Webinar: Software Patents in Europe

Motivation	Substantive Aspects	Procedural Aspects	Financial Aspects	Q&A
EPO Numbers	Patentability	Filing Strategies	Costs	Questions and Answers
Emerging Technologies	Specifics of Computer Implemented Inventions	Post Grant Strategies	Portfolio Management	Open Discussion Round

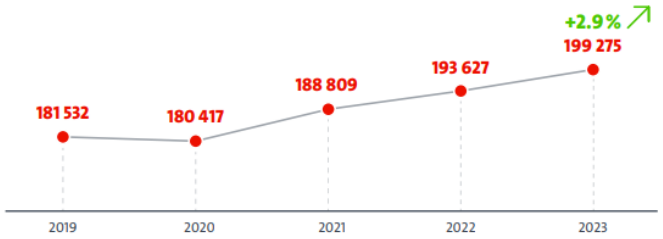
Motivation:

epo.org/patent-index2023

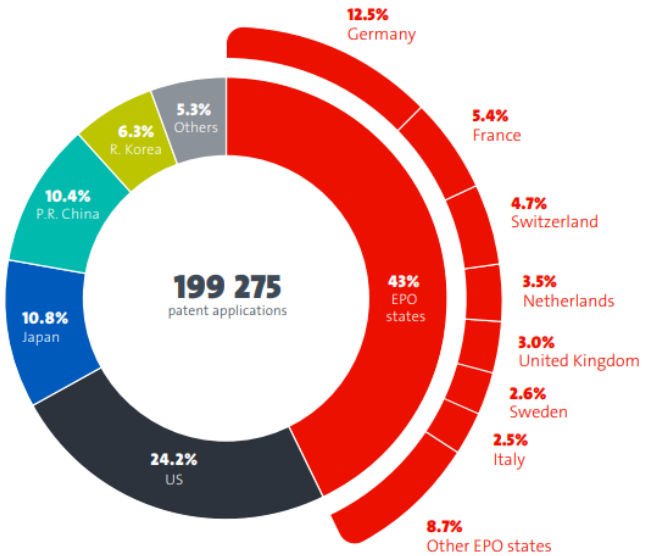
TRENDS IN PATENTING 2023

Europe is an **attractive technology market** for European and international companies

Total patent applications at the European Patent Office

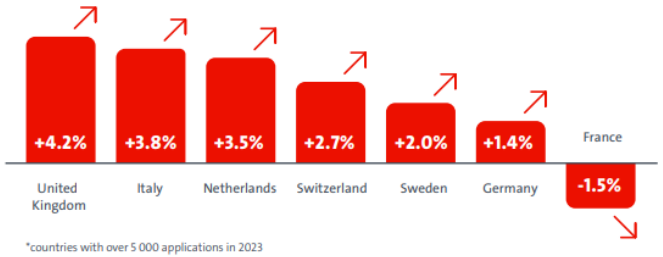


Countries of origin: The 39 member states of the EPO account for over 43% of all European patent applications



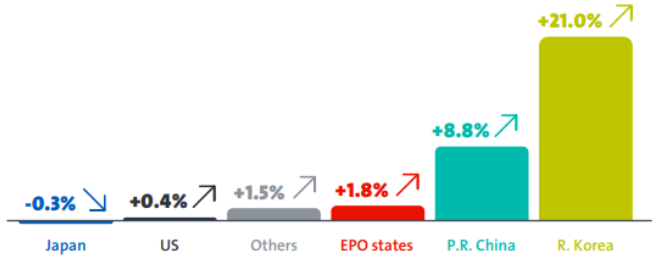
Top technology fields: Strong growth in digital technologies

Applicants from Europe*: Relative growth compared with 2022

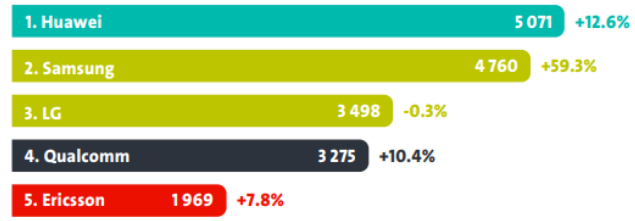


*countries with over 5 000 applications in 2023

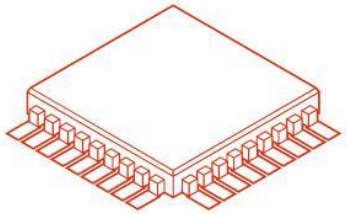
Growth in filings from the leading patent territories

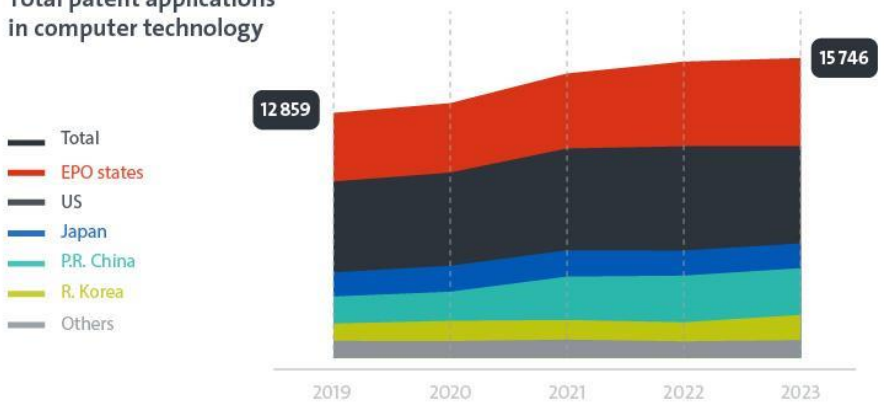


Top applicants for European patents in 2023

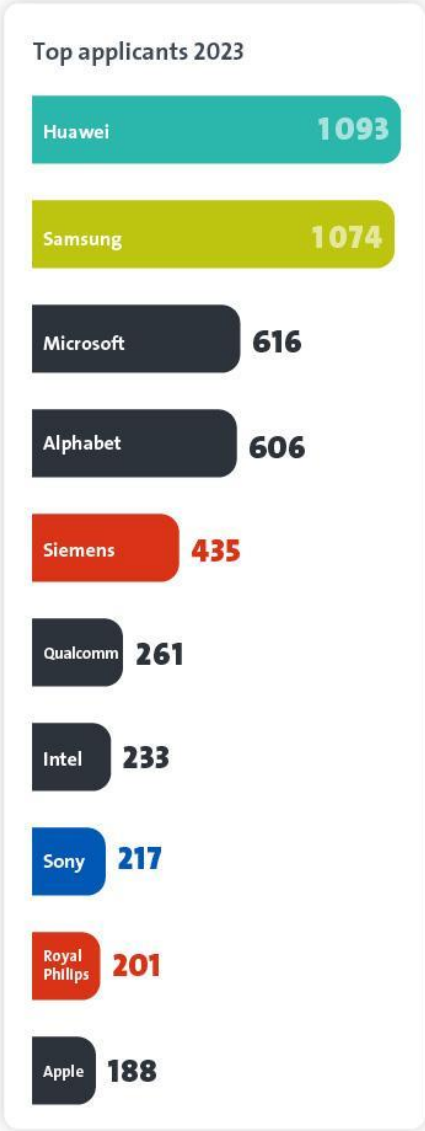


Motivation:





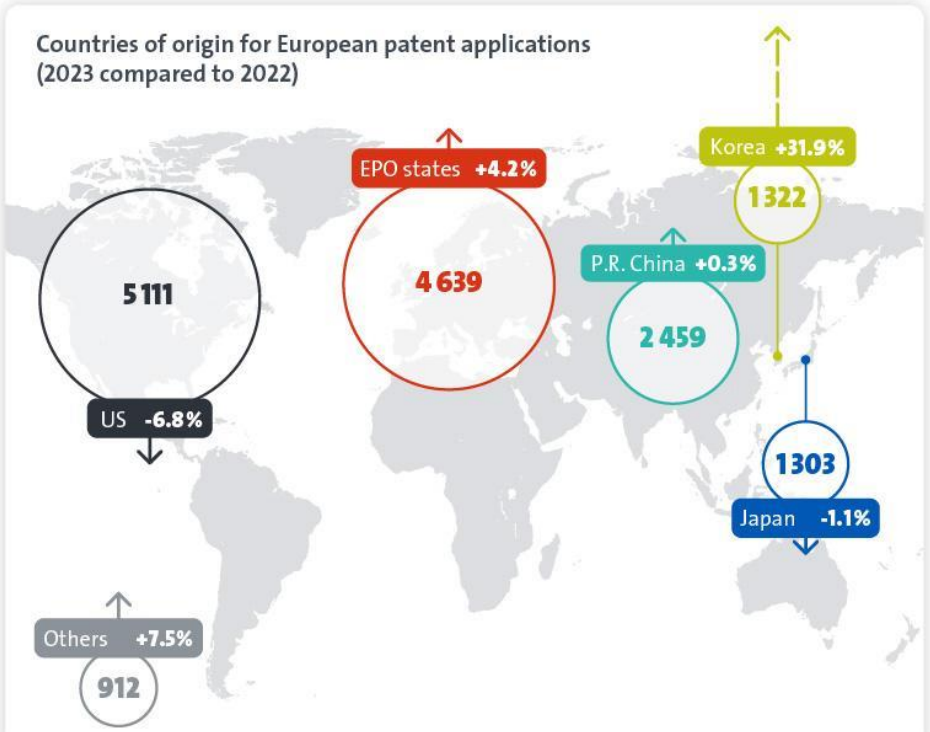
epo.org/patent-index



2023

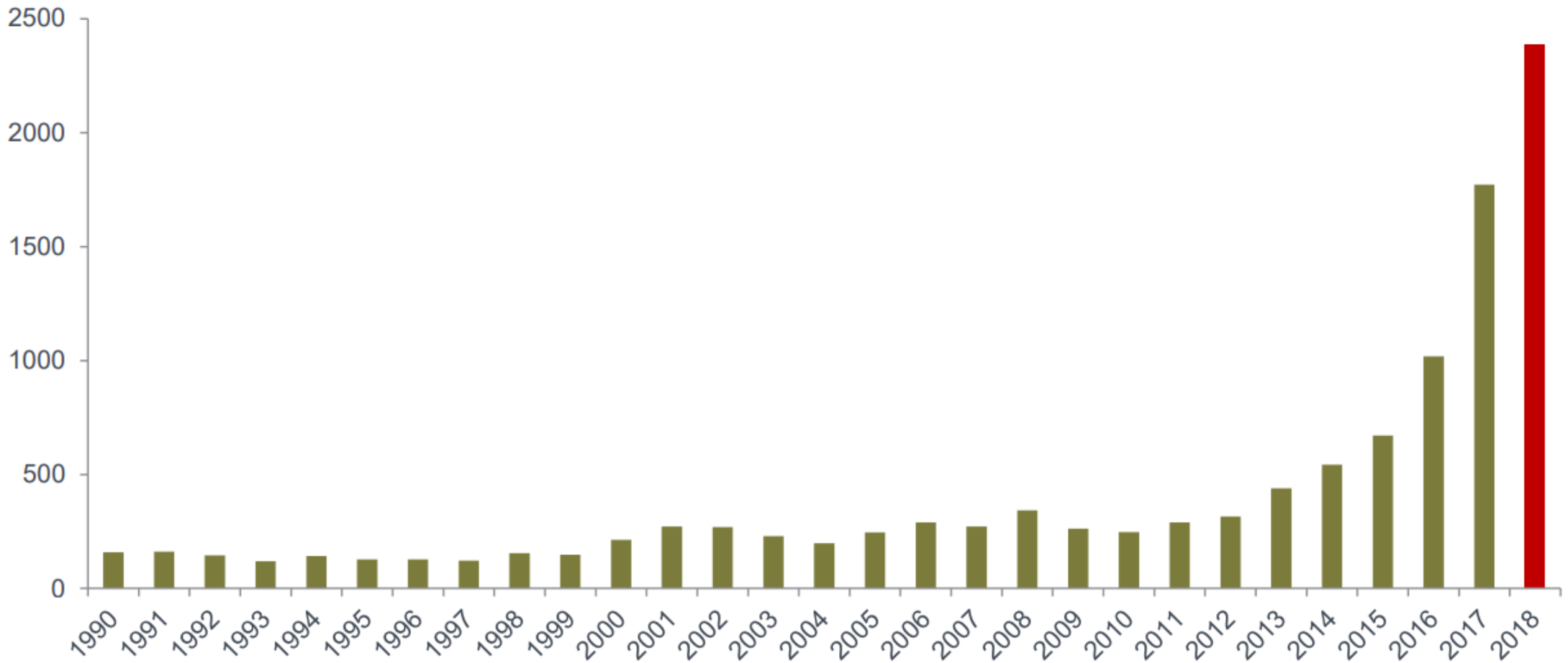
Computer technology remains third most active field

This includes artificial intelligence; US and European applicants in the lead, with big growth from Korea



Motivation:

Patent applications on AI at the EPO



Source: EPO. The number of European patent applications in AI technologies corresponds to EP/WO families in the CPC class G06N7, G06N5, G06N99 /005 and G06N3, corresponding to core AI. In addition, a set of class symbols related to AI was compiled also, based on the description of the classification symbol. The results are presented by oldest filing date.

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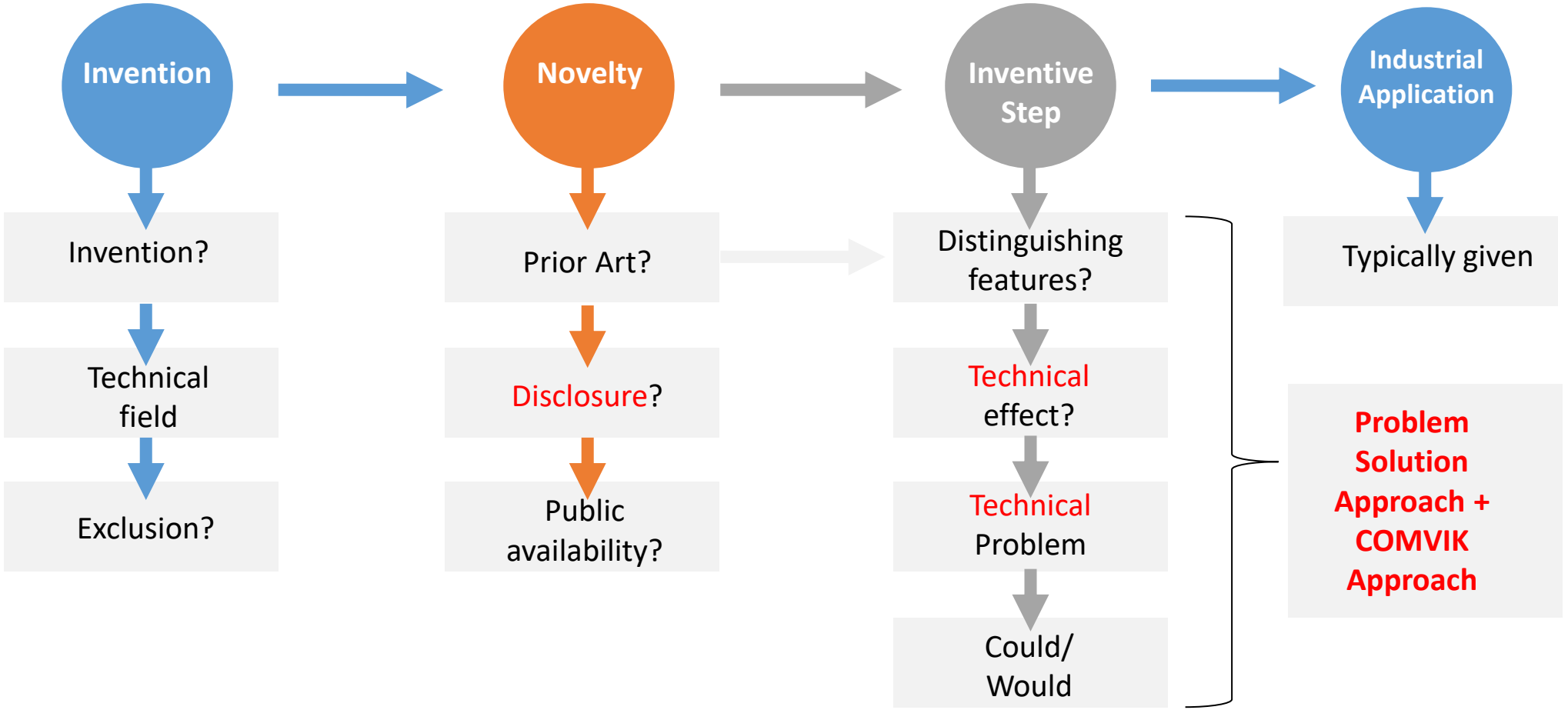
Requirements for Software Patents in Europe:

Reich-ip

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**.



Example: International Law, different patent practice?

German Patent Act, Patentgesetz, PatG

§ 1

(1) 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.

(2) (…)

(3) The following in particular shall **not** be regarded as inventions within the meaning of subsection (1):
1. discoveries, scientific theories and mathematical methods;
2. aesthetic creations;
3. schemes, rules and methods for performing mental acts, playing games or doing business, and **programs for computers**;
4. **presentations of information**.

(4) Subsection (3) shall exclude patentability only to the extent to which protection is being sought for the subject-matter or activities referred to **as such**.

European Patent Convention EPC

Article 52
Patentable inventions

(1) 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.

(2) The following in particular shall **not** be regarded as inventions within the meaning of paragraph 1:
(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.**

(3) Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities **as such**.

Software patent applications: Prior Art

European Patent Convention EPC

Article 52
Novelty

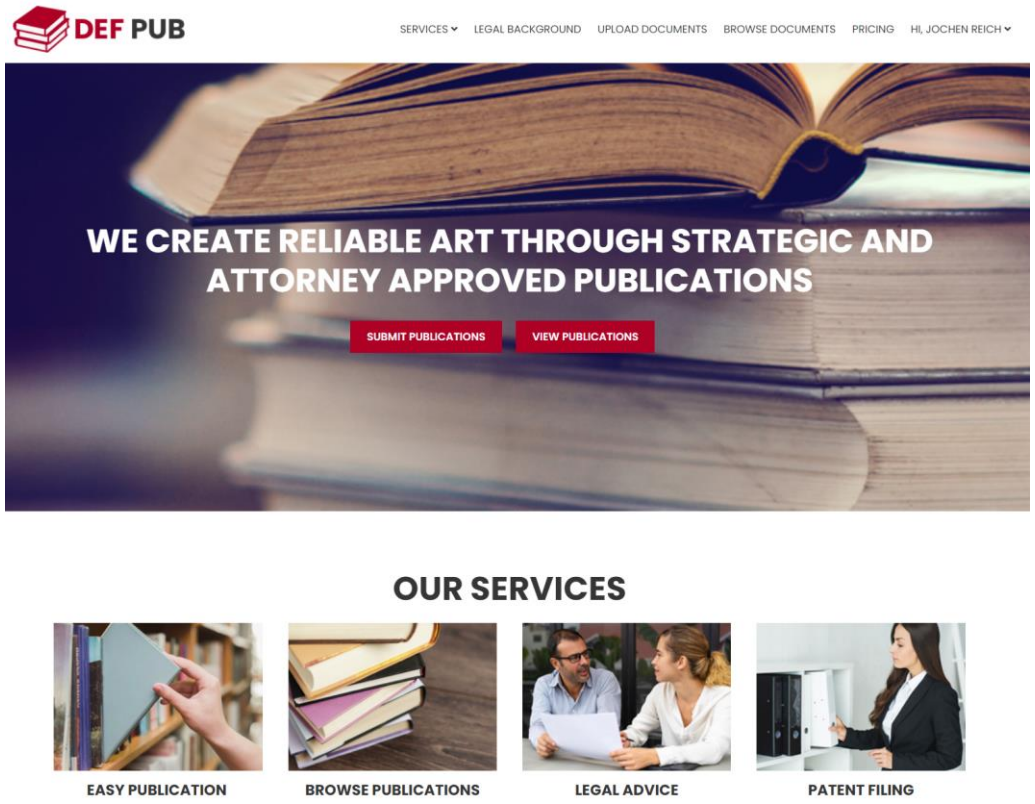
(1) An invention shall be considered to be new if it does not form part of the state of the art.
(2) The state of the art shall be held to comprise **everything** made available to the public by means of a **written or oral** description, by use, or in any other way, before the date of filing of the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

Disclosure of the invention?

- What is considered to form prior art?
- When is a technical teaching disclosed?
  - **Code obfuscation techniques**
  - **Types of Reverse Engineering**
  - **Encryption of Code**
  - **Distributed/ heterogeneous data sources**
- Burden of proof
- Advantages/ Disadvantages of Disclosure
- Perspectives: applicant/ opponent

Defensive Publications:

www.def-pub.de
www.def-pub.com



COMVIK Approach: Mixed type invention

Applying the Problem-solution approach

1. Determination of the closest prior art
2. Identifying Distinguishing Features
3. Formulation of technical effect
4. Formulation of the objective technical problem
5. Could-would approach

Embedded System: Software and/ or Hardware
=> Mixed type? Software as such?

The COMVIK decision (simplyfied)

A method in a digital cellular phone system of the GSM type,

in which subscriber units (MS) are controlled by a subscriber identification module (SIM), **characterized in that**

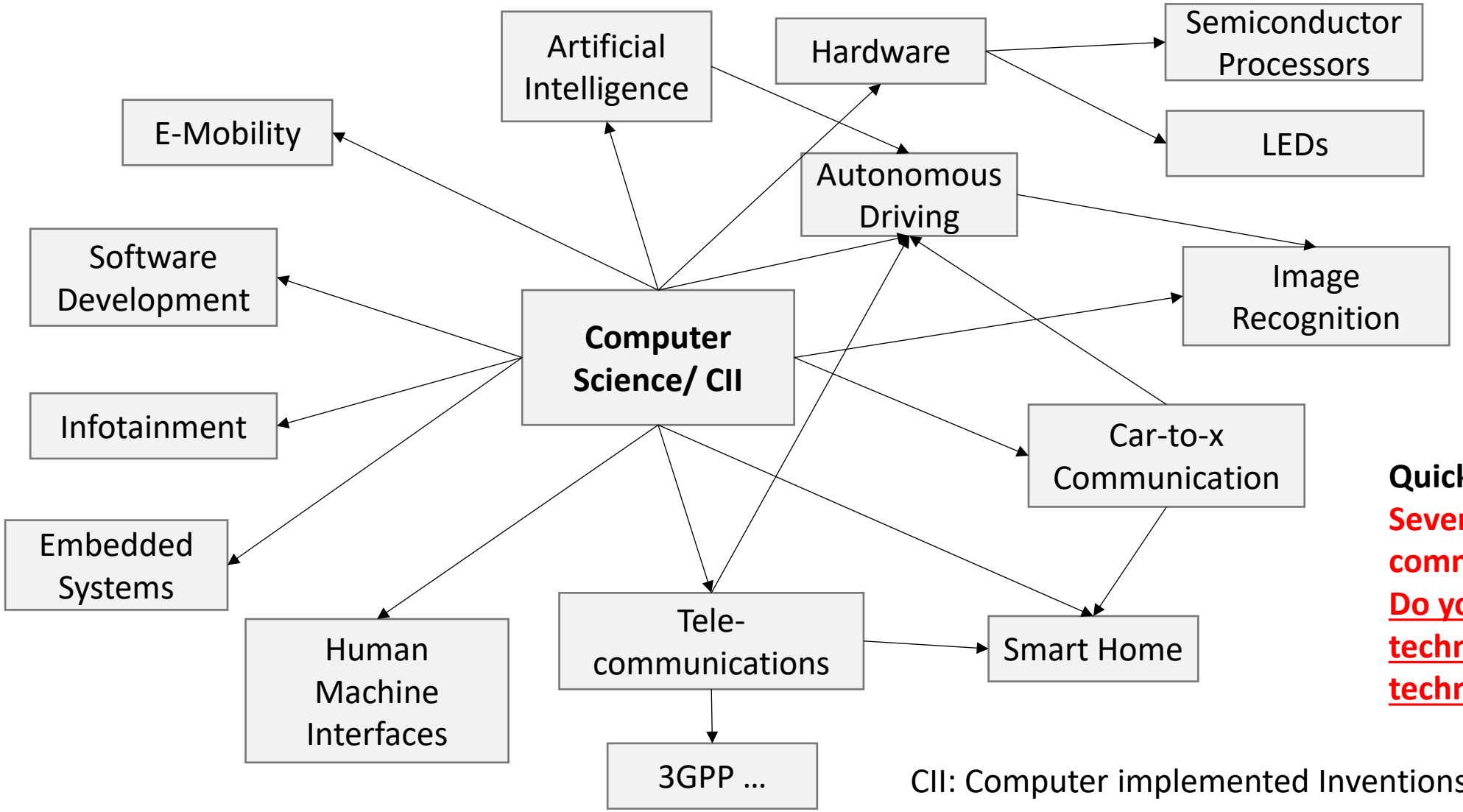
the subscriber identification module (SIM) has at least two optionally usable identifiers (IMSI 1, IMSI 2), the data of which are stored in a location directory of the system, whereby

only one identifier (IMSI 1 or IMSI 2) can be activated at a time and the user can choose the desired one when using a subscriber unit (MS),

the optional activation being used to split the charges between business and private calls or between different users.

Only technical distinguishing features are considered contributing to inventiveness
=> Technical solution for a technical problem

Application Domains:



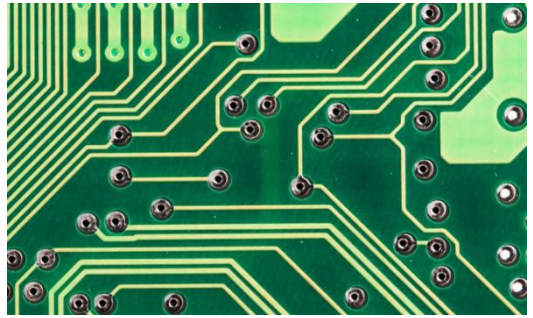
Quick learning:
Several fields / one common question:
Do you solve a technical problem with technical means?

CII: Computer implemented Inventions

Overview, Mixed type inventions:

Technicality

Hardware



§

Software

```
83  public class LinkedList<E>
84      extends AbstractSequentialList<E>
85      implements List<E>, Deque<E>, Cloneable, java.io.Serializable
86  {
87      transient int size = 0;
88
89      /**
90       * Pointer to first node.
91       * Invariant: (first == null && last == null) ||
92       *            (first.prev == null && first.item != null)
93       */
94      transient Node<E> first;
95
96      /**
```

Patents

General Question:
Patenting Hardware and/ or Software?
=> Strategies?

Establishing technical character

Further effects of programs for computers
A computer program product might possess the potential to produce a "further" technical effect

Direct link to physical reality?
the Enlarged Board in G 1/19 (OJ 2021, A77) did not see a need to require a direct link with (external) physical reality in every case => to be discussed

Potential technical effect
either the technical effect that would result from the intended use of the data could be considered "implied" by the claim, or the intended use of the data

Virtual or "calculated" technical effect
There may exist exceptional cases in which such information has an implied technical use that can be the basis for an implied technical effect. Still, in general, data about a calculated technical effect is just data.

Tangible effect
The Enlarged Board in G 1/19 fully supported the view expressed in T 533/09 that a tangible effect is not a requirement under the EPC.

Implementation of a function on a computer system
irrelevant that the piece of information was used or processed by a conventional computer, or any other conventional information processing apparatus

Methods performed by a computer
Since a claim directed to a method of operating a computer involved a computer it could not be excluded from patentability by Art. 52(2) EPC (G 3/08, OJ 2011, 10).

Computer-implemented simulation methods
In the Enlarged Board's opinion, the COMVIK approach was suitable for the assessment of computer-implemented simulations.

Source (adapted):
https://www.epo.org/en/legal/case-law/2022/clr_i_a_2_4_6.html

How to claim CII?

Guidelines for Examination in the European Patent Office:

(iv) Examples of allowable claim types

– Methods of operating a data-processing system comprising steps A, B, … – a data-processing apparatus/system comprising means for carrying out said method – a computer program [product] adapted to perform said method – a computer-readable storage medium/data carrier comprising said program;

3.9.1 Cases where all method steps can be fully implemented by generic data processing means

A common type of CII relates to subject-matter where all the method steps can fully be carried out by computer program instructions running on means which, in the context of the invention, provide generic data processing functions. Such means can, for example, be embedded in a personal computer, smartphone, printer etc. In such inventions, although different claim structures are possible, the set of claims usually starts with a method claim. Further claims in other categories with subject-matter corresponding to that of the method may be included to obtain complete protection of the invention. If the invention concerns software which can be loaded into memory, transmitted over a network or distributed on a data carrier, a claim to a computer program [product] may also be present in addition to a computer-implemented method. The category of a computer program [product] claim is distinguished from that of a corresponding computer-implemented method (T 424/03 and G 3/08). The following non-exhaustive list comprises examples of acceptable claim formulations (T 410/96, T 1173/97 and T 2140/08) in such a set of claims:

4.13.1 Interpretation of expressions such as "Apparatus for ...", "Product for ... "

If a claim commences with such words as "Apparatus for carrying out the process ...", this must be construed as meaning merely apparatus suitable for carrying out the process. An apparatus which otherwise possesses all of the features specified in the claims but which is unsuitable for the stated purpose or requires modifications to enable it to be so used for said purpose, is normally not considered as anticipating the claim.

Memory **for** storing information:
ANY (!) memory

Claim types:

- (Computer implemented) method
- Apparatus/ System arrangement
- Computer Program Product

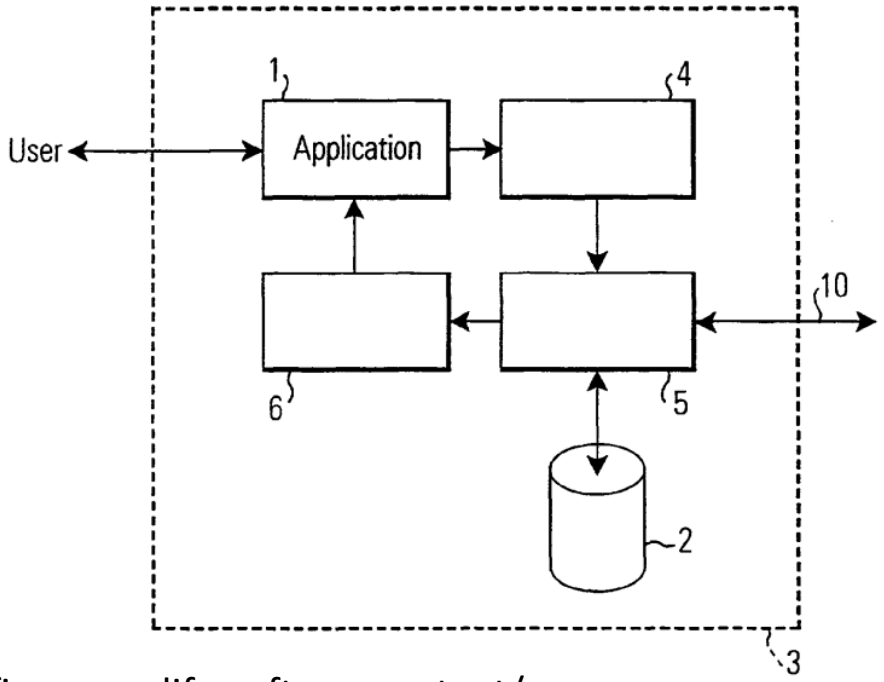
Example CII claim categories that are accepted by the EPO are:
1.A computer-implemented method comprising steps A, B, …
    1. e.g. A computer-implemented method of …, comprising steps…
2.A data processing apparatus/device/system arrangement comprising or a processor configured to perform the method of claim 1
3.A computer program comprising instructions which, when executed by a computer, carry out the method of claim 1
4.A computer-readable medium comprising instructions which, when executed by a computer, cause the computer to carry out the method of claim 1.

Granted and defended EP Patent Microsoft vs Zoe Life Technologies:

Claims EP1126674B1

1. A method of presenting data that are stored in a data storage device (2) of a data server (3) to a user, said user accessing said data server over a network, where in the process between accessing the server and presenting the data, at least one data path is used over which control data associated with the selection of data is sent, said at least one data path being unidirectional.

FIG.1



JUVE Patent › Cases › German Federal Court of Justice confirms Zoe Life software patent

Cloud computing

German Federal Court of Justice confirms Zoe Life software patent

The German Federal Court of Justice has confirmed a central software patent of investor Zoe Life Technologies, which covers cloud computing. The investor now wants to enforce the patent against Microsoft, among others. The latest development could see the beginning of a new series of lawsuits.

26 November 2021 by Christina Schulze

Computer & Software | German patent market | Germany | Print

https://www.juve-patent.com/cases/german-federal-court-of-justice-confirms-zoe-life-software-patent/

GenAI:

Current trend:
- Automated searches with AI/ natural language processing NLP
- Computer assisted/ automated patent drafting

Challenge:
Offline libraries (confidential content!)

Experimental setup:
- Input: Published invention reports
- Output: Claims and/ or Descriptions

Results:
- Less effort: no
- Benefits in quality: no

Adapting automatically generated patent applications results in high effort and still lower quality => not (yet) helpful

But: emerging technology with huge potential. Fast growing industry with potentially useful results once the big vendors have established quality standards.

Just to mention a few:
Google Patent
OpenAI
ClaimMaster
Harrity
Patent Theory
Powerpatent
Specifio
Triangleip
AcclaimIP

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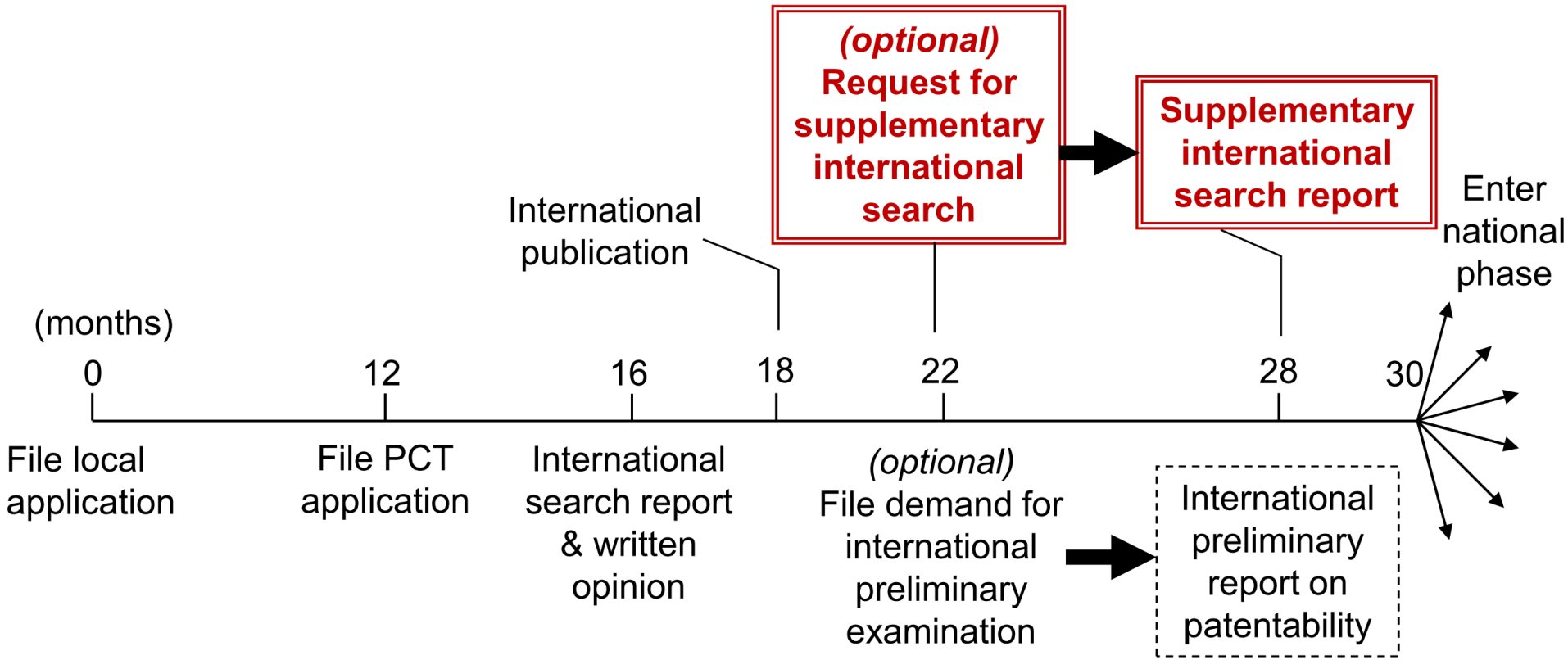
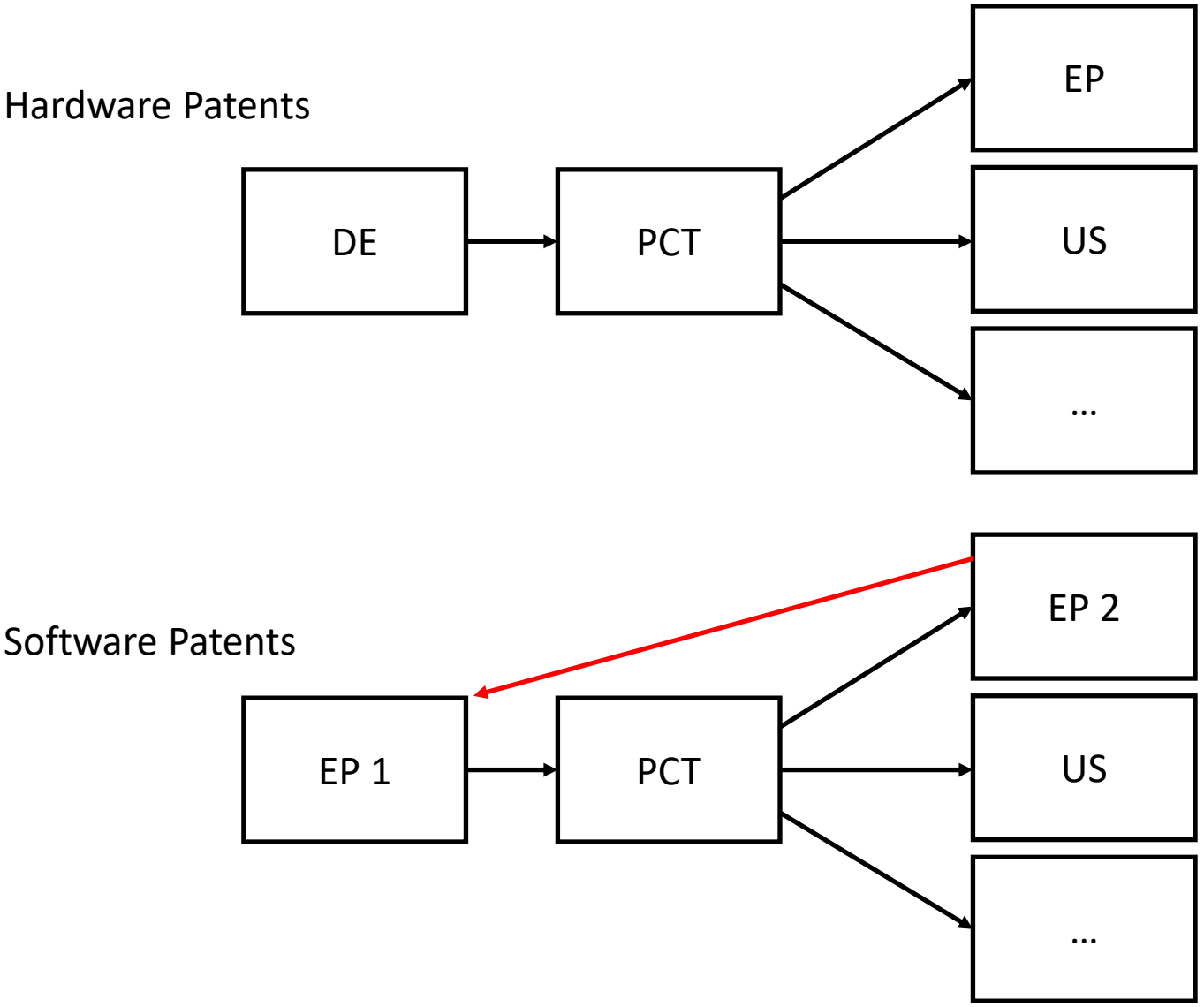
Time Frame:



Direct Filing **DF + Priority** **EP Phase (31 months)**

Source: WIPO Seminar Presentation on the Patent Cooperation Treaty (PCT)
The System for Worldwide Filing of Patent Applications
November 12, 2020

Filing Strategies:



Aspects to be considered:

- specific patent practice in each jurisdiction
- enforcement on national level
- challenging patents on regional/ national level
- different ways to national protection
- specific drafting techniques

Validation vs. Unitary Effect:

Unitary effect with currently 17 EU states

AND/ OR

Validation in up to 39 member states of European Patent Convention EPC

- 27 EU states
- ⇒ Protection also in countries outside EU
- ⇒ Switzerland, Turkey, ….

Source:
https://www.epo.org/de/about-us/foundation/member-states
https://www.epo.org/en/applying/european/unitary/unitary-patent

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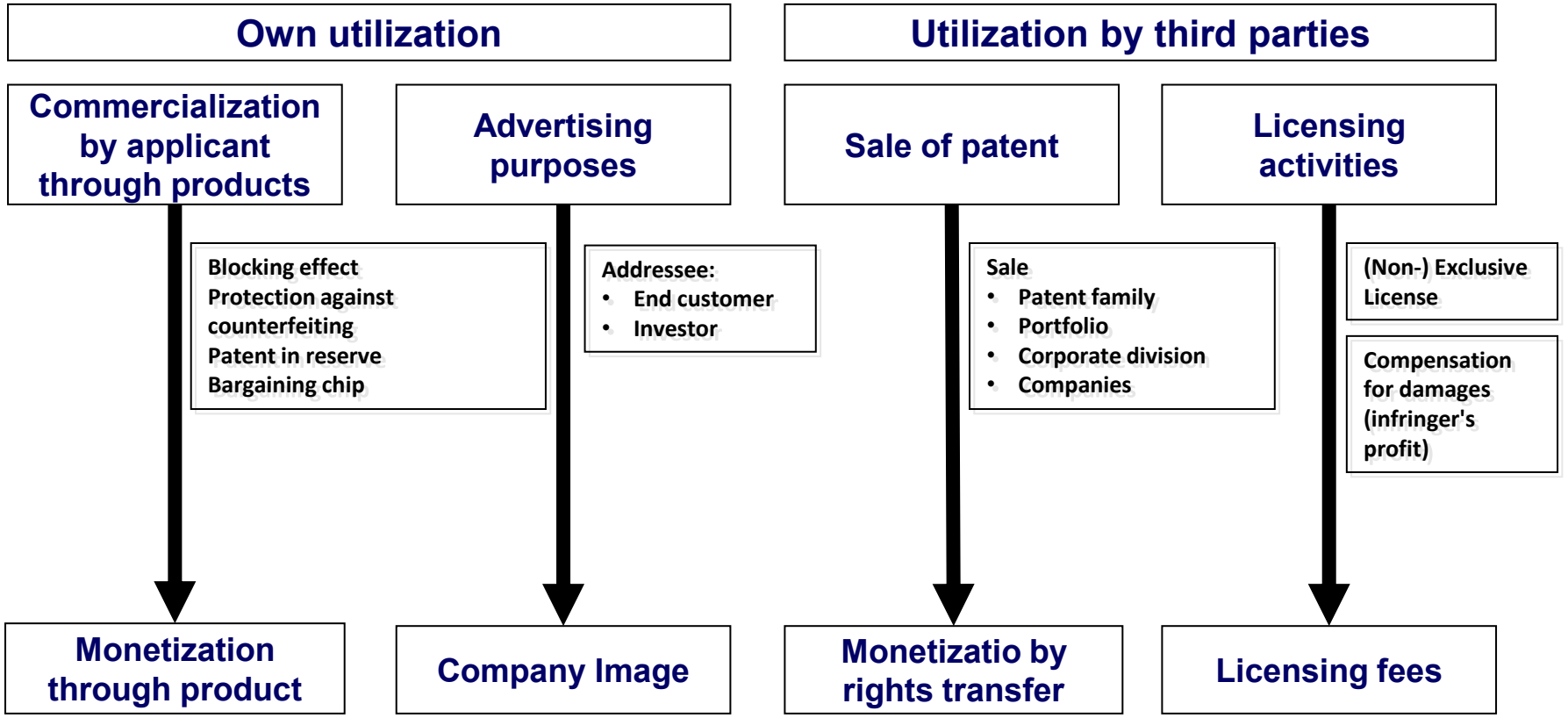
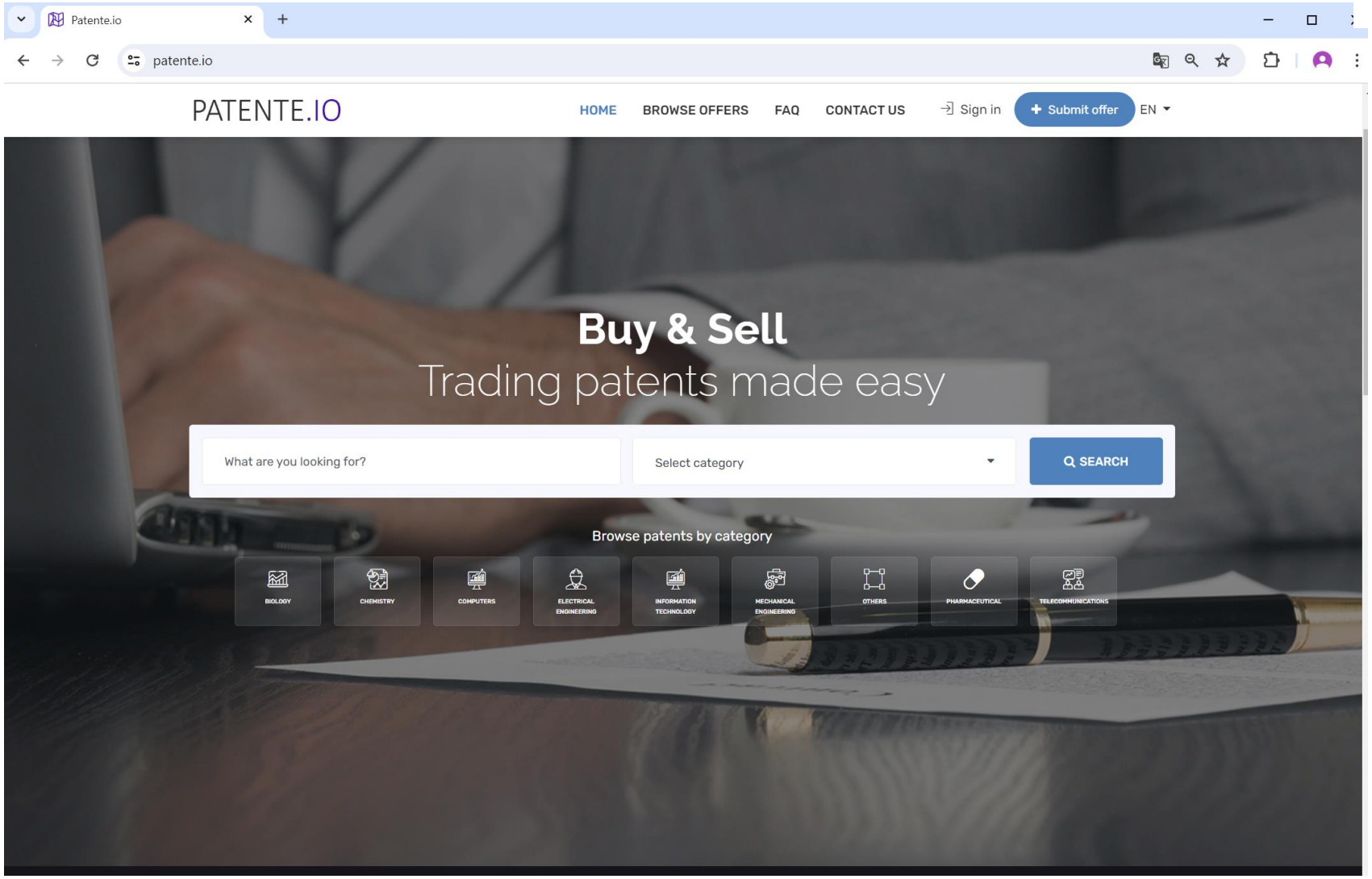
Patent utilization:



Patent portfolio management:



www.patente.io: fastest way to build a patent portfolio

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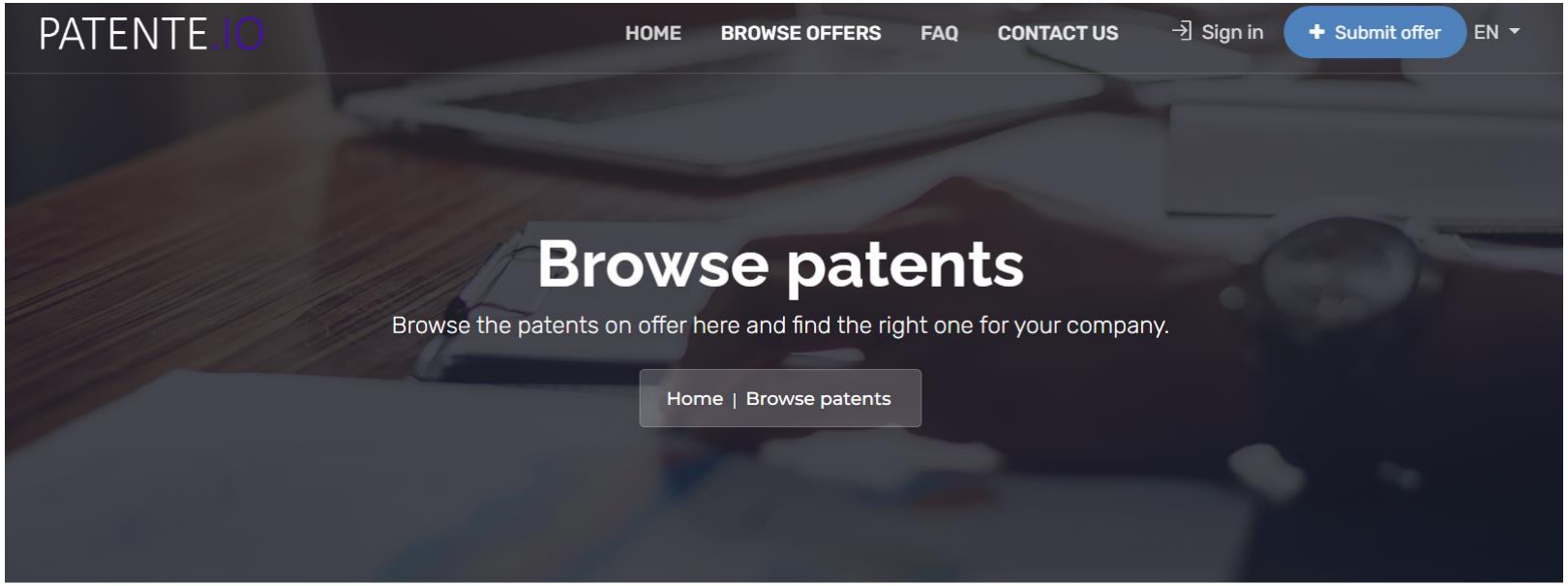

Initial costs Direct Filings/ EP phase entries (EUR) (General example! No price offer)

Reich-ip

EP Phase entry

	Small Entity Status	Conventional Applicant
Official filing fee Attorney´s fee	94,50 800,00	135,00 800,00
Official Search fee Attorney´s fee	1.064,00 250,00	1.520,00 250,00
Official Designation fee Attorney´s fee	479,50 300,00	685,00 300,00
Official Examination fee Attorney´s fee	1.340,50 300,00	1.915,00 300,00
Pages above 35 Attorney´s fee	12,60 3,00	18,00 3,00
Claims above 15 Attorney´s fee	192,50 30,00	275,00 30,00
Total	4.628,50	5.905,00

Required Information:
PCT Number

Direct Filing

	Small Entity Status	Conventional Applicant
Official filing fee Attorney´s fee	94,50 800,00	135,00 800,00
Official Search fee Attorney´s fee	1.064,00 250,00	1.520,00 250,00
Official Designation fee Attorney´s fee	Not yet due	Not yet due
Official Examination fee Attorney´s fee	Not yet due	Not yet due
Pages above 35 Attorney´s fee	Not yet due	Not yet due
Claims above 15 Attorney´s fee	Not yet due	Not yet due
Total	2.208,50	2.705,00

Required Information:
Applicant, Description or Reference

Small Entity Status: Individuals and micro-entities with less than 10 employees, 5 patent applications in the past 5 years and a yearly turnover of less than €2 million are eligible for a 30% discount on filing, search, examination, designation, grant and renewal fees.

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About Us

We are passionate about digital technologies and patenting software

We serve our clients worldwide in obtaining patents in the digital age.

- Dr. Jochen Reich holds a **diploma and Ph.d. in Computer Science** and is one of the very few patent attorneys with this qualification
- Our team is based in four locations all over Europe
- Since the foundation of Reich-ip Dr. Reich drafted more than 500 patent applications
- We assist you in all matters of patenting software and hardware especially in Europe.
- We are experienced in direct filings as well as entering EP regional phases
- **Contact us for INTA appointments**

Thank you for the Attention

Dr. Jochen Reich
Patentanwalt, European Patent Attorney
Computer Scientist

Any questions? Let´s connect:

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INTA International Trademark Association