation

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4.1 Licensing : Elements

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**.

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4.1 Licensing : Elements

important fulfillment clauses (selection)

- Definition of the **Contract Product/Service**
- Provision/description of the **deliverables**
(documentation, training, samples...)
- Time schedules for the deliverables (in relation to payment)
- Prerequisites of training:
qualification/quantification of trainers and trainees
- Quality control

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4.1 Licensing : Further Elements

Licensing contracts also may comprise

- **Liability** restrictions
- **Improvements** included in license
- **Grant-back** of Licensee's improvements

Problematic clauses (examples)

- **Market distribution (customer restriction)**
- **Licensee price fixing**
- **Exclusivities**
- **Non-contestation of licensed patents**

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4.2 Role of Sponsoring State

- **ISBA24/LTC/WP1 Rev.1, Draft Section 103:** States sponsoring Contractors shall, in particular, take all necessary and appropriate **measures to secure effective compliance** by Contractors whom they have sponsored in accordance with Part XI of the Convention, the Agreement, the rules, regulations and procedures of the Authority and the terms and conditions of the exploitation contract.
- Contractor not Party to Rules or Convention
- → Performance Guarantee by State needed

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4.3 Compliance/Enforcement

- **Procedural TT obligations** (Applicant → ISA/UNCLOS)
 - Enforcement „simple“: ISA may or may not promote the application
 - Disclosure would expectably be oriented closely at (1) the requirement in the form/schedule, and (2) purpose of the rule
 - If possible, ISA and applicant should attempt to establish out front which criteria would be applied to judge a disclosure „satisfying“ or „unsatisfying“
 - Patent application grace periods to be observed

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4.3 Compliance/Enforcement

- **Material TT obligations -1-** (Contractor → Sponsoring State → ISA/UNCLOS) or **-2-**(Contractor → ISA/UNCLOS via exploitation contract)
- **-1-**
 - Legislation, administrative acts by the (Sponsoring)State (e.g. readiness to license technology as qualification for a membership in a mining consortium)
 - Contractor bound by law of Sponsoring State
 - However, substantial margin of appreciation at Sponsoring State what to enact and how to enforce
 - Contracting also expectable between the Consortium members – additional TT ensuing
- **-2-**
 - Contractor no Subject of UNCLOS
 - Enforcement by ISA based on Contract
 - Very broad terms of obligation: questionable, to what extent capable of narrowing in suit

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5.1

Outlook

ISA Midterm Strategy

- „A Strategic Plan for the International Seabed Authority for the Five Year Period 2019-2023“,
- Assembly Decision **ISBA 23/A/13**
- 1 of 9 main challenges: capacity building & technology transfer
- No 8 on list: „Programme of technical assistance for developing States“
- Need to define a field of action more closely, potential elements e.g.
 - more draft clauses?
 - „support brokering“
 - generate or subcontract a fulfillment agency (facilitate & standardize documentation, training etc)

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5.2

Outlook

Standardization

- element of technical facilitation for
 - reducing cost
 - improving quality
 - increasing reliability e.g. in case of disaster prevention
- generation possible by joint R&D (also funded programmes to be considered)
- licensing of standard related IP against fair, reasonable and non-discriminatory (FRAND) conditions

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Thank you for your
attention!!