The European Patent Office
Facts and Figures

Who am I?

Dominique Winne (BE)
Ph.D. in Image Communication
Joined EPO in 2004 as patent examiner
technical field:
- H04N1/38-64 (colour correction/halftoning)
- G06K9 (pattern recognition)
chairman of examining divisions – coach – instructor
What is the European Patent Office?

- Other markets, e.g. the US, have one patent office — 1 fee for all states
- Each European country has a patent office, each requiring fees

Why does it exist?

- To provide a single procedure for the grant of patents for its member states

How does it exist?

- It is an intergovernmental organisation
- The European Patent Convention (EPC) sets out its rules of function and administration
- It is financed through the income it generates from fees, not taxes

Structure of the European Patent Organisation

European Patent Organisation

<table>
<thead>
<tr>
<th>Administrative Council</th>
<th>European Patent Office</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The legislative body</strong></td>
<td><strong>The executive body</strong></td>
</tr>
<tr>
<td>Is made up of delegates from the member states</td>
<td>Is responsible for searching, examining, publishing patent applications and post-examination activities</td>
</tr>
<tr>
<td>Supervises the activities of the Office</td>
<td></td>
</tr>
<tr>
<td>Appoints the President</td>
<td></td>
</tr>
<tr>
<td>Votes on the Office’s budget</td>
<td></td>
</tr>
</tbody>
</table>
The functions of the European Patent Office

- We provide patents with protection
  - for up to 38 EPO member states, 2 extension and 2 validation states
  - based on a single application
- We are also responsible for
  - limitation and revocation proceedings by patentees
  - opposition proceedings by third parties
  - appeal proceedings before the boards of appeal
  - the European Patent Academy
- The EPO makes all patent documents available to the public

Structure of the European Patent Office
Our history

1973
Diplomatic Conference in Munich

5 October 1973
Signature of the European Patent Convention (EPC) by 16 countries

1977
Entry into force of the EPC in 7 countries
Foundation of the European Patent Organisation
Foundation of the European Patent Office

2013
Celebration of 40 years of the EPC
More on www.epo.org

Seven founding states in 1977
Belgium • Germany • France
Luxembourg • Netherlands
Switzerland • United Kingdom
... 17 member states in 1992 ...
Belgium • Germany • France
Luxembourg • Netherlands
Switzerland • United Kingdom
Sweden • Italy • Austria
Liechtenstein • Greece • Spain
Denmark • Monaco • Portugal
Ireland

... 25 member states in 2002 ...
Belgium • Germany • France
Luxembourg • Netherlands
Switzerland • United Kingdom
Sweden • Italy • Austria
Liechtenstein • Greece • Spain
Denmark • Monaco • Portugal
Ireland • Finland • Cyprus
Turkey • Bulgaria • Czech Republic
Estonia • Slovakia • Slