Challenges to the Protection of New Technologies Used in the Area

Overview:

1. Types of technology protection in general (patents, copyrights etc)

2. The question of territory: What to do on the high seas/the Area?

3. Disclosure obligations: whom do I have to tell my secrets when?

4. Obligations to license out: when am I forced to grant rights of use of my technology to others

5. Conclusion: the Area, a good environment for innovation under IP aspects?

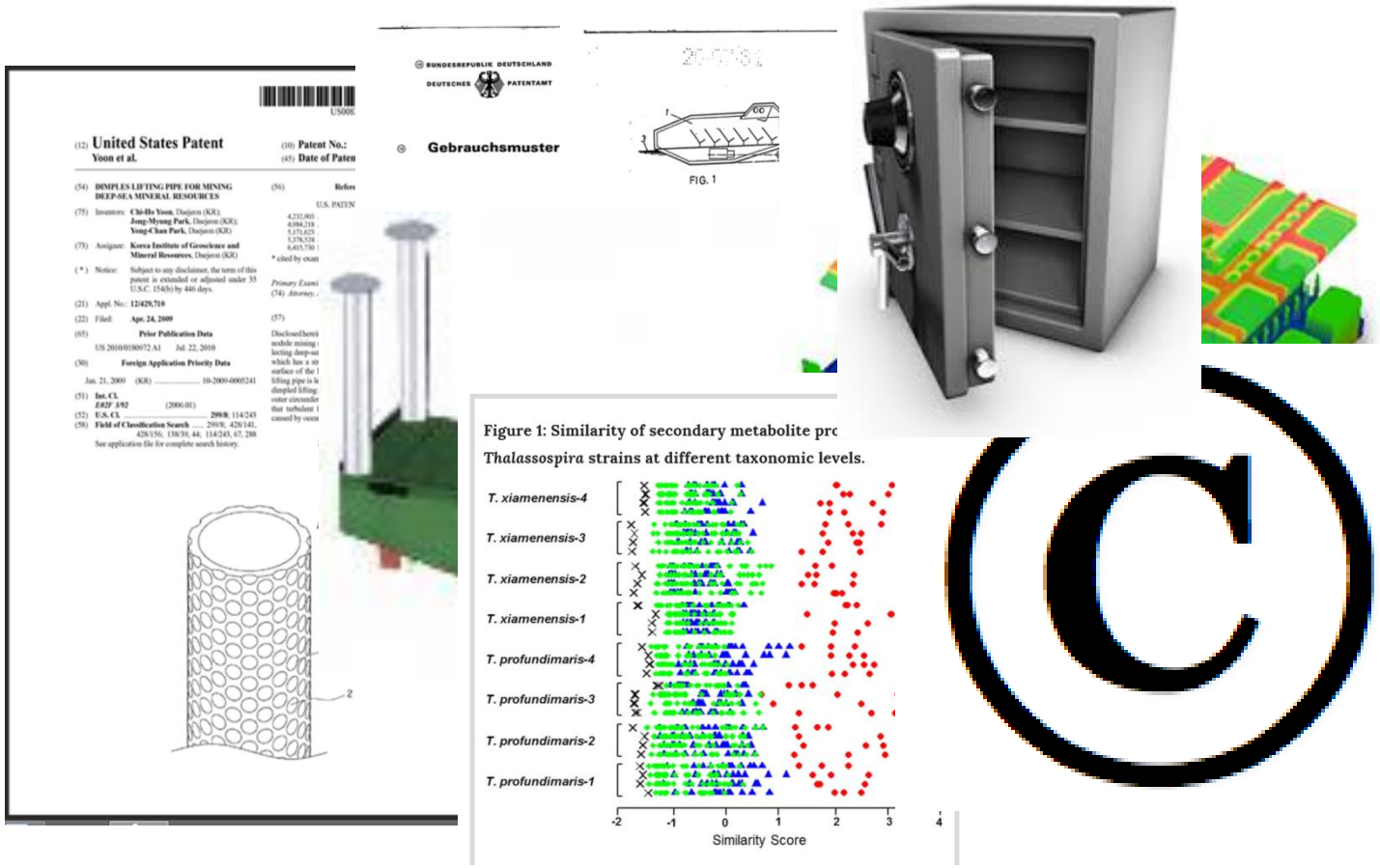
Challenges to the Protection of New Technologies Used in the Area

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.

Challenges to the Protection of New Technologies Used in the Area

1. Types of technology protection in general



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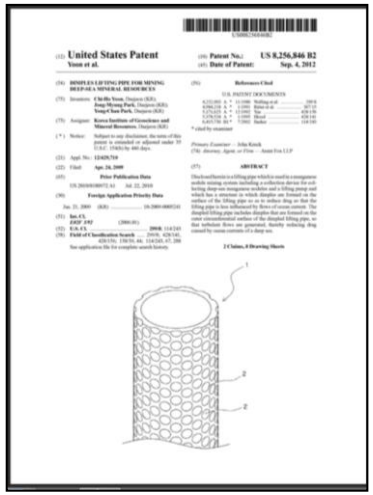
United States Patent


BUNDESREPUBLIK DEUTSCHLAND
DEUTSCHES PATENTAMT
Gebrauchsmuster U1

Type	Features
Patent	• 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, faster grant procedure • Term only 10 years, renewal fees after 3, 6, 8 years (Germany), other jurisdictions either differ or do not provide for this type (e.g. US) • Territorial • Potentially DSM relevant

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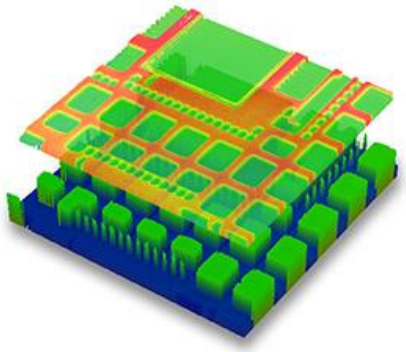
Type	Features
Design Patent	• Protects new, original and ornamental 2D or 3D **design** against practising by 3rd parties • Mostly no substantial examination • Term differs (e.g. 10 years CN, 15 years US, 25 years DE max) • Renewal fees, if any, in larger intervals (e.g 5 years in DE) • Territorial • Probably not interesting for DSM due to subject
Mask work right	• Subject of protection is the **threedimensional structure of an integrated circuit** • Some parallels to copyright • Registration required • No substantial examination, yet originality required • Term: varies per country. DE: 10 years • Territorial • Rarely DSM relevant



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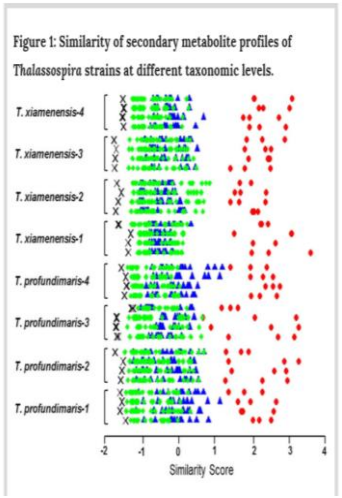

Type	Features
Database Protection	• Protects the result of a **substantial effort of collecting large data** amounts against extraction and re-use of a substantial part thereof; only selected jurisdictions (e.g. EU, directive 96/9/C), • certain overlap with ©, no registration • Term 15 years (EU), no 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 data)
Copyright	• 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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Type	Features
Business Secret	• In many jursidictions, 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 • In many cases, „know-how" will not be patentable, thus secrecy may remain the protection method of choice • Though requiring constant viglilance, this type of protection is preferred by many over e.g. patent applications registration • Territoriality (for legal enforcement) see Copyright & Database Protection • Relevant for DSM (e.g. mining technology including any documentation thereof)

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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** (partly supplemented by criminal law provisions) may be the most suitable means of protection of technology in many cases

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Means of protection/remedies:

- **patents and utility models:** in most jurisdictions, injunction (=cease & desist from practising the invention), damages against infringer; in special circumstances, also criminal prosecution of infringer
- **database protection rights**: injunction, damages
- **secrecy:** factually: providing for inaccessibility by owner of the secret. Legally (in case of misappropiration): criminal prosecution of perpetrator

2. The question of territory: What to do on the high seas/the Area?

- Patents and utility models are **territorial rights**, i.e.
  - they can only **exist** in those countries, in which they have been successfully applied for
  - they can only be **enforced** against an infringer in those countries, applying that countries' laws
- Protected databases and business secrets can **exist** anywhere, yet, legal **enforcement** of related rights also call for the authority based on national sovereignty

Challenges to the Protection of New Technologies Used in the Area

High Seas/Area

Continental Shelf

EEZ

Contiguous Zone

Territorial Waters

no…

very few…

few…

some…
full…

…sovereign rights of the **coastal state**

Article 89 UNCLOS

Invalidity of claims of sovereignty over the high seas

No State may validly purport to subject any part of the high seas to its sovereignty.

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- **Patentability of inventions made on the high seas**
  - no coverage of high seas, or exploration/exploitation areas themselves
  - choice of patent countries
  - challenge to preserve novelty

- **Confidential information**
  - effective control depending on information type
  - business interest vs scientific exchange

- **Validity, jurisdiction and enforcement**
  - Flag State Principle, Art. 91-94 UNCLOS
  - Piracy and seizure, Art. 101-103 UNCLOS
  - Jurisdiction of the Seabed Chamber (Art 187 (c) iii UNCLOS)?
  - Countries of manufacture, use, sale….
  - Patent/penal enforcement in port (Art 27 *et seq* UNCLOS)?

3. Disclosure obligations: whom do I have to tell my secrets when?

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Possible disclosure requirements:

(a) Application for an exploration license:

Regulation 12 section 10 of the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area provides:

10. Except as provided for in paragraph 2, each application shall include:

(a) A general description of the applicant's previous experience, knowledge, skills, technical qualifications and expertise relevant to the proposed plan of work for exploration;

(b) A general description of the equipment and methods expected to be used in carrying out the proposed plan of work for exploration and other relevant non proprietary information about the characteristics of such technology; and

„General Description" and „Non-proprietary information" should allow to disclose not the detailed new invention, but just a generic statement (e.g. „ pipe with innovative surface"). Moreover, Regulations 36, 37 provide for certain confidentiality measures on the part of the Authority

(b) General Obligation of the States re Environmental Protection

Art. 194 UNCLOS

1. States shall take, individually or jointly as appropriate, **all measures** consistent with this Convention that are **necessary to prevent, reduce and control** pollution of the marine environment from any source, using for this purpose the **best practicable means at their disposal...**

3. The measures taken pursuant to this Part shall.... include, *inter alia*, **those designed to minimize** to the fullest possible extent.....(a),..... (b)....

(c) pollution from **installations and devices used in exploration or exploitation of the natural resources** of the seabed and subsoil, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and **regulating the design, construction, equipment, operation and manning of such installations or devices**;

such an obligation may cause the Sponsoring State of your Exploration Consortium to require detailed technical information about what environment friendly and –risky technology you as participating entity will employ.

(c) Comparable other potential causes of inquiry

- On the part of Sponsoring States:

  Rules on Transfer of Technology
  under the Common Heritage Principle, particularly to Developing States and the Enterprise, Art. 144 as well as 266 seq. UNCLOS

  Rules on Marine Scientific Research
  By way of international co-operation, Art 244 UNCLOS

- From other sides, e.g.:

  The **customer**, in case of the usual multi-tier process to build the DSM installation

  Maritime insurers, to estimate the risk to be covered

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- Character and intensity of measures mentioned before depend on the legislation of the respective state
- In case a company would have to respond to such inquiries, it appears advisable to
  - **thoroughly examine** the requests in order to respond with only as much information as is really required
  - **obtain assurances of confidentiality** resp. reserve a need for consultation if certain information should be intended to be forwarded to other companies, states or the Authority
  - **file patent applications** (to the extent the technology appears patentable) before disclosure in reply to such inquiries

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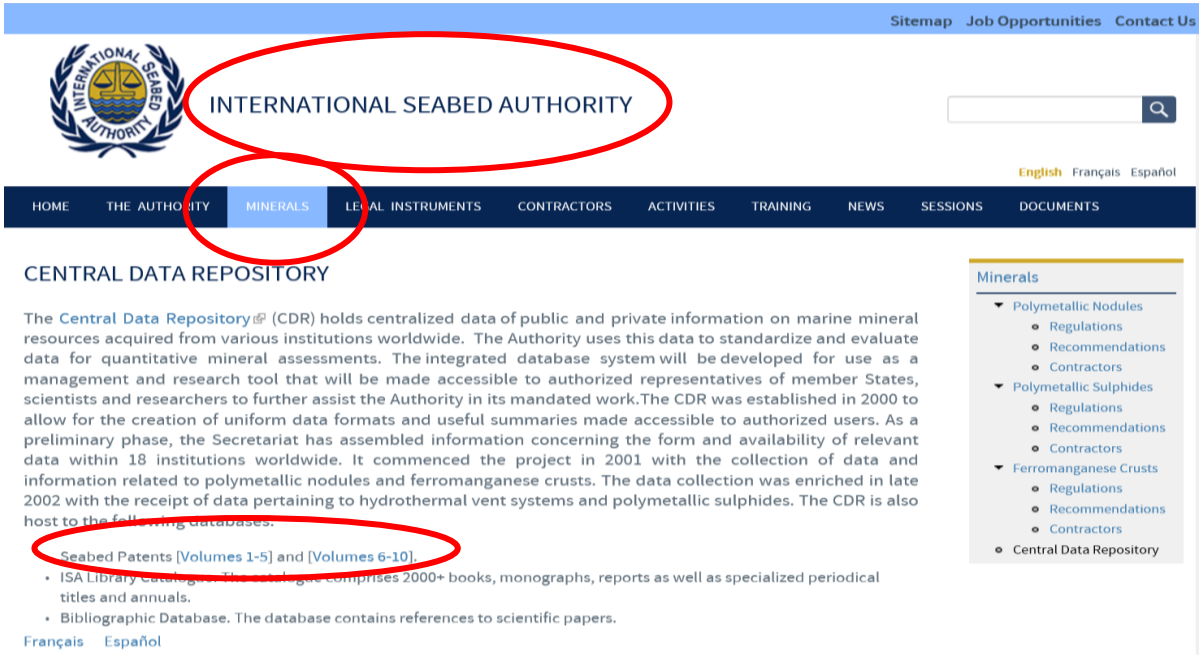
- existence of prior art may challenge patentability
- for research before filing a patent application, existing patents/applications are a recommendable source; patent offices (USPTO, EPA etc) provide research online
- ISA provides a specific DSM related collection, see below



4. Obligations to license out: when am I forced to grant rights of use of my technology to others

(a) UNCLOS:

- Political background at time of signature (1982)
- „Common Heritage" concept as the governing principle still today
- Intellectual Property – a monopoly concept under fire also in other contexts

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„**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

(b) Co-operative R&D Programmes

- Many states, but also supranational organizations such as the EU, offer R&D co-operation programmes for **joint development** of new technology
- in some of the programmes, **funding** from the state/organization is provided
- **advantages** for the company developing new products, e.g. also in marine technology
    - **R&D synergies** with different types of participants (such as engineering firms, major industry, university institutes)
    - where applicable, **public funding**

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Participation in such programmes for purpose of development of new technology almost always entails an **obligation to license** the results to the other partners of the programme, or even third parties.

Two reasons:

1. Political: Background of such programmes is the generation and **dissemination of innovative technology for the benefit of the market** in the respective state or supranational organization (better products for the consumer, increased competitiveness of domestic industry). Dissemination, in the case of technology, means licensing it out.

2. Legal: **Antitrust law** in many jurisdictions (e.g. EU) demands that **all participants of a joint R&D shall have access to the results**.

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One actual example:

Project SC5-11c-2015
„**Deep mining on continent and/or in sea-bed** "

From the EU Participant Portal (highlights added) :

"Proposals should develop new highly-automated technological sustainable solutions for deep mining on the continent and/or in the sea bed…..

Expected impact: Reduced exploration costs for the industry through new cost-effective exploration technologies. Improved competitiveness and creation of numerous new jobs in mining and equipment manufacturing industries…."

Granting of Rights

• As per the respective Grant Agreement (template to be found on the H2020 Homepage) the participants in the programme, receiving funding, are obligated to grant to each other rights of use (licenses) in several dimensions.

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Each programme participant has to grant to the others

- for the **carrying out of the R&D** in the programme, **royalty-free** rights of use both under its„**background**" (=pre-existing intellectual property) and its„**foreground**" (=results it obtained itself in the course of the programme) (Art. 25.2 and 31.2 of the Model Grant Agreement shown overleaf).

- licenses against **fair and reasonable conditions** (this can mean monetary compensation, or technical, territorial or other limits permitted by law) , both under its background and foreground, for the **commercial exploitation** of **their own results** of the R&D (Art. 25.3 and 31.3 of the Model Grant Agreement).

- there may be other licenses to be granted EG to the funding entity, depending on programme, yet not for commercial purpose

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Consequences:

• participation in this programme (rules in others are comparable) will **not permit to generate an USP** out of the results achieved;

• at the same time, **some own freedom of action** under 3rd party patents/IP is gained by having been granted corresponding rights by the other participants

• ➡ It is recommendable to carefully select the technical areas in which to pursue funded R&D, also under the aspect of the IP rights position.

5. Conclusion: the Area, a good environment for innovation under IP aspects?

- Protection of new technology is possible by patents, although no application and no enforcement in the Area; secrecy may sometimes be the means of choice
- „Drain" of technical information will also exist on land in other large projects; however the potentially far reaching environmental consequences of technology employment in the deep ocean may – justifiedly! - create more curiosity in authorities
- licensing obligations: again, a common feature also on land, yet, especially under common heritage aspects, a fair approach.
- ⇨ concessions which a company operating in the Area has to make regarding its IP position are to be balanced against their public benefit. Moreover, they will probably not weigh much as compared to other DSM specific economic burdens.

Challenges to the Protection of New Technologies Used in the Area

Thank you very much for your attention!

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