

**Economic Development for Physicists from
Developing Countries**

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INTELLECTUAL PROPERTY

**Guido Westkamp
Senior Lecturer, Queen Mary IP Research Institute**

Basics of Intellectual Property

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Dr Guido Westkamp, LL.M

QUEEN MARY
INTELLECTUAL PROPERTY
RESEARCH INSTITUTE
University of London



Intellectual Property



- **Overview**

- Patents
- Copyright
- Designs

- **Trade Secrets**

Intellectual Property



● Industrial Property

- Patents – Invention – Registration – Protection against commercial uses
- Trade Marks – signs etc. – registration or acquired distinctiveness – protection against commercial use
- Registered Designs – three (or two) dimensional shapes individuality – registration – protection against imitation in commerce

Intellectual Property



- **Copyright and Related Rights**
- **More complex substantive law**
- **Certain classes of ‘works’ – originality**
 - **protection restricted to certain acts**
 - Physical
 - Non-physical
 - Plus various limitations

Intellectual Property



- **Additional forms of Intellectual Property protection**
- **Semi conductors**
- **Databases**
- **Unregistered designs**
- **Supplementary protection certificates for pharmaceuticals**
- **Plant Varieties**

Intellectual Property



- **Confidential Information**
- **Not an Intellectual Property right but a liability rule**
- **Protection depends on national laws**
- **Trade secrets and confidential information**
- **Unfair competition protection in civil law systems**
- **Hybrid: technical ‘know how’**

Intellectual Property



- **Common features**
 - Intellectual Property rights are territorial
 - No intentional harmonisation
 - Bundle of national laws
- **Specific deviations between common law and civil law jurisdictions**
- **International attempts to harmonise:**
 - Reciprocal treatment
 - Minimum rights
 - Most favoured nation treatment
- **To be found in**
 - Certain international conventions: Berne; Paris; Rome dealing with substantive law
 - International treaties dealing with procedural aspects: PCT; Madrid
 - Plus: influence of TRIPs – substantive law + dispute resolution mechanism
 - Bilateral treaties often go beyond TRIPs standards

Intellectual Property



- Patent Law
- Substantive Rules
- Registration Procedure
- PCT Applications and Effect
- EPO Application and Effect

Intellectual Property



● Patents

○ = inventions which are

- New
- Involve an inventive step (non-obviousness)
- Capable of industrial application

Intellectual Property



- Invention:
- patentable subject matter, that is a kind of subject-matter that is eligible for patent protection, for which it must basically have technical character
- be novel (i.e. at least some aspect of it must be new),
- be non-obvious (in United States patent law) or involve an inventive step (in European patent law);
- be useful (in U.S. patent law) or be susceptible of industrial application (in European patent law).

Intellectual Property



- **PATENTABLE SUBJECT MATTER**
- **US: ‘everything under the sun made by man’**
- **EUROPE: Article 52 European Patent Convention & national patent laws exclude**
 - *a) discoveries, scientific theories and mathematical methods; (b) aesthetic creations; (c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers; (d) presentations of information.*

Intellectual Property



- **Novelty: Article 54 EPC**

- (1) An invention shall be considered to be new if it does not form part of the state of the art.
- (2) The state of the art shall be held to comprise everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application.

Intellectual Property



- **Inventive Step, Article 56 EPC:**

- An invention shall be considered as involving an inventive step if, having regard to the state of the art, it is *not obvious* to a person skilled in the art. If the state of the art also includes documents within the meaning of [Article 54, paragraph 3](#), these documents are not to be considered in deciding whether there has been an inventive step.

Intellectual Property



- **INDUSTRIAL APPLICABILITY, Article 57 EPC**

- An invention shall be considered as susceptible of industrial application if it can be made or used in any kind of industry, including agriculture.
- US – similar test based on ‘usefulness’

Intellectual Property



- **Grant of patents**
- **Entitlement: in Europe, first to file; in US, first to invent**
- **Substantive Entitlement → the inventor or group of inventors**

Intellectual Property



- **International Protection of Patents**

- TRIPs 1994
- PCT
- EPO

Intellectual Property



- **Patent Law in TRIPs**
- **Patents must be granted in all "fields of technology," although exceptions for certain public interests are allowed (Art. 2.(2) and 27.(3) TRIPs.**
- **Exceptions to patent law must be limited**

Intellectual Property



- **Member states may exclude**

- 27(2) -- the prevention within their territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.
- 27 (3) Members may also exclude from patentability
 - (a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals;
 - (b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement.



