

WIN-BIG **BALTIC** EVENT

Empowering Women in the Baltic Blue Economy:
Innovation, Growth, and Connection

5-6th November | Kiel, Germany

Women

Organised by: 



Blaue
Bioökonomie



KIEL
MARINE
SCIENCE



LEARNING LAB 1

Intellectual Property: Your Ideas, Your Power



Facilitator:

Melanie Müller

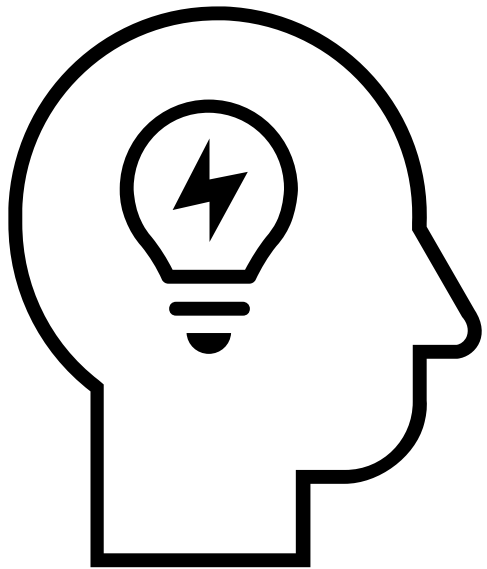
Boehmert & Boehmert

WIN-BIG Baltic Event | November 5th | Kiel, Germany



Funded by
the European Union

Outline



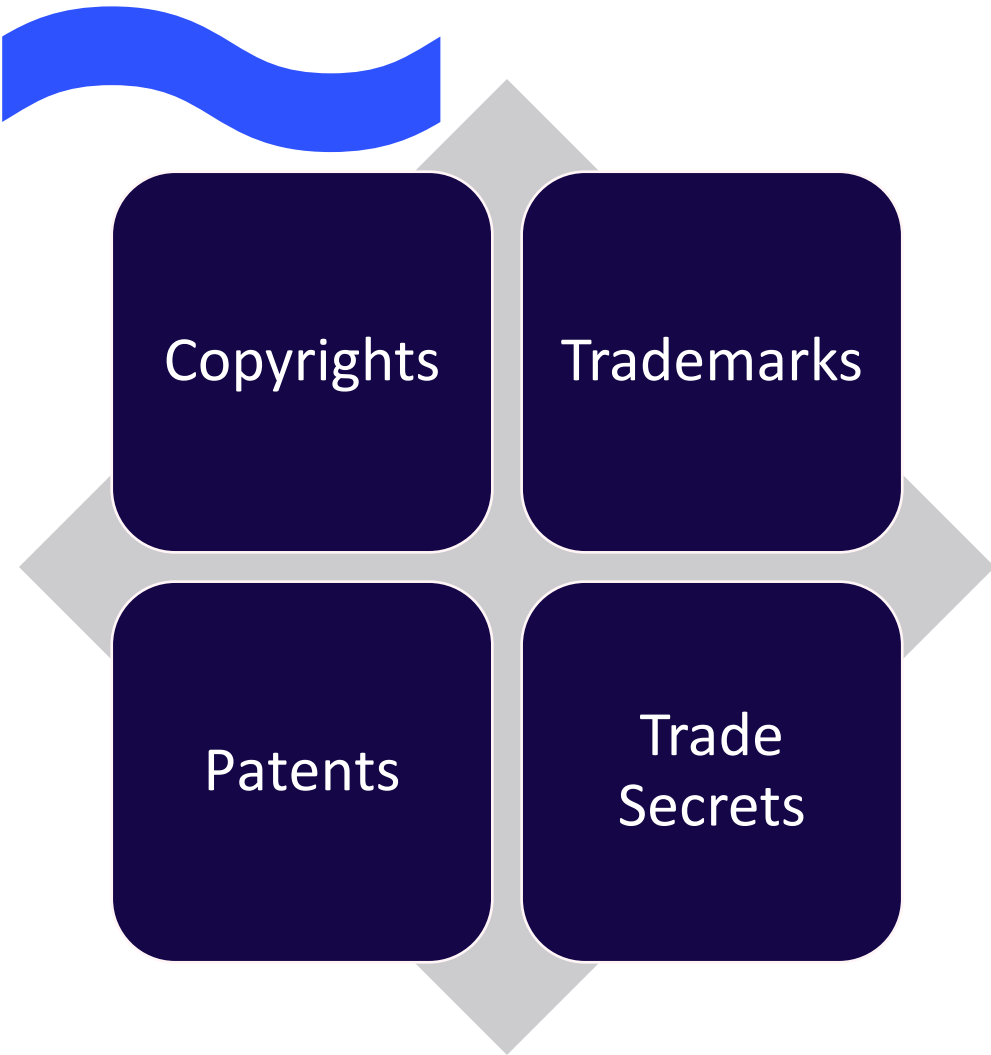
- I. Introduction
- II. Fundamentals of IPRs & Protection
- III. Looking Ahead
- IV. Q&A

I. Introduction – Why IP matters in the blue economy



- Innovation = engine of economic, cultural, and social value
- Without protection, first-mover advantages evaporate; with IP, you set the terms
- IP turns inventions into assets
- De-risk ventures for investors, grants, and partners
- IP can be used in-house, licensed, co-developed, or pooled
 - Value of IPRs is constitutive for many companies and many types of business
- IP protects different types of innovation (technical/non-technical)

II. Fundamentals of IPRs and Protection



- The „*garden of innovation*“ is full of different flowers
- A product is often covered by very different types of IPRs (patents, trademarks, designs, trade secrets etc.)
- Differentiation: Technical innovations (patents, utility model rights and know-how) vs. non-technical innovations (trademarks eg.)

Copyrights

- **Copyrights – Scope**
- Protect authors of works of literature, science, and art – both in their moral (personal and intellectual) relationship to the work and in its exploitation
- Grants moral rights and exclusive (erga omnes) rights
- **Examples directly from the statute (non-exhaustive):**
 - Literary works (texts, speeches) and computer programs
 - Musical works
 - Choreographic and pantomime works
 - Works of fine art, including works of architecture (and architectural designs)
 - Photographic works
 - Cinematographic works (films)
 - Scientific and technical representations (e.g., drawings, plans, maps, sketches, tables)

Copyrights – Purpose of and Key Rights

- The aim of copyright is to protect the interests of authors and their successors in title
- To this end, the law grants the *Urheberpersönlichkeitsrecht* (moral rights) and a range of additional rights, including:
 - Right of publication
 - Right to be identified as author
 - Right of integrity
 - Rights of exploitation in tangible form
 - Rights of communication in intangible form

Copyrights – How does a Copyright arise?



- Arises upon creation – no registration formalities
- Protection exists from the moment the work comes into being, provided that it:
 - is **personally created** (author's own intellectual creation),
 - is **perceptible** (fixed in a form that can be perceived),
 - shows **individual character** (originality), and
 - reaches the **required threshold of creativity**

Copyrights – Intellectual Creation

“As regards the first of those conditions, it follows from the Court’s settled case-law that, if a subject matter is to be capable of being regarded as original, it is both necessary and sufficient that the **subject matter reflects the personality of its author, as an expression of his free and creative choices.**” (Cofemel, para. 30)

Copyrights – AI

(“Kashtanova v. USCC
– “Zarya of the
Dawn”)



(Thaler v. Perlmutter,
USDC District of
Columbia –
“A recent entrance to
Paradise”)



AI output – Can AI or the person entering prompts be author?

“Throughout its long history, copyright law has proven malleable enough to cover works created with or involving technologies developed long after traditional media of writings memorialized on paper. (...) Underlying that adaptability, however, has been a consistent understanding that **human** creativity is the *sine qua non* at the core of copyrightability, even as that human creativity is channeled through new tools or into new media. Copyright has never stretched so far, however, as to protect works generated by new forms of technology operating **absent any guiding human hand**, as plaintiff urges here. Human authorship is a bedrock requirement of copyright.” (Thaler v Perlmutter)

Copyrights – Proving Priority before sharing

- **The dilemma:** To exploit their works, authors often need to send them to third parties (e.g., publishers) – sometimes unsolicited – creating uncertainty about proper use
- **Practical safeguard (before sending):**
 - Visit a notary or attorney
 - Have them record a statement and a copy of the work, with a dated notation
- **Why this matters:**
 - Provides evidence of authorship and priority (who had the work first) if misuse is suspected later
- **Growing relevance:**
 - Software and other digital works in particular benefit from clear, dated proof of creation

Copyrights

When Does Copyright Expire?

- Standard term: 70 years after the author's death (post mortem auctoris)
- Inheritance: Copyright passes to heirs

Can Copyright Be Transferred?

- As a rule: no transfer of the copyright itself
- Instead, the author may grant rights of use (licenses)

Contract Tip (Licensing):

-> Define scope, exclusivity, territory, term, fields of use, and remuneration – in writing

Copyrights

Further reading:

- Ginsburg, International Copyright Law: U.S. and E.U. Perspectives, Edward Elgar Publishing, 2015
- Paul Goldstein, Bernt Hugenholtz, International Copyright, Oxford University Press, 4th ed. 2019
- WIPO: Copyright: <https://www.wipo.int/en/web/copyright>

Trademarks

Europe at a Glance

- **Dual system:** National laws (27 EU Member States) **and** EU legislation
- **EU level:** EU trademarks (EUTMs) administered by the **EUIPO** (Alicante; est. 1994; operational since 1996)
- **Scale:** ~**1.9 million** EUTMs registered; ~**300,000** applications per year

What Can Be Protected?

- Any **sign** capable of distinguishing one undertaking's goods/services from another's (words, logos, shapes, colors, etc.)
- In Germany, the MarkenG also protects **business designations** (trade names) and **geographical indications**

How Does Protection Arise?

- **Registration** (register mark)
- **Use with acquired distinctiveness** (unregistered mark)
- **Well-known marks** (protection without registration under international/EU rules)

Trademarks



Source:
https://austria.representation.ec.europa.eu/der-eu-leben-arbeiten-studieren/sprachenvielfalt_de

Diversity of languages and scripts:

- EU is characterized by its cultural and linguistic diversity
- 27 EU Member States
- 24 official EU languages plus 2 official languages on a national level (Turkish and Luxemburgish) plus various regional languages
- Official scripts used in the EU include Latin, Cyrillic and Greek

Trademarks

Examples of marks (non-exhaustive list):

Word marks

EUTM 91835:

BMW

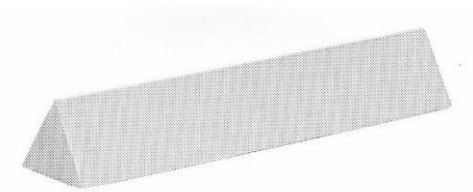
Figurative marks

EUTM 113409:



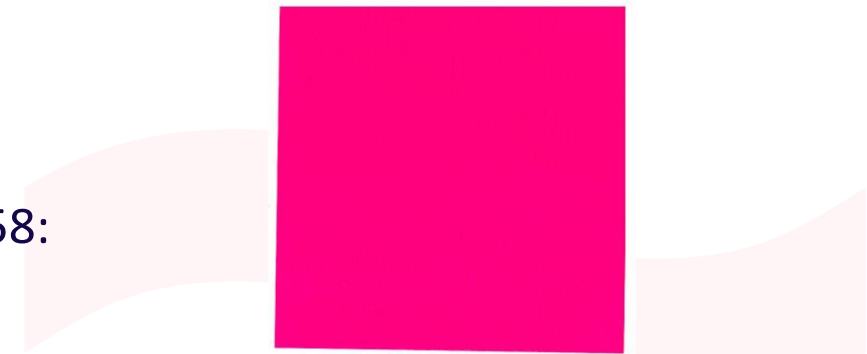
3D Marks

EUTM 31229:



Color marks

EUTM 1353358:



Trademarks

Examples of marks not eligible for registration:

Olfactory marks

Smell/olfactory or taste marks are currently not acceptable because the representation must be clear, precise, easily accessible, durable and objective and the current law does not recognize the submission of samples or specimens as representation (see CJEU decision of December 12, 2002, C-273/00, Sieckmann)

Trademarks – How to obtain protection

EU Trade Mark Regulation

- Protection is only granted via a trademark registration
- Trademark application is to be filed with EUIPO in Alicante, Spain

National Trademark laws

- Harmonization of national TM laws regarding registered trademarks
- Trademark applications are to be filed with national Offices
- National TM law may also provide for protection based on use

Trademarks – How to obtain protection

In order to be registered, a trademark application must pass the test of

- Art. 7 EUTMR: Absolute grounds of refusal

In particular: Is the applied sign distinctive and non-descriptive for the goods and services of the application?

- Art 8 EUTMR: Relative grounds of refusal

Upon successful opposition by the owner of an earlier trademark, the trademark applied for shall not be registered, in particular because a likelihood of confusion exists

Trademarks

Art. 7 EUTMR:

The following shall not be registered:

...

(b) trademarks which are devoid of any distinctive character;

(c) trademarks which consist exclusively of signs or indications which may serve, in trade, to designate the kind, quality, quantity, intended purpose, value, geographical origin or the time of production of the goods or of rendering of the service, or other characteristics of the goods or service;

...

Trademarks

Art. 7(1)(b) EUTMR

- The requirement of “distinctiveness” means that the sign needs to be able to serve as a badge of origin for the applied goods and/or services for which registration is sought. The sign must mark the products as originating from a particular undertaking, and thus to distinguish those goods and/or services from those of other undertakings (Decision of CJEU, C-398/08 P, Vorsprung durch Technik, para. 33)
- Such distinctiveness can be assessed only by reference, first, to the goods or services for which registration is sought and, second, to the relevant public’s perception of that sign (Decision of CJEU July 12, 2012, C-311/11 P, Wir machen das Besondere einfach, para 24)
- A word mark that is descriptive of characteristics of goods or services is devoid of any distinctive character

Trademarks

Example:

In case of the GC, T-97/08, KUKA Roboter GmbH filed a trademark for the goods “articulated robots to handle, treat and weld” for the following shade of orange:



Is this sign distinctive?

