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# Patent prosecution

- selected chapters of the patent law

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Technology Transfer Office  
Department of Research Services and Innovation

# Agenda



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- Why do we have patents? What is a patent?
- What options are available for invention filing?
- Patent prosecution in practice – how to apply for a patent
  - Is it patentable?
  - Prior art, novelty and inventive step
  - How much does it cost?
- Employee inventions

# Why do we have patents?



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Patent system fosters innovation in three ways...

- knowledge-sharing: i.e. public patent database
- R&D investment: confidence to fund R&D, **licensing**, secure market share
- technical advances that really matter: patents **maintained** on valuable technologies **for max. 20 years**

# What is a patent?



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## Negatives Schutzrecht (§ 22 (1) PatG)

- gewerbliches Schutzrecht an einer Erfindung mit einem **zeitlich begrenzten Ausschlussrecht** (bis max. 20 Jahre)  
→ **Monopolrecht**
- gibt dem Patentinhaber das Recht, **Dritten zu verbieten**, die patentierte Erfindung gewerblich herzustellen, in Verkehr zu bringen, anzubieten, zu benutzen oder zu besitzen  
→ **Verbotungsrecht**

# What is a patent?



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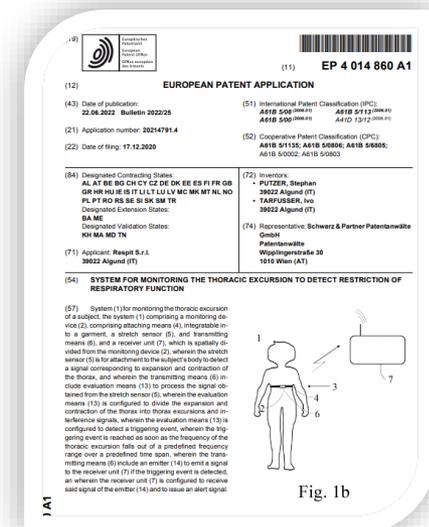
## Negative property right (§ 22 (1) PatG)

- industrial property right to an invention with a **time-limited right of exclusion**  
→ **monopoly right**
- give the patent owner the right to **prohibit third parties** from commercially producing, placing on the market, offering, using or owning the patented invention  
→ **prohibition right**

# What is a patent?



- “instruction manual” to other inventors, engineers, scientists
- European patent application must contain:
  - a **request** for grant of a EP-patent
  - at least one **claims**: must define the matter for which protection is sought in terms of the technical features of the invention; must be clear and concise and supported by the description
  - **description** of invention
  - **drawings** (optional)
  - **abstract**



?Quiz?



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If a patent is granted, the patent owner is safe to work the invention.

True

False

?Quiz?



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If a patent is granted, the patent owner is safe to work the invention.

**False**

A patent is an exclusion right.

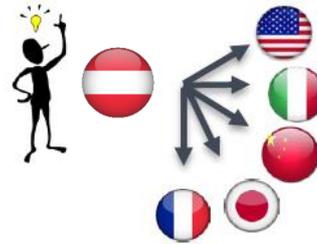
It does not permit the patentee to work the invention.

# What options are available for invention filing?



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- Direct national filing



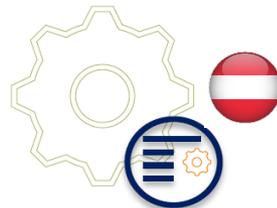
- Regional filing



- International filing (PCT)

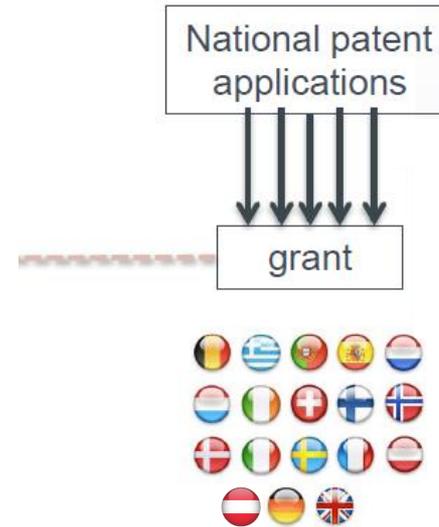
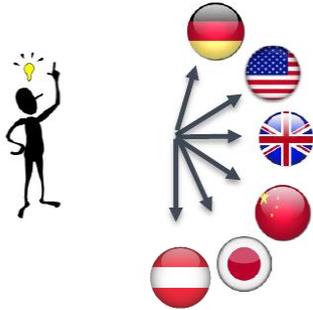


- Utility Models



# What options are available for invention filing?

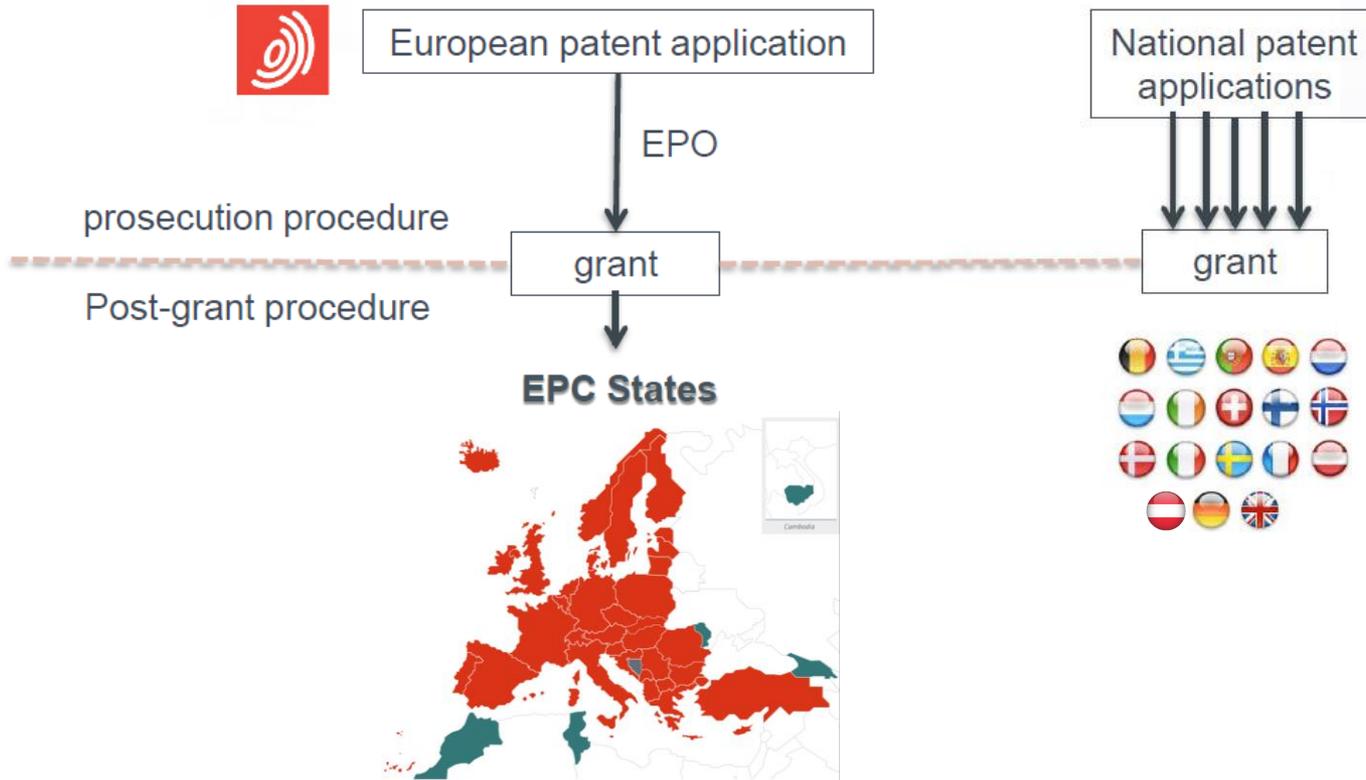
## Direct national filing



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# What options are available for invention filing?

## Regional filing



# What options are available for invention filing?

## Regional filing



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Map showing the geographic coverage of European patents as of 15 January 2024

### Member states (39)

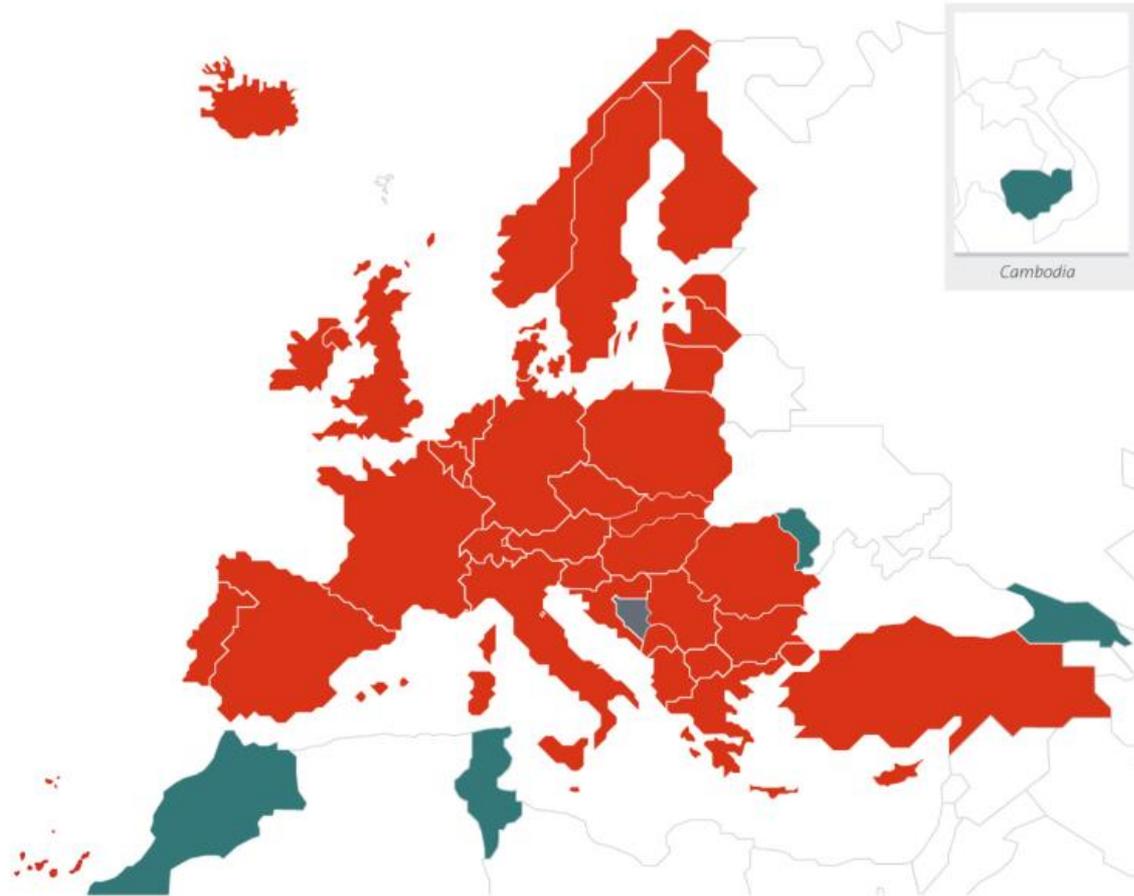
- Albania
- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- Italy
- Latvia
- Liechtenstein
- Lithuania
- Luxembourg
- Malta
- Monaco
- Montenegro
- Netherlands
- North Macedonia
- Norway
- Poland
- Portugal
- Romania
- San Marino
- Serbia
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Türkiye
- United Kingdom

### Extension states (1)

- Bosnia and Herzegovina

### Validation states (5)

- Agreement in force*
- Cambodia
  - Georgia
  - Republic of Moldova
  - Morocco
  - Tunisia



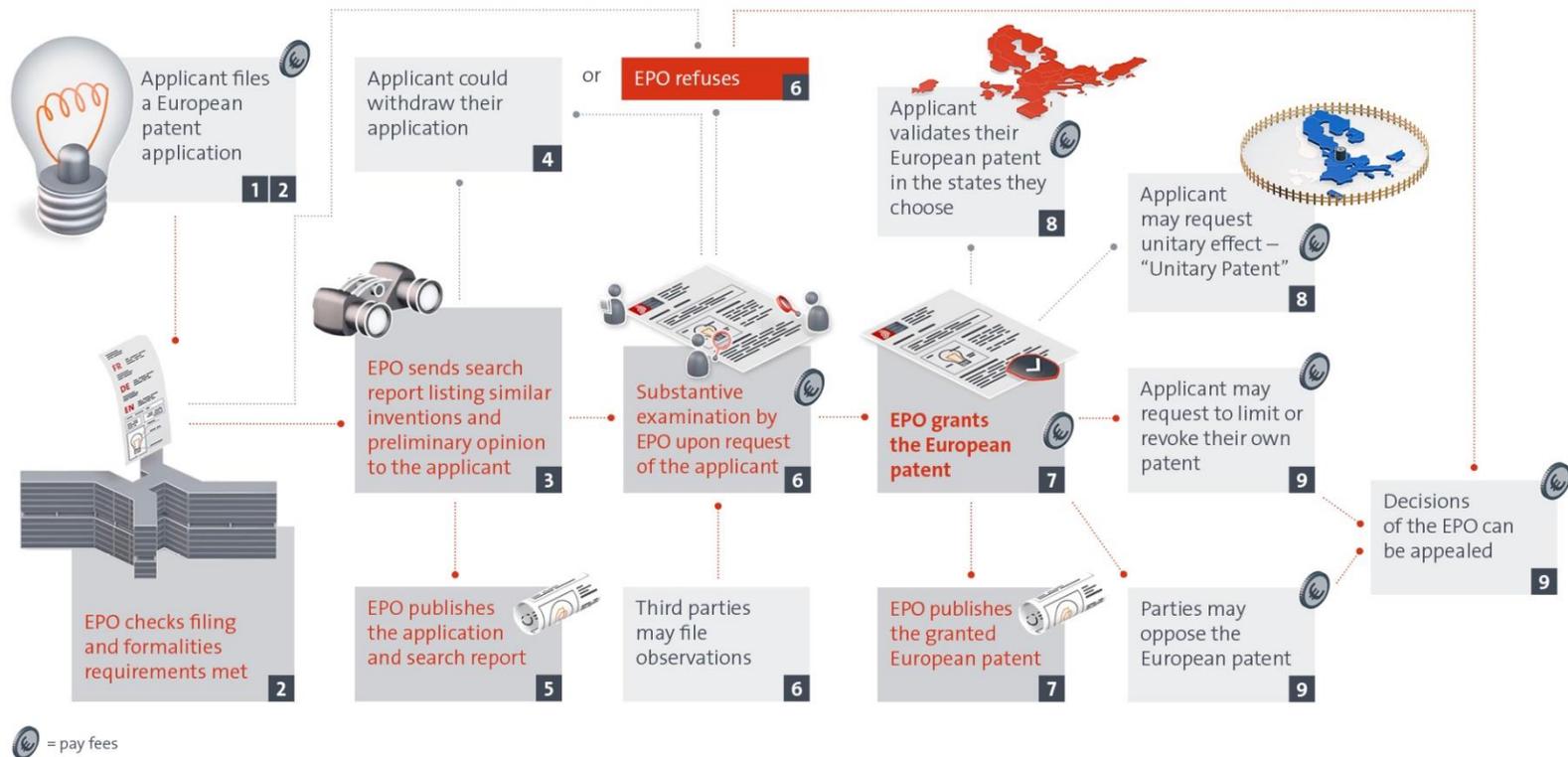


# What options are available for invention filing?

## Regional filing



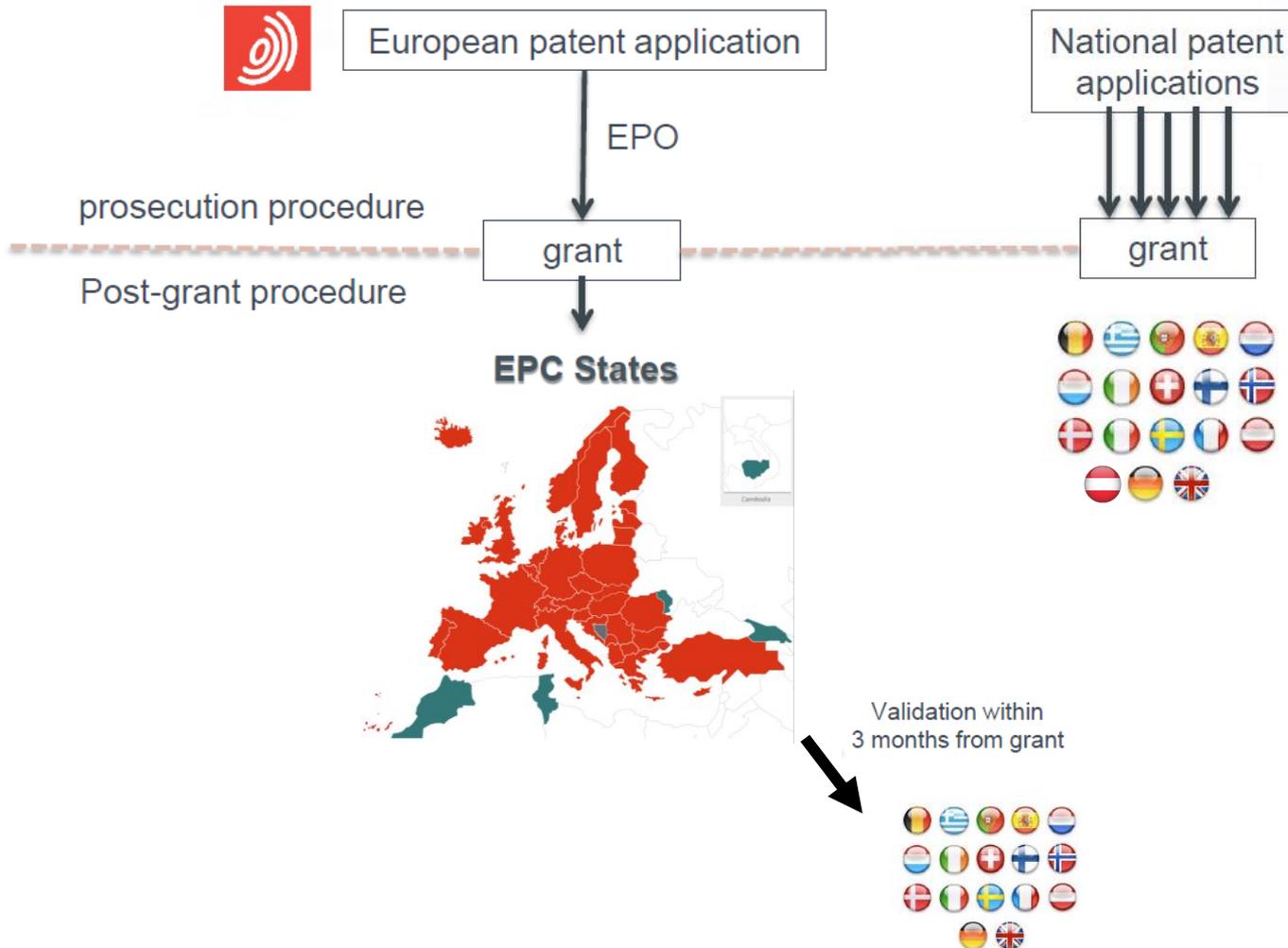
## Overview of the European patent application process