Intellectual Property



- European patent Convention
- multilateral treaty instituting the European Patent Organisation and providing an autonomous legal system according to which European patents are granted.
- **AIM:**
 - single, harmonized procedure before the EPO
 - Patent may be filed in one language before at the European Patent Office (Munich, The Hague, Berlin) OR
 - at a national patent office of a Contracting State, if the national law of the State so permits. (UK for certain sensitive inventions)
 - ‘bundle of national patents’

Intellectual Property



- **The Patent Cooperation Treaty (WIPO)**

- unified procedure for filing [patent](#) applications
- single filing results in a single search accompanied with a written opinion (and optionally a preliminary examination), after which the examination (if provided by national law) and grant procedures are handled by the relevant national or regional authorities

Intellectual Property



- Filing of patent application with a RECEIVING OFFICE (any suitable patent office)
- *international search* BY an authorized *International Searching Authority (ISA)* to find out the most relevant [prior art](#) documents regarding claimed subject-matter. This results in an
- *International Search Report (ISR)*, together with a written opinion
- 18 months after the filing date or the priority date if any, the international application is published by the *International Bureau (IB)* of [WIPO](#)
- *international preliminary examination* may optionally be requested ("demanded"). The "international examination" is achieved by an authorized *International Preliminary Examination Authority (IPEA)*. This results in an *International Preliminary Examination Report (IPER)*. 'now: IPER = "*international preliminary report on patentability (Chapter II of the Patent Cooperation Treaty)*" (commonly abbreviated "*IPRP Chapter II*") (Rule 70.15(b)
- 30 months⁴ from the filing date of the international application or from the priority date if any,
 - national or regional phase.
 - national law may fix time limits which expire later than 30 months. For instance, it is possible to enter the European regional phase at 31 months from the priority date. National and regional phases can also be started earlier on the express request of the applicant

Intellectual Property



- **Designs**
- **Originates in copyright law – protection can be granted as artistic work if national requirements are met**
- **In addition: protection of registered designs**
- **Not international consensus**

Intellectual Property



- **Registration of Designs in Europe (Directive 98/71/EC)**

- the appearance of the whole or a part of a product resulting from the features of, in particular, the lines, contours, colours, shape, texture and/or materials of the product itself and/or its ornamentation" (Art. 2)
- Designs may be protected if:
 - *novel*, that is if no identical design has been made available to the public;
 - *individual character*, that is the "informed user" would find it different from other designs which are available to the public.

Intellectual Property



- **NOT PROTECTED if shape is**
 - determined by their technical function, or
 - by the need to interconnect with other products to perform a technical function (the "must-fit" exception).
 - modular systems may be protected

Intellectual Property



- **Exclusive right in producing, importing, selling or using products based on the design**
- **Protection may be based on**
 - Registration before OHIM in Alicante → for any European member state
 - National laws (before national trade mark/patent offices)
 - Additionally, copyright protection may be available for unregistered designs (UK: three forms of protection: copyright; RDR; UDR)

Intellectual Property



- **Copyright:**
- **Protects expression: not ideas; not information**
- **Protection is based on creation**
 - Literary, artistic, dramatic works
 - Neighbouring rights
 - In particular: technical drawings, scientific reports, compilations of research data if either skill and labour (UK system) or a personal intellectual creation (Continental systems) is present
 - Set of Economic Rights

Intellectual Property



● Exclusive Rights

- Reproduction
- Distribution (limited by exhaustion)
- Certain forms of communication to the public, including
 - Public performance
 - Broadcasting
 - Satellite and Cable Transmission
 - Cable casting
 - Making available interactively (i.e. the 'internet' right)

Intellectual Property



- Limitations may apply
- Research and private study
- Private uses (private copying)
- Cf. 'fair dealing' under US copyright law

Intellectual Property



- **Copyright Issues related to Research and Technology**
- **Protection of software and databases**
 - Specific rules on inter-operability and reverse engineering
 - Specific rules on reproduction of databases for research purposes in Europe

Intellectual Property



- **Protection of works by technology**
- **Technological protection measures**
- **US and Europe – different approaches**
- **Generally, prohibition to circumvent applies technological protection measures**
- **Status of research exceptions unclear**

Intellectual Property



- **Protection of Know How and Trade Secrets**
- **Not a recognised Intellectual Property right**
- **Protectable under national laws**
 - UK: confidential information
 - US: trade secret
 - Europe: unfair competition

Intellectual Property



- Trade Secrets:
- “formula, practice, process, design, instrument, pattern”
 - not generally known to the relevant portion of the public;
 - confers some sort of economic benefit on its holder (where this benefit must derive *specifically* from its not being generally known, not just from the value of the information itself);
 - is the subject of reasonable efforts to maintain its secrecy.