Trademarks

1. While the same criteria for the assessment of distinctiveness applies to color per se, the perception of the relevant public is not necessarily the same in the case of a sign consisting of a color as such as it is in the case of a word or figurative mark
2. While the public is accustomed to perceiving word or figurative marks instantly as signs identifying the commercial origin of the goods, consumers are not in the habit of making assumptions about the origin of goods based on their color or the color of their packaging, because as a rule a color per se is not, in current commercial practice, used as a means of identification
3. A color per se is not normally inherently capable of distinguishing the goods of a particular undertaking

Trademarks

Art. 7 (3) EUTMR

“Paragraph 1(b), (c) and (d) shall not apply if the trademark has become distinctive in relation to the goods or services for which registration is requested as a consequence of the use which has been made of it”

- It is therefore necessary to prove qualified use, such that the relevant
- Public perceives a sign as distinctive that per se is devoid of distinctive character. The Office will make an overall assessment of all the evidence to decide if the mark has come to identify the goods or services concerned as originating from a particular undertaking

Trademarks

Art 7(1)(c) EUTMR

- A sign must be refused as descriptive if it has a meaning that is understood by the relevant public as information about the applied goods and services. The relationship between the term and the goods and services must be sufficiently direct and specific
- Article 7(1)(c) EUTMR does not apply to those terms that are only suggestive or allusive as regards certain characteristics of the goods and/or services

Trademarks

Art. 7(2) EUTMR

“Paragraph 1 shall apply notwithstanding that the grounds of non-registrability obtain in only part of the Union”

Example:

- The trademark медвѣдь (Russian for “bear”) was applied for “meat”
- The General Court confirmed that the relevant consumers are, at least, the inhabitants of the Baltic States (Estonia, Latvia and Lithuania) (Case T-432/16). Assessment not solely on the basis of the official languages of the Union, but all languages that are understood in at least part of the Union. Trademark was rejected

Trademarks

Third parties can file opposition (Art. 46 EUTMR) within a period of three months starting with the publication of the application and can request rejection of trademark application based on their earlier rights (Art. 8 EUTMR). EUIPO itself, without an opposition, does not assess whether conflicting earlier marks exist!

The grounds on which an opposition may be based are in particular:

- Identity with earlier trademark (identity of signs and identity of goods/services), Art. 8(1)(a) EUTMR
- likelihood of confusion with an earlier trademark, Art. 8(1)(b) EUTMR
- Infringement of an earlier trademark with “reputation” in the EU, where the use of the trademark applied for would take unfair advantage of, or be detrimental to, the distinctive character or the repute of the earlier trademark, Art 8(5) EUTMR

Trademarks

- The likelihood of confusion, Art. 8(1)(b) EUTMR, is assessed by taking into account in particular the following factors:
 - comparison of goods and services
 - relevant public and degree of attention
 - comparison of signs (visual, aural or conceptual similarity)
 - distinctiveness of the earlier mark
- Concept of interdependence: Evaluating likelihood of confusion implies some interdependence between the relevant factors and, in particular, between the findings on the degree of similarity between the marks and that between the goods or services
- Therefore, a lesser degree of similarity between goods and services may be offset by a greater degree of similarity between the marks and vice versa

Trademarks

Likelihood of confusion test – Case of GC T-480/12 – MASTER:

			
Trade mark No 8 792 475	Trade mark No 3 021 086	Trade mark No 2 117 828	Trade mark No 2 107 118

Earlier Trademarks



Trademark application

Trademarks

- The grounds on which an opposition may be based are also:
- Infringement of an earlier trade mark with “reputation” in the EU, irrespective of whether the goods or services for which it is applied are identical with, similar to or not similar to those for which the earlier trade mark is registered, where the use of the trade mark applied for would take unfair advantage of, or be detrimental to, the distinctive character or the repute of the earlier trade mark, Art 8(5) EUTMR
- Does not require a similarity of goods/services
- Does not require a likelihood of confusion
- Gives a broader scope of protection

The court held:

- The earlier mark has “reputation” for non-alcoholic drinks
- There are clear aural differences between the marks, but there are some elements of visual similarity
- Given the degree of similarity, even if only remote, between those marks, it is not altogether inconceivable that the relevant public could make a link between them and, even if there is no likelihood of confusion, be led to transfer the image and the values of the earlier mark to the goods bearing the contested mark
- Therefore, trademark application is refused

Patents

What is a patent?

- Exclusive right, typically lasting 20 years from the filing date

What can be patented?

- Not every good idea!

Art. 52(1) EPC:

*European patents shall be granted for any inventions, in all fields of **technology**, provided that they are **new**, involve an **inventive step** and are susceptible of **industrial application**.*

- No definition of the term **technical/technology** in EPC or German Patent Act
- Patent law defines exceptions instead of clearly defining what is “technical”

Patents

- EPC contains non-exhaustive list of "**non-inventions**"
- **Art 52(2) EPC:**
 - *The following in particular **shall not be regarded as inventions**:*
 - *(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*

Patents – Discoveries and scientific theories

- If a **new property of a known material** or article is found out, that is mere discovery and unpatentable because discovery as such has no technical effect and is therefore not an invention. For example, to find a **previously unrecognized substance occurring in nature** is also mere discovery and therefore unpatentable
- However, if a **substance found in nature** can be **shown to produce a technical effect**, it may be patentable under the EPC. (CLBoA, I.A.2.2.1)
- **Different in, e.g. US:**
While synthetic modifications and inventions can be patented, natural phenomena and products of nature cannot be. (“Myriad Decision”, US Supreme Court, Association for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576 (2013))
- Very important for pharma industry

Exotic side note:

In T 1538/05, the appellant claimed to have discovered a magnetic force that was hitherto unknown, and as a consequence thereof, established that theories such as the Heisenberg uncertainty principle as well as Einstein's theory of relativity were wrong

It was clear to the board that the subject-matter claimed by the appellant was not patentable, as the appellant had **not demonstrated** that they were of a **technical nature** and that the invention could be applied to processes or devices

No need to determine whether these physical theories and discoveries were correct or not

Patents – Mathematical methods

- Purely abstract or intellectual methods are not patentable. The exclusion applies if a claim is directed to a **purely abstract mathematical method** and the claim does not require any technical means
- If a claim is directed either to a **method involving the use of technical means** (e.g. a computer) or to a device, its subject-matter has a technical character as a whole and is thus **not excluded** from patentability
- For example, in T 1326/06 it was held that a method of encrypting/decrypting or signing electronic communications may be regarded as a technical method, even if it is essentially based on a mathematical method

Patents – Aesthetic creations

- Protected by designs or copyright
- *CLBoA I.A.2.:*
- Subject-matter relating to aesthetic creations **will usually have both technical aspects**, e.g. a 'substrate' such as a canvas or a cloth, **and aesthetic aspects**, the appreciation of which is essentially subjective, e.g. the form of the image on the canvas or the pattern on the cloth
- If technical aspects are present in such an aesthetic creation, it is not an aesthetic creation 'as such' and it is not excluded from patentability
- The aesthetic effect itself is not patentable, neither in a product nor in a process claim
- Nevertheless, if an aesthetic effect is obtained by a technical structure or other technical means, although the aesthetic effect itself is not of a technical character, the means of obtaining it may be