# What options are available for invention filing?

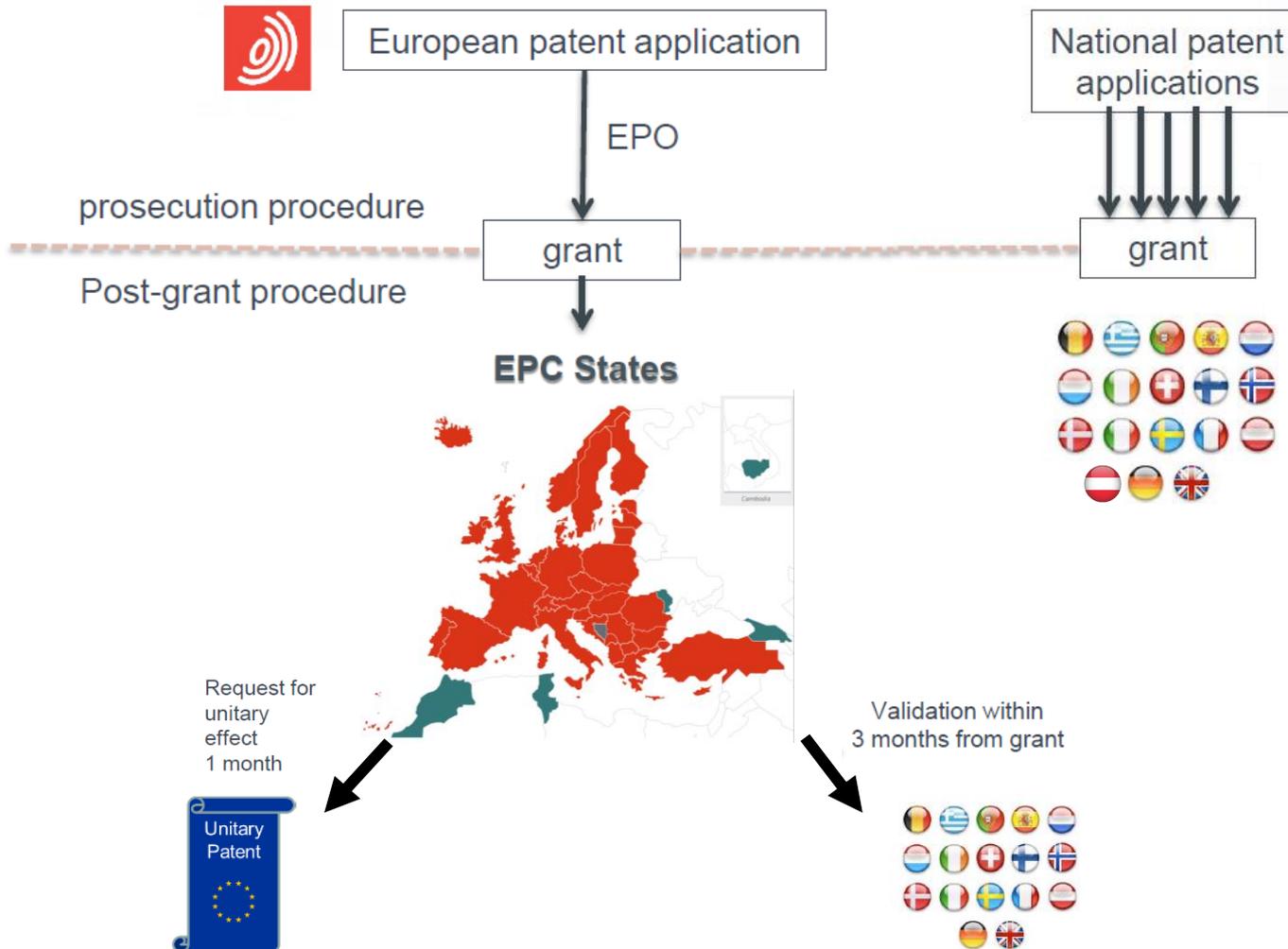


## Regional filing



# What options are available for invention filing?

## Regional filing

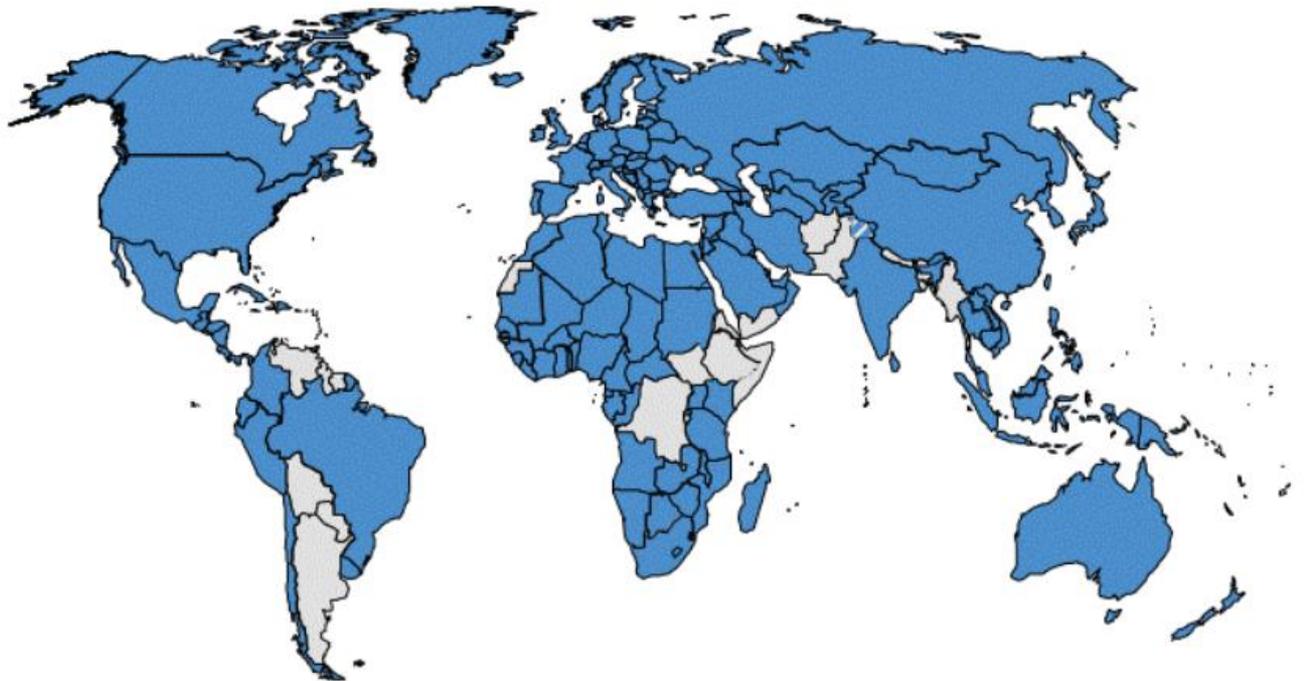


# What options are available for invention filing?