Intellectual Property



- Non-disclosure agreement
- **which outlines confidential materials or knowledge the parties wish to share**
- **the parties agree not to disclose information covered by the agreement.**
- **creates a confidential relationship between the parties**

Intellectual Property



- **Typical Content**
- **definition of what is confidential**
- **exclusions from what must be kept confidential**
- **obligations of the recipient**
- **Restrictions on that obligation as may be required by law**
- **Effects:**
- **General obligatory (contractual) duty**
- **No absolute protection**
- **If recipient already had prior knowledge or the information is in the public domain, the terms will (under US law) not be binding**

Intellectual Property



- **Confidential information**
- **Bit different in UK**
 - Necessary quality of secrecy (this would include any sensitive research data and patent application)
 - Confidentiality agreement
 - No absolute protection BUT
 - Some restriction on third party recipient to maintain secrecy (i.e. common law duty not to disclose) may be imposed.

Intellectual Property



- **Unfair Competition in Civil Law**
- **Disclosure of confidential information may constitute unfair competition**
- **Know How licenses are enforceable; contractual restrictions are possible**

Intellectual Property



- **General problems**

- Who owns rights?
- How to share rights?
- How to exploit rights?

Intellectual Property



- **Ownership**
- **Depends on the law – first ownership is governed by statute**
- **Patent: normally first owner = party first to file, but ‘true’ inventor can demand revocation of patent**
- **Copyright: in UK, employer; otherwise, author.**
- **Trade Marks, Designs: entity which registered**
- **No ‘ownership’ issue in cases of trade secrets as such**

Intellectual Property



- **Major problem – joint ownership**
- **Different approaches**
- **Some common ground**
 - Creation by Two or More Persons
 - Meaning of “Creation”
 - Consequences of J. O.

Intellectual Property



- **Joint Ownership – UK:**

- Necessary Contribution

- Commissioned Works

- Consequences of Joint Ownership at Common Law

- Implied Intentions

- **The general statutory consequence**

Intellectual Property



- 1. Each owner has an undivided share**
- 2. Each owner may (only) assign his interest**
- 3. Any dealing is subject to consent**
- 4. In insolvency, the interest may be transferred to Creditors**

Intellectual Property



- **No reflection of actual “input” (investment, quality, creativity)**
- **Creates Uncertainties as to Licensing and Profit Sharing**
- **In cross border agreements, various laws may be applicable in relation to contractual and proprietary issues.**

Intellectual Property



Contractual Modifications

- **Possible under Freedom of Contract Principles**
- **Joint Ventures; Research Collaborations – specific contractual clauses dealing with jointly owned Intellectual Property**
- **Each party may retain its specific right**
- **Parties may create an “IP Pool”**

Intellectual Property



- **Applicable Law and Jurisdiction**
- **Provisions Relating to Commissioned Work**
- **Can Rights be Assigned by individual partners, or is consent needed?**
- **How shall the rights be exercised? (i.e. exclusive areas)**
- **Who is responsible for application (for patents, trade marks etc.) and maintaining rights in effect.**
- **Cost sharing for applications etc.**
- **Can one partner litigate on behalf of other partners?**
- **Should there be any modifications in relation to shared interest, i.e. depending on the individual quality of partners' contribution**

Intellectual Property



- **Exploiting rights**
- **In general, Intellectual Property contracts are referred to as licenses**
 - Assignment of right
 - Exclusive license
 - Non-exclusive license
- **Contractual 'use' permission**

Intellectual Property



- **International licensing is not governed by any treaty**
- **Licensing contracts are subject to national law**
- **Applicable law**
 - In relation to certain Intellectual Property related issues, the applicable law (as regards existence of the right; ownership etc) may be governed by lex loci protectionis or the registration country
 - Contractual issues may be governed by choice of law clause, i.e. parties choose applicable law as regards contractual obligations
- **Parties may also decide which court decides or**
- **Arbitration agreement**

Intellectual Property



Thank you!

Dr Guido Westkamp

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