Patents – Methods for performing mental acts

- In T 2720/16, the board held that an activity was purely mental if it was performed entirely by the human brain. As soon as it manifested itself physically outside the brain, it lost its purely mental character. It did not matter whether this physical dimension to the activity was performed using a body part (eye, hand, etc.) or separate mechanical devices
- In T 471/05 the board pointed out that claim 1 merely formulated a series of mathematical and optical abstract concepts without properly requiring a physical, technical implementation. The claimed method could be carried out as a purely mental act or as a purely mathematical design algorithm and, consequently, encompasses embodiments falling within the category of methods for performing mental acts as such

Patents – Exceptions to patentability

- Art. 53 EPC refers to inventions which are of a technical nature and therefore **in principle patentable**, but for which no patent should be granted

Art. 53 EPC

European patents shall **not** be granted in respect of:

- (a) inventions the commercial exploitation of which would be **contrary to "ordre public" or morality**; such exploitation shall **not** be deemed to be so contrary **merely because it is prohibited by law or regulation** in some or all of the Contracting States;
- (b) **plant or animal varieties or essentially biological processes for the production of plants or animals**; this provision shall not apply to microbiological processes or the products thereof;
- (c) methods for **treatment** of the human or animal body by **surgery or therapy and diagnostic methods** practiced on the human or animal body; this provision shall not apply to products, in particular substances or compositions, for use in any of these methods.

Patents – Breaches of „orde public“ or morality



- In the past, this issue has arisen **mainly in connection with biotechnological inventions.**
- Four categories of biotechnological inventions excluded from patentability under Art. 53 EPC are listed under Rule 28 EPC:
 - processes for cloning human beings
 - processes for modifying the germ line genetic identity of human beings
 - uses of human embryos for industrial or commercial purposes
 - processes for modifying the genetic identity of animals which are likely to cause them suffering without any substantial medical benefit to man or animal, and also animals resulting from such processes
- Rule 29 EPC:
 - The **human body**, at the various stages of its formation and development, and the simple discovery of one of its elements, including the sequence or partial sequence of a gene, **cannot** constitute patentable inventions. processes for modifying the germ line genetic identity of human beings;
 - An **element isolated from the human body** or otherwise produced by means of a technical process, including the sequence or partial sequence of a gene, **may** constitute a patentable invention, even if the structure of that element is identical to that of a natural element.

Patents – Plants or animals

- A variety is defined by its whole genome and is defined by the expression of the characteristics resulting from a given genotype or combination of genotypes.
Plant varieties protectable by Plant Variety Protection Law
- In its decision G 3/19 “Pepper” of 14 May 2020, the Enlarged Board of Appeal of the European Patent Office decided that **European patents will no longer be granted on plants and animals exclusively obtained by means of an essentially biological process** (such as breeding and crossing)
- This is a **remarkable departure** from its own earlier case law “Broccoli II” and “Tomatoes II” (G 2/12 and G 2/13 of 25.3.2015), in which the Enlarged Board of Appeal interpreted Art. 53 b) of the European Patent Convention (EPC) to exclude from patentability “essentially biological processes for the production of plants or animals” only, but not the plants and animals obtained by means of these processes

Patents – Medical methods

- European patents are not to be granted in respect of "**methods for treatment of the human or animal body by surgery or therapy** and diagnostic methods practised on the human or animal body
- This provision shall **not** apply to products, in particular substances or compositions, **for use** in any of these methods“
- Hence, patents may be obtained for surgical, therapeutic or diagnostic instruments or apparatuses for use in such methods
- The manufacture of prostheses could be patentable
- However, a method of manufacturing an endoprosthesis outside the body, but requiring a surgical step to be carried out for taking measurements, would be excluded from patentability under Art. 53(c) (T 1005/98)
- Purely **cosmetic treatment** of a human by administration of a chemical product is considered as being **patentable** (T 144/83)

Patents – Industrial application

Art. 52(1) EPC:

- *European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are **susceptible of industrial application***

Art. 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***

Patents – Industrial application

- **Possibility** of making or using the invention in any kind of industry is **sufficient** (T 144/83)
- Claims directed to substances or compositions for use in methods for treatment of the human or animal body by therapy are directed to inventions which are susceptible of industrial application (G 5/83)
- **Little practical significance**; Art. 57 EPC excludes only a few inventions from patentability that are not already excluded by Art. 52(2) EPC
- Industrial application is also lacking if the product or process is contrary to the laws of physics (T 541/96), such as for example, a **perpetuum mobile**
- Industry is subject to broad interpretation in this context (T 74/93) and extends to **any activity** that is carried out **continuously, independently** and for **financial gain** (T 144/83) or that **can be offered commercially** by a company (T 1165/97)

Patents – Application



DE 10 2009 032 097 B3 2010.06.17

Patentschrift



(19)
Bundesrepublik Deutschland
Deutsches Patent- und Markenamt

(12)

(21) Aktenzeichen: 10 2009 032 097.0
(22) Anmeldetag: 03.07.2009
(43) Offenlegungstag: –
(45) Veröffentlichungstag: 17.06.2010

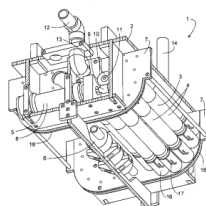
(51) Int. Cl.: **G01N 1/12** (2006.01)
G01N 1/10 (2006.01)
B01L 9/00 (2006.01)

Innerhalb von drei Monaten nach Veröffentlichung der Patenterteilung kann nach § 59 Patentgesetz gegen das Patent Einspruch erhoben werden. Der Einspruch ist schriftlich zu erklären und zu begründen. Innerhalb der Einspruchsfrist ist eine Einspruchsgeld in Höhe von 200 Euro zu entrichten (§ 6 Patentkostengesetz in Verbindung mit der Anlage zu § 2 Abs. 1 Patentkostengesetz).

(73) Patentinhaber: Stiftung Alfred-Wegener-Institut für Polar- und Meeresforschung, 27570 Bremerhaven, DE	(56) Für die Beurteilung der Patentfähigkeit in Betracht gezogene Druckschriften: US 48 52 413 A DE 41 32 410 A1 WO 99/16 421 A1 US 71 78 415 B2 US 53 41 693 A US 53 63 000 A US 51 38 890 A US 34 89 012 A JP 10-1 97 419 AA
(72) Erfinder: Wulff, Thorben, 68219 Mannheim, DE; Sauter, Eberhard, 27721 Ritterhude, DE	

(54) Bezeichnung: **Vorrichtung zur Wasserprobennahme**

(57) Zusammenfassung: Vorrichtungen zur Wasserprobennahme (1) mit mehreren separaten Probenbehältern (4) mit Einlass- und Auslassventilen (23, 25) werden in Gewässern jeder Art eingesetzt. Der Probenbehälter (4) wird durch Bewegung der Vorrichtung oder Strömung durchspült und nach der Wasserprobennahme geschlossen. Anschließend kann der nächste Probenbehälter (4) gewählt werden. Der erfindungsgemäße Wasserprobennahmer (1) ist zur Senkung der Kosten für den Bau, des Gewichts und des Wartungsaufwands sowie der Verbesserung der Handhabbarkeit und der Zuverlässigkeit gekennzeichnet durch ein Montagegestell (2) mit zwei Stimplatten (7), zwischen denen das Trommelmagazin (3) drehbar gelagert ist, Befestigungseinrichtungen der Probenbehälter (4) mit formschlüssigen Steckverbindungen mit dem Trommelmagazin (3) und kraftschlüssigen Einspannverbindungen zwischen den Stimplatten (7) des Montagegestells (2), konische Öffnungen (27) in den Stirnseiten der Probenbehälter (4) und dazu formschlüssige Verschlusskegel (28) als Einlass- und Auslassventile (23, 25), die in geöffnetem Zustand symmetrische Ringspalte (37) ausbilden, Betätigungsvorrichtungen (54) mit Mitnehmer (50) an den Verschlusskegeln (28) und Auslasshebel (40) in den Stimplatten (7) des Montagegestells (2) und eine Anwahleneinrichtung (5) mit einem Motor (6) mit Getriebe zwischen dem Montagegestell (2) und dem Trommelmagazin (3).