## International filing (PCT)



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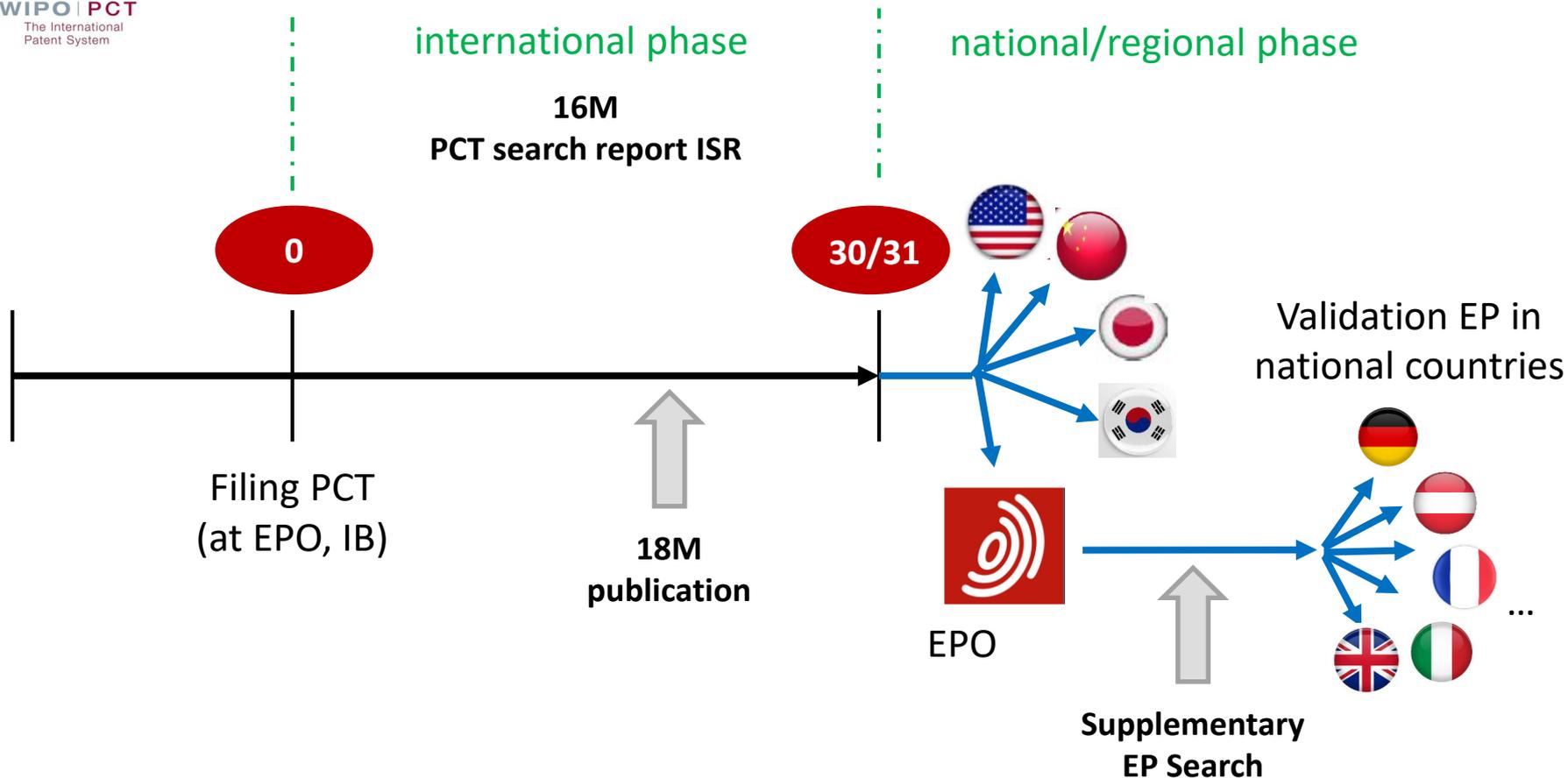
Taiwan, Pakistan, Argentina, Venezuela are not part of the PCT.

# What options are available for invention filing?

## International filing (PCT)



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# What options are available for invention filing?