DE 10 2009 032 097 B3 2010.06.17

Beschreibung

[0001] Die Erfindung bezieht sich auf eine Vorrichtung zur Wasserprobennahme mit einem Montagegestell, einem Mehrfachmagazin mit mehreren Probenbehältern, die durch individuelle Befestigungseinrichtungen einzeln entnehmbar sind und an einer ersten Stirnseite ein Einlassventil und an einer zweiten Stirnseite ein Auslassventil aufweisen, mit einer Betätigungsvorrichtung zum Verschließen der Einlass- und Auslassventile und einer Anwahleneinrichtung für den nächsten zur Wasserprobennahme bestimmten Probenbehälter.

[0002] Derartige Vorrichtungen zur Wasserprobennahme ermöglichen von beliebigen Wasserfahrzeugen aus die Entnahme hochgenau bestimmbarer Wasserproben aus Gewässern jeder Art und Tiefe und deren Rückführung zur Oberfläche. Die Wasserproben werden dabei einzeln in separate und ab-dichtbare Probenbehälter genommen, die später auch einzeln der Vorrichtung zur Wasserprobennahme entnommen und einer Analyse zugeführt werden können. Bei der Wasserprobennahme kann es sich um die Aufnahme von Wasserprofilen in senkrechter Anordnung, um zeitlich versetzte Wasserproben desselben Ortes oder um beliebige Probenfolgen handeln. Zur Wasserprobennahme wird der jeweilige Probenbehälter an beiden Stirnseiten durch Öffnen der Einlass- und Auslassventile bereit gemacht. Der offene Probenbehälter wird nun durch Bewegung der ganzen Vorrichtung zur Wasserprobennahme oder durch eine am Ort der Wasserprobennahme vorhandene Strömung durchspült. Nach Ablauf einer frei wählbaren Zeit wird der Probenbehälter durch ein Triggersignal an die Betätigungsvorrichtung der Einlass- und Auslassventile geschlossen. Im Inneren befindet sich nun die gewünschte Wasserprobe in genau dem am Probenort herrschenden Wasserzustand. Anschließend kann der nächste Probenbehälter oder die nächste Probenzeit zusammen mit dem nächsten Probenbehälter gewählt werden. Bei Probenahmen in großen Wassertiefen mit entsprechendem Wasserdruk wird beim Zurückführen der Vorrichtung zur Wasserprobennahme an die Wasseroberfläche die Druckdifferenz zu einer Abgabe einer sehr geringen Wassermenge durch die Dichtungen der Einlass- und Auslassventile führen. Da nur Wasser abgegeben und keines aufgenommen werden kann, kommt es zu keiner Verfälschung der Zusammensetzung der Wasserprobe.

[0003] Aus der JP 58044326 A ist eine Vorrichtung zur Wasserprobennahme mit einer Mehrzahl von Probenbehältern bekannt. Durch einen komplizierten elektromechanischen Mechanismus werden die Probenflaschen geöffnet und nach Befüllung wieder geschlossen. Die Probenflaschen haben nur eine Öffnung, ein Durchspülen ist nicht vorgesehen. Jede Flasche weist ihren eigenen aufwändigen elektromechanischen Betätigungsmechanismus auf, der durch einen zentralen Exzenter mit einem Motorantrieb betätigt wird. Aus der JP 01084131 A ist eine Vorrichtung in einem gemeinsamen Magazin speichernd. Ein Wasserstiel, das zum Hauptanteil oberhalb der Wasseroberfläche gehalten wird, schöpft das Probenwasser mittels tassennähnlicher Schöpfer und leitet es in einen Behälter, von dem aus es in eine der Kammern des Magazins befördert wird. Diese Vorrichtung ist zum Einsatz unter der Wasseroberfläche nicht geeignet. Die Anwahl des jeweiligen Probenbehälters im Magazin ist aufwändig. Aus der US 5 441 071 ist eine Vorrichtung zur Wasserprobennahme bekannt, die eine Vielzahl von Probenkammern aufweist. Jede Probenkammer hat ihr eigenes Einlassventil. Alle Ausgänge sind miteinander verbunden und eine in beiden Richtungen wirkende Pumpe befördert in der einen Richtung das Probenwasser in einen Sammelbehälter und in der andern Richtung eine Reinigungsflüssigkeit in die zuvor benutzte Probenkammer. Die Reinigungsflüssigkeit wird vor dem nächsten Einsatz wieder ausgespült. Das Gerät ist für den Einsatz in Schmutzwasserumgebungen konzipiert, die Notwendigkeit der Spülung mit Reinigungsflüssigkeit kompliziert den Prozess und erhöht den apparativen Aufwand. Aus der DE 40 12 625 C2 ist eine Vorrichtung zur Wasserprobennahme zum speziellen Einsatz in Bohrlochern bekannt, die keine Wechselvorrichtung aufweist und daher nur eine einzelne Probe nehmen kann. Auch hier dient ein elektromechanischer Mechanismus zum Öffnen und Schließen der einzigen Öffnung zum Befüllen des Probenbehälters. Sensoren erfassen bestimmte Parameterwerte des z. B. in einem Bohrloch befindlichen Wassers und melden diese an eine Steuereinheit, die bei Erreichen bestimmter Werte die Wasserprobennahme auslöst. Auch aus der AT 398 002 B ist eine Vorrichtung zur Wasserprobennahme zum Einsatz insbesondere in Brunnen und Bohrlochern bekannt, die keine Wechselvorrichtung aufweist und daher nur eine einzelne Probe nehmen kann. Der Probenbehälter weist zwei durch eine Schnur verbundene Ventilkappen auf. Beim Absenken des Probenbehälters in Wasser wird die untere Ventilkappe durch den Strömungsdruck offen gehalten, die obere Ventilkappe wird durch einen Haltedraummagnet offen gehalten. Nach Erreichen der Einlass- und Auslassventile wird die untere Ventilkappe durch Schwerkraft in Verschlussrichtung bewegt. Endgültig verschlossen wird der Probenbehälter durch einen Ruck am Haltedraht, durch den die obere Ventilkappe vom Haltedraummagneten gelöst und beide Ventilkappen in die Verschlussstellung gebracht werden. Der Ventilmechanismus ist sehr einfach und kann wegen der Auslösung durch Seilzug in großen Wassertiefen nicht mehr eingesetzt werden. Aus der EP 1 493 656 A1 ist eine Vorrichtung zur Wasserprobennahme bekannt, die als Nutzfah von einem Unterseeboot getragen wird. Es ist vorgesehen, eine Mehrzahl von Proben zu nehmen und in ge-