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## Priority filing: Priority right (Art. 4 PC)

- provides backdating of filing date 12 months of first filing
- claim priority date of first filing – later applications have “fictive” filing date of first application  
(as if they were filed on the same day as first filing)
- works only under certain conditions:
  - within **12 months** of priority filing
  - only for **same subject-matter** of original application
  - must be the **same applicants** for later filing

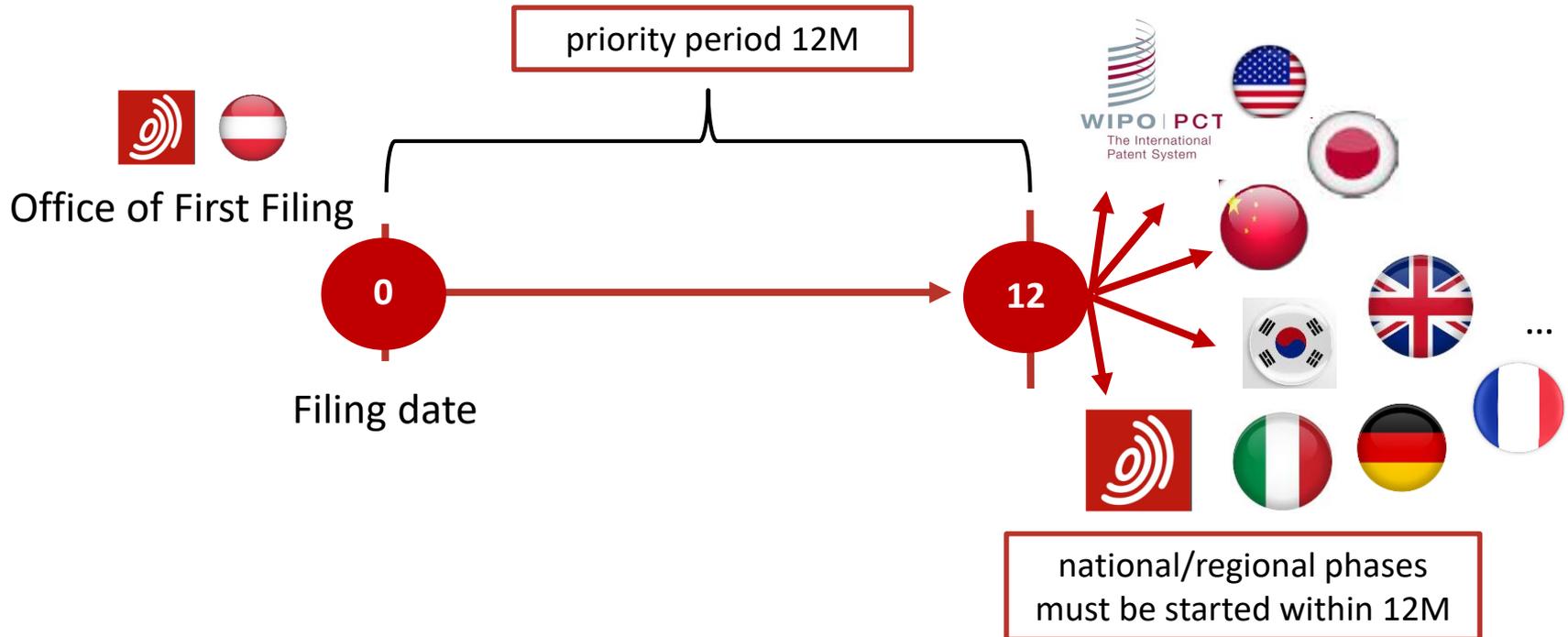


# What options are available for invention filing?

## Priority filing



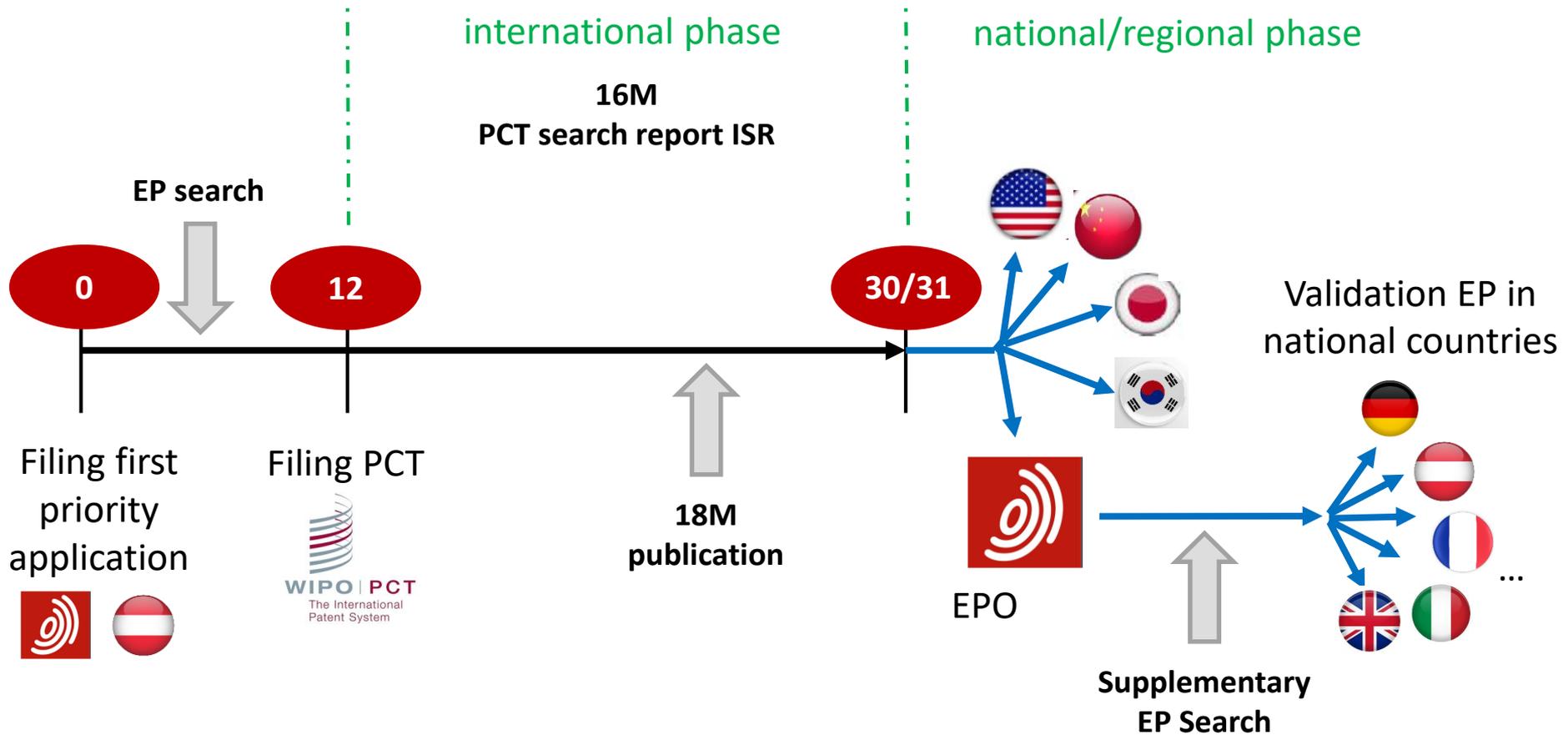
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# What options are available for invention filing?



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?Quiz?



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If applicants change between first filing and subsequent filing, priority can be validly claimed.

True

False

# ?Quiz?



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If applicants change between first filing and subsequent filing, priority can be validly claimed.

**False**

Priority is lost in subsequent filing because not same applicant.

Transfer of priority right before subsequent filing to validly claim priority.

# Patent prosecution in practice – how to apply for a patent

## Is it patentable?

Art. 52(1),(2),(3) 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**.



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# Patent prosecution in practice – how to apply for a patent

Is it patentable?



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?Quiz?

“Methods for treatment of the human or animal body” are excluded from patentability under the EPC.

True

False

# Patent prosecution in practice – how to apply for a patent

Is it patentable?



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?Quiz?

“Methods for treatment of the human or animal body” are excluded from patentability under the EPC.

True

Art. 53(c) EPC exclusion

...this provision shall not apply to products, in particular substances or compositions, for use in any of these methods.

# Patent prosecution in practice – how to apply for a patent

Is it patentable?



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## Art. 53(c) EPC exclusion:

methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practised on the human or animal body (not products)



# Patent prosecution in practice – how to apply for a patent

Is it patentable?



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## ▪ *medical use* claims EP

	Claim	Patentable?	Article
A	Use of product X for the treatment of asthma	No	53(c)
B	<b>1. Product X for use as a medicament</b> [X known as e.g. herbicide] 2. Product according to claim 1 for use in the treatment of asthma	Yes	54(4)
C	Product X for use in the treatment of cancer*	Yes	54(5)
D	Product X for use in the treatment of leukaemia*	Yes	54(5)



# Patent prosecution in practice – how to apply for a patent

## Is it patentable?

### Not inventions:

- non-technical matter, such as
  - design, law of nature, mental acts
- as such

### Not patentable for other reasons:

- against *ordre public*
- plant and animal varieties
- essentially biological methods for producing plants or animals
- medical methods practiced on the human or animal body



# Patent prosecution in practice – how to apply for a patent

## Prior art, novelty and inventive step



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For an invention to qualify for patent protection, it must be...

- novel
- involve an inventive step over prior art

and

- industrially applicable

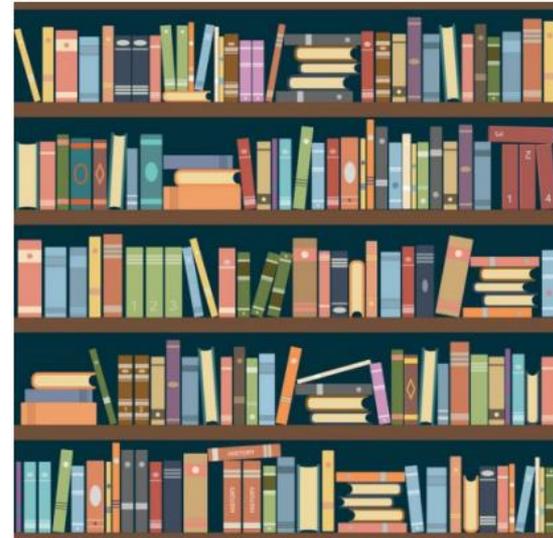
# Patent prosecution in practice – how to apply for a patent

## Prior art (Art. 54(2),(3) EPC)



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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.



# Patent prosecution in practice – how to apply for a patent

## Prior art (Art. 54(2),(3) EPC)



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Documents that are made available to the public.

T 444/88, T381/87

The possibility of accessing information on a certain day alone makes a document accessible to the public. It is irrelevant whether the public has actually received or acknowledged information. The relevant standard of proof is the “balance of probabilities”.

# Patent prosecution in practice – how to apply for a patent

Prior art (Art. 54(2),(3) EPC)



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?Quiz?

When my patent application will be examined at the EPO, my patent application will be immune from prior art disclosure I made myself (as an inventor) for example in an academic paper or marketing materials.

True

False

# Patent prosecution in practice – how to apply for a patent

Prior art (Art. 54(2),(3) EPC)



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?Quiz?

When my patent application will be examined at the EPO, my patent application will be immune from prior art disclosure I made myself (as an inventor) for example in an academic paper or marketing materials.

**False**

→as everything before the filing date of the patent application is prior art, including disclosures made by you (as an inventor)

# Patent prosecution in practice – how to apply for a patent

## Novelty (Art. 54 EPC)

An invention shall be considered to be **new** if it does **not** form part of the **state of the art**.

→ novel features are used to assess inventive step



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# Patent prosecution in practice – how to apply for a patent

## Novelty (Art. 54 EPC)



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### key question

- Does the prior art describe a subject-matter that discloses all features of the claimed invention?
  - if no, subject-matter is new in view of prior art → novelty
  - if yes → novelty destroying

# Patent prosecution in practice – how to apply for a patent

## Novelty (Art. 54 EPC)



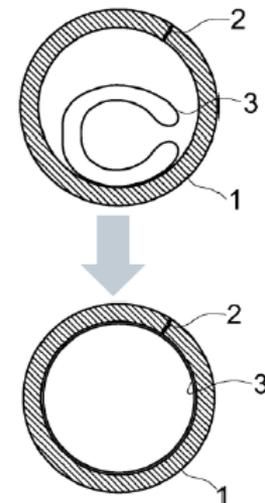
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### Example:

Invention, Claim 1: Tubular film (3) made of a material having a thermally recoverable shape for implanting into damaged (2) arteries or veins (1) in a patient.

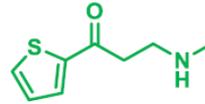
D1: Tubular film made from the same material being used to line pipes for non-medical use.

→ Claim 1 is **not** novel over prior art D1

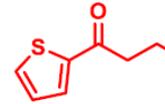


# Patent prosecution in practice – how to apply for a patent

## Novelty (Art. 54 EPC)



Compound A



Compound B



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### Example:

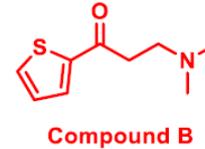
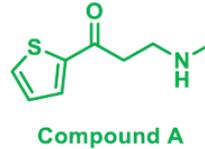
Invention: application filed claiming **compound A**

D1: discloses the product **compound A**, **compound B** and the process of how **compound A**, **compound B** is obtained.

→ compound A is **not** novel over prior art D1

# Patent prosecution in practice – how to apply for a patent

## Novelty (Art. 54 EPC)



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### Example:

Invention: application filed claiming **compound A**

D1 (from 1943): investigates preparation of **compound A** and mentions **compound A** by name.

D1 fails to prepare **compound A**, and reports that even conditions most favourable for the formation of **compound A** actually result in the formation of **compound B**.

→ Compound A is novel over prior art D1

# Patent prosecution in practice – how to apply for a patent

## Inventive step (Art. 56 EPC)



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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**.

Inventive step also requires a technical effect presenting a solution to a technical problem.



# Patent prosecution in practice – how to apply for a patent

## Inventive step (Art. 56 EPC)



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### key question

- Would it have been obvious to the person skilled in the art to arrive at something falling within the terms of the claim?
  - before the filing or priority date valid for that claim, having regard to the **prior art known at the time**
  - to have regard to all the **knowledge generally available to the person skilled in the art** up to and including that day
  - **problem-solution-approach**

# Patent prosecution in practice – how to apply for a patent

## Inventive step (Art. 56 EPC)



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### key question

- Would it have been obvious to the person skilled in the art to arrive at something falling within the terms of the claim?

#### → problem-solution-approach

- closest prior art
- distinguishing technical features
- technical effect of the distinguishing features
- objective technical problem solved by the features

# Patent prosecution in practice – how to apply for a patent

## Inventive step (Art. 56 EPC)



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### Example:

Invention: Bicycle having non-blocking brakes

Traditional bicycles will slide and damage the ground when the brakes block; harmful in sensitive areas.

D1: Bicycle with known brakes

D2: Non-blocking brakes for other vehicle

Closest prior art?

Distinguishing feature over D1?

Effect of the distinguishing feature?

Objective technical problem?

# Patent prosecution in practice – how to apply for a patent

## Inventive step (Art. 56 EPC)



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### Example:

Invention: Bicycle having non-blocking brakes

Traditional bicycles will slide and damage the ground when the brakes block; harmful in sensitive areas.

D1: Bicycle with known brakes

D2: Non-blocking brakes for other vehicle

Closest prior art? – D1 is the closest prior art because it relates to a bicycle

Distinguishing feature over D1? – non-blocking brakes

Effect of the distinguishing feature? – less sliding interaction with the ground

Objective technical problem? – less damage to ground, more environmentally friendly bike, suitable in sensitive areas

# Patent prosecution in practice – how to apply for a patent

## Inventive step (Art. 56 EPC)



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### Example:

Invention: Bicycle having non-blocking brakes

Traditional bicycles will slide and damage the ground when the brakes block; harmful in sensitive areas.

D1: Bicycle with known brakes

D2: Non-blocking brakes for other vehicle

Would the person skilled in the art modify the closest prior art (D1) to arrive at the subject-matter of the claim? **YES**

- as the person looks at closest prior art (D1),
- considers the problem avoiding damage to ground,
- and learns from D2 to modify the bicycle of D1 to arrive at the claimed invention.

# Patent prosecution in practice – how to apply for a patent

## How much does it cost?



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## Official fees for a European Patent application

- filing- and search fees EUR 1655
  - until grant stage EUR 6800
- + additional costs arising by the patent attorney law firm
- + additional costs due to nationalisation (translation, representation, fees of national offices)

## Official fees for a PCT application

- Filing- and search fees EUR 3074
  - (optional) preliminary examination fee EUR 1749
- + additional costs arising by the patent attorney law firm
- + additional costs due to nationalisation (e.g. patent offices USPTO, KIPO, JPO...)

# Patent prosecution in practice – how to apply for a patent

## What steps must be taken if a patent application is being considered?



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- contact the MUI Technology Transfer Office (TTO)  
[technologietransfer@i-med.ac.at](mailto:technologietransfer@i-med.ac.at)
- do not disclosure your invention e.g.
  - in a paper, at a conference, in a lecture
  - outside your research group/department
- keep your invention secret until you have a filing date

# Diensterfindungen



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Jede Erfindung, die im Rahmen eines gültigen Arbeitsverhältnisses mit der MUI entsteht

- ist eine **Diensterfindung** (§ 106 (2), (3) UG iVm § 6 (2) PatG), wenn (§ 7 (2) PatG) ...
  - der Gegenstand der Erfindung in das Arbeitsgebiet der MUI fällt, und entweder
  - die Tätigkeit, welche zur Erfindung geführt hat, zu den dienstlichen Aufgaben der MUI gehört (=Obliegenheitserfindung), oder
  - die Tätigkeit des Dienstnehmers an der MUI die Anregung zur erfinderischen Tätigkeit begründete (=Anregungserfindung), oder
  - die erfinderische Tätigkeit durch die Nutzung der Erfahrungen/Ressourcen der MUI erleichtert wurde (=Hilfsmittelerfindung)
- muss der **MUI unverzüglich gemeldet werden** (§ 106 (3) UG iVm § 7 (1) PatG)  
[technologietransfer@i-med.ac.at](mailto:technologietransfer@i-med.ac.at)

# Employee Inventions



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Any invention arising within the scope of a valid employment relationship with the MUI

- is a **job-related invention** (§ 106 (2), (3) UG, § 6 (2) PatG), if (§ 7 (2) PatG) ...
  - the subject-matter of the invention falls within the MUI's field of activity, and either
  - The employee's activity that led to the invention is part of the MUI's official duties (=obligation invention), or
  - the employee's activity at the MUI gave rise to the inventive step (=stimulating invention), or
  - the inventive step was facilitated by the use of the MUI's experience/resource (=auxiliary invention)
- must be **reported to the MUI** without delay (§ 106 (3) UG, § 7 (1) PatG)  
[technologietransfer@i-med.ac.at](mailto:technologietransfer@i-med.ac.at)



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**Thank you for participating!**