DE 10 2009 032 097 B3 2010.06.17

einem Ablauf in drei Stellungen in Seitenansicht. Die Strömungsfahne 59 dient dem Zweck, einen korrekt mit Probenwasser gefüllten Probenbehälter 4 anzuzeigen. Für die Wasserprobennahme werden die Probenbehälter 4 mit geöffneten Einlass- und Auslassventilen 23, 25 in das Trommelmagazin 3 eingesetzt. Dazu werden die Verschlusskegel 28 aus den konischen Öffnungen 27 gegen die Kraft der sie verbindenden Zugfedern 29 herausgezogen und durch Aufsetzen der konvexen Lagerschalen 30 auf die in der beweglichen Hülse 16 fixierten Zylinderstifte 31 in ihrer Position gehalten. Bei Erschütterungen der Vorrichtung zur Wasserprobennahme 1 kann es vorkommen, dass einzelne Verschlusskegel 28 ungewollt von ihren Positionen entfernt und der zugehörige Probenbehälter verschlossen wird. Es ist dann keine Wasserprobennahme mehr möglich und das in den gefüllten Probenbehältern 4 vorhandene Wasser stellt keine korrekte Wasserprobe dar. Die Strömungsfahne 59 kann nur umklappen, wenn der Probenbehälter 4 von Wasser durchströmt und in einer Position zur Wasserprobennahme vor der Auslassöffnung 15 der Stimplatten 7 des Montagegestells 2 ist. Wird keine umgeklappte Strömungsfahne 59 bei der Entnahme der Probenbehälter 4 vorgefunden, enthält der Probenbehälter 4 keine korrekte Wasserprobe. Die Strömungsfahne 59 ist in einer Aussparung 60 der beweglichen Hülse 16 der Auslassseite 26 des Probenbehälters 4 drehbar angeordnet. Ein Anschlag 61 sorgt für eine Begrenzung der Drehbewegung. Fig. 6A zeigt die Ausgangsstellung der Strömungsfahne 59 beim Einsatz der Probenbehälter 4 in das Trommelmagazin 3. Die Strömungsfahne 59 ist eingeklappt und wird in dieser Stellung durch die Stimplatte 7 des Montagegestells 2 gehalten. In Fig. 6B befindet sich der Probenbehälter 4 in einer Position zur Wasserprobennahme mit seiner Auslassseite 26 vor der Öffnung 27 der Stimplatte 7 des Montagegestells 2. In der Öffnung 27 ist ein zusätzlicher Bewegungsraum 62 vorgesehen, der die Drehung der Strömungsfahne 59 ausschließlich an dieser Position ermöglicht. Tritt eine Durchströmung des Probenbehälters 4 ein (hier angedeutet durch drei Pfeile), wird die Strömungsfahne 59 durch den Wasserdruk umgeklappt und in ihrer Bewegung durch den Anschlag 61 begrenzt. In Fig. 6C wurde das Trommelmagazin 3 weitergedreht. Der Probenbehälter 4 steht wieder vor einem geschlossenen Abschnitt der Stimplatte 7, wodurch die Strömungsfahne 59 in ihrer ausgedehnten Position fixiert wird und eine erfolgreiche Wasserprobennahme signalisiert.

Patentansprüche

1. Vorrichtung zur Wasserprobennahme (1) mit einem Montagegestell (2), einem Mehrfachmagazin mit mehreren Probenbehältern (4), die durch individuelle Befestigungseinrichtungen einzeln entnehmbar sind und an einer ersten Stirnseite ein Einlassventil (23) und an einer zweiten Stirnseite ein Aus-

lassventil (25) aufweisen, mit einer Betätigungsvorrichtung (54) zum Verschließen der Einlass- und Auslassventile (23, 25) und einer Auswahleneinrichtung (5) für den nächsten zur Wasserprobennahme bestimmten Probenbehälter (4), gekennzeichnet durch
– zwei auf einer Welle (11) als zentraler Längsachse des Montagegestells (2) parallel zueinander angeordnete Stimplatten (7), zwischen denen das Mehrfachmagazin als Trommelmagazin (3) horizontal drehbar gelagert ist,
– formschlüssige Steckverbindungen zur Befestigung der Probenbehälter (4) mit dem Trommelmagazin (3) und kraftschlüssige Einspannverbindungen zur Befestigung der Probenbehälter (4) zwischen den Stimplatten (7) des Montagegestells (2) als Befestigungseinrichtungen der Probenbehälter (4),
– axial angeordnete konische Öffnungen (27) in den Stirnseiten der Probenbehälter (4) und dazu formschlüssige, axial verschiebbare Verschlusskegel (28) als Einlass- und Auslassventile (23, 25), die in geöffnetem Zustand symmetrische Ringspalte (37) ausbilden,
– Mitnehmer (50) an den Verschlusskegeln (28) und Auslasshebel (40) in den Stimplatten (7) des Montagegestells (2) als Betätigungsvorrichtung für die Einlass- und Auslassventile (23, 25) und
– einen Motor (6) mit Getriebe zwischen dem Montagegestell (2) und dem Trommelmagazin (3) als Auswahleneinrichtung (5) zur Drehung des Trommelmagazins (3) mit den Probenbehältern (4).

2. Vorrichtung zur Wasserprobennahme (1) nach Anspruch 1, gekennzeichnet durch zylinderförmig ausgebildete Probenbehälter (4).

3. Vorrichtung zur Wasserprobennahme (1) nach Anspruch 1, gekennzeichnet durch zumindest je eine Passbohrung (36) an Endplatten (20) des Trommelmagazins (3) und zumindest einen, jeder Passbohrung (36) zugeordneten Passstift (34) an den Probenbehältern (4) als formschlüssige Steckverbindungen der Befestigungseinrichtung der Probenbehälter (4) mit dem Trommelmagazin (3).

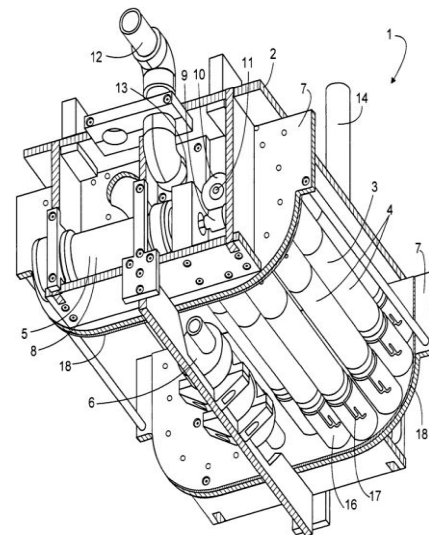
4. Vorrichtung zur Wasserprobennahme (1) nach Anspruch 1, gekennzeichnet durch eine an der Auslassseite (26) der Probenbehälter (4) verschiebbar gelagerte federbelastete Hülse (16) mit Bajonetverriegelung (17) als kraftschlüssige Einspannverbindung der Befestigungseinrichtung der Probenbehälter (4) zwischen den Stimplatten (7) des Montagegestells (2).

5. Vorrichtung zur Wasserprobennahme (1) nach Anspruch 4, gekennzeichnet durch Polyvinylchlorid als Material der druckfederbelasteten Hülse (16).

6. Vorrichtung zur Wasserprobennahme (1) nach Anspruch 1, gekennzeichnet durch Polytetrafluor-

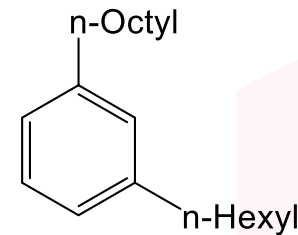
DE 10 2009 032 097 B3 2010.06.17

Anhängende Zeichnungen



Patents – Application

- The application must contain "**one or more claims**" (Patentansprüche) (Art. 78(1)(c) EPC) defining the matter for which protection is sought (Art. 84 EPC).
- Examples:
 - A height-adjustable chair comprising a seat, a telescopic support post, and a locking mechanism.
 - A semiconducting device comprising a silicon substrate, an insulating layer, and a conductive layer, wherein the conductive layer is arranged between the insulating layer and the silicon substrate.
 - Compound having the following formula:



Patents – Clarity

Art 84 EPC:

*The claims shall define the matter for which protection is sought. They shall be **clear and concise** and be supported by the description*

- Since the **scope of the protection** conferred by a European patent or application is determined by the claims (interpreted with the help of the description and the drawings; Art 69(1) EPC), clarity of the claims is of the utmost importance

Patents – Enablement

Art. 83 EPC

*The European patent application shall **disclose the invention** in a manner **sufficiently clear and complete** for it to be carried out by a person skilled in the art*

- The subject-matter of an application must be sufficiently disclosed **at the date of the application**, based on the **application as a whole** and taking into account the **common general knowledge** of the skilled person
- It is not the purpose of the patent system to grant a monopoly for technical speculations that cannot be realized at the time of filing (T 1164/11)
- Based on the application as a whole including claims, description, drawings, examples etc

Trade Secrets

What is a Trade Secret?

- Non registrable right
- Automatic protection for information which meets certain requirements
- Unlawful acquisition, use or disclosure = infringement
- Notable exceptions: reverse engineering, whistleblowing, parallel discoveries

Remedies:

- Injunctive relief
- Information
- Damages
- Destruction/recall of infringing goods

Trade Secrets – How to protect?

A Trade Secret is according to Article 2 of the Trade Secrets Directive:

Information, which

1. is secret = not generally known or readily accessible
 2. has commercial value because it is secret
 3. is subject to reasonable steps to keep it secret
- Includes technical or commercial information of all kinds
sales figures, business strategies, customer lists, manufacturing processes,
technical drawings, prototypes, algorithms, raw data (e.g. AI training data)
 - No requirement regarding quality/content (inventiveness, novelty, uniqueness,
creativity)

Trade Secrets – Reasonable steps

- Material requirement for trade secret protection!
- Trade secret owner must take measures to ensure secrecy of the information
What is „reasonable“?
- ➔ No strict standard, but **flexible** requirement (case-by-case basis)

Factors:

- Value of the information
- Nature of the information
- Company size
- Concrete risk of infringement
- **Legal, organizational** and **technical** measures can be necessary
-> If No reasonable measures = No legal protection!

Trade Secrets – Reasonable steps

Legal

- NDAs
- Work contract clauses
- Contractual penalties
- Reverse engineering clauses (B2B)

Organisational

- Need-to-know
- IT policy (e.g. private devices)
- System for labeling confidential information
- Employee training
- Onboarding
- Designated „know-how-officer“

Technical

- Firewalls
- Password protection
- encryption
- Control of access to premises/offices

Trade Secrets vs. Patents

Trade Secrets	Patents
Not registrable	Registration required
Must be kept secret	Must be disclosed (patent application)
No exclusive protection, only unlawful disclosure, acquisition and use	Absolute/exclusive protection („first come, first served“)
Potential indefinite protection	Up to 20 years from the filing date
Protection of technical or business information	Only technical information (invention)
Secrecy, commercial value and reasonable measures necessary	Novelty + Inventive step + industrial applicability necessary

Trade Secrets vs. Patents – Scope

- Patents:
 - Exclusive right -> only patent owner may produce, offer, use the invention
 - Potential infringement regardless of bad faith
 - Protection even against independent inventions (if they are made after filing date of the patent)
- Trade Secrets:
 - Non-exclusive right
 - Only protected against specific forms of infringement
 - unlawful disclosure, acquisition and use
 - No protection against independent discovery of information (own R&D, reverse engineering, etc.)

Trade Secrets vs. Patents – Costs

- Patents:
 - Costs for filing and maintenance of the patent
 - Official fees of the Patent Offices
 - Professional fees of patent attorneys
 - Costs for defending and enforcing patent rights
- Trade Secrets:
 - No registration -> no costs for filing & maintenance
 - But: costs for keeping the information secret! Implementation of protective measures, e.g. IT security; training of employees
 - Costs for enforcing trade secrets
 - Potentially high costs due to difficulties to prove existence of the trade secret

Trade Secrets vs. Patents – Combination

- Patent protection useful if invention can be easily **analyzed/reverse engineered**
- Other aspects: trade secret protection?
- But: Patent must disclose the invention sufficiently clear and complete for it to be carried out -> essential parts cannot be kept secret!
- Potential combination: Patent for “basic” invention (e.g. self-driving car); trade secret for further improvements (e.g. training data)

Trade Secrets

Further reading:

WIPO Guide to Trade Secrets and Innovation – Part III: Basics of trade secret protection:

<https://www.wipo.int/web-publications/wipo-guide-to-trade-secrets-and-innovation/en/part-iii-basics-of-trade-secret-protection.html>

WIPO

Home > Publications > WIPO Guide to Trade Secrets and Innovation > Part III: Basics of trade secret protection

WIPO GUIDE TO TRADE SECRETS AND INNOVATION

Part III: Basics of trade secret protection



Foreword

Acknowledgments

Part I: Introduction

Part II: Strategic roles of trade secrets in the innovation ecosystem

Part III: Basics of trade secret protection ^

1. What are trade secrets?
2. Legal frameworks for trade secret

Topics covered in this Part:

- What trade secrets are
- Legal frameworks for trade secret protection
- Trade secrets and patents
- Using trade secrets in business (essentials)

This Part provides basic outlines of trade secret protection, focusing on the essential building blocks of trade secret systems. Reflecting the legal traditions of each country, national trade secret laws show differences in certain key areas. However, to provide a general overview of various trade secret systems, Part III particularly highlights the common areas in the national and regional trade secret systems, with references to international treaties, where appropriate.

III. Looking Ahead



III. Looking Ahead – Build a consistent IP protection & enforcement strategy

- Set the policy: define what you protect (patents, trade secrets, designs, trademarks) and where (key jurisdictions & timelines)
- Protect early: File early where needed; or take the appropriate measures
- Prove priority: maintain lab notebooks, data rooms, dated deposits/escrows
- Choose the mix: patent vs. trade secret; layer design + trademark for market presence
- Clear the path: run freedom-to-operate checks and watch competitors' filings
- Contract for control: robust IP/ownership clauses with employees, founders, partners, vendors
- Monitor & enforce: set up watch services; send C&Ds, use takedowns, seek injunctions where proportionate
- Train & audit: regular staff training, clean-desk/clean-code rules, periodic IP audits
- Budget & escalate: allocate enforcement budget and define an incident response playbook
- Keep the IP toolbox in mind:

III. Looking Ahead

Dimension	Trade Secrets	Patents	Copyrights	Trademarks
What's protected	Confidential information with economic value (technical, commercial)	Technical inventions (products/processes)	Original works of authorship (literary, musical, artistic, software, etc.)	Signs identifying source (words, logos, shapes, colors, sounds)
How protection arises	Through reasonable secrecy measures; no registration	By grant after examination	Automatic upon fixation in a tangible medium	Through use and/or registration (stronger, clearer scope when registered)
Key requirements	Information is secret, has value because it's secret, and is reasonably protected	Novelty, non-obviousness, industrial applicability, sufficiency of disclosure	Originality; minimal creativity	Distinctiveness; not descriptive/generic; no likelihood of confusion
Registration?	No	Yes (national/regional)	No (registration optional for recordal in some jurisdictions)	Optional but highly recommended

III. Looking Ahead

Dimension	Trade Secrets	Patents	Copyrights	Trademarks
Scope of right	Acts against misappropriation (unlawful acquisition/use/disclosure)	Exclusive rights to make, use, sell, etc.	Exclusive rights to reproduce, adapt, distribute, perform, display	Exclusive right to use mark for listed goods/services; prevent confusingly similar uses
Duration	Potentially indefinite while secrecy lasts	Generally 20 years from filing (utility)	Life of author + 70 years (typical; varies)	Indefinite with renewal and continued use
Territoriality	Protection where misappropriation occurs	Territorial per granted patent; file per jurisdiction/region	Territorial for enforcement	Territorial; national/regional registrations
Disclosure	Never disclose publicly; NDAs/access controls essential	Must disclose the invention (published)	Publication not required for existence, often helpful for proof	Use and marketing create public association
Time & cost	Costs depend on the concrete secrecy measures	High cost; multi-year prosecution	Low to moderate (registration/recordal optional)	Moderate (search, filing, renewals)
Loss risks	Loss if secrecy lapses or info becomes public/independently known	Expiry after term; invalidation for lack of novelty, etc.	Limited by exceptions (fair use/quotation); term expiry	Non-use cancellation; likelihood-of-confusion limits

III. Looking Ahead

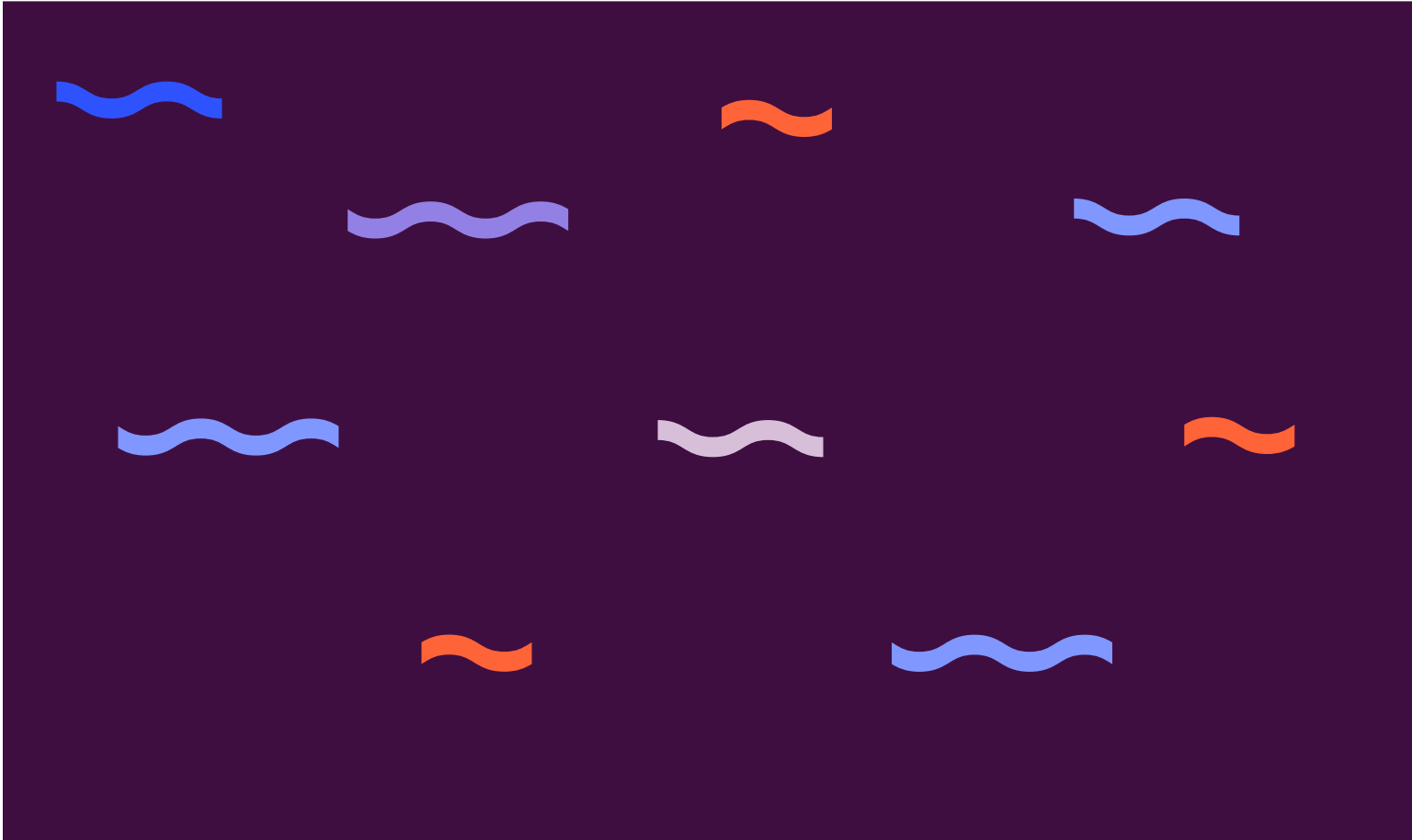
Dimension	Trade Secrets	Patents	Copyrights	Trademarks
Employee/contractor issues	Ensure NDAs, IP/confidentiality clauses; trade secret policies	Employee-invention statutes; assignment at filing; compensation rules may apply	Work-made-for-hire/assignment; clear license terms	Ownership/consent for use; coexistence agreements
Best use cases	Processes, formulas, data sets, algorithms not easily reverse-engineered	Core technical innovations needing strong, public exclusivity	Content, code, designs, databases (original selection/arrangement)	Brand identity, product names, logos, trade dress
Remedies	Injunctions, delivery-up, damages/accounting, destruction, confidentiality orders	Injunctions, damages/account, delivery-up, border measures	Injunctions, damages/account, statutory damages (some jurisdictions)	Injunctions, damages/account, cancellation/opposition



Q&A



Funded by
the European Union



Funded by
the European Union

THANK YOU

Get in touch with us!

Melanie Müller

BOEHMERT & BOEHMERT

E-Mail: mueller-melanie@boehmert.de



FOLLOW US!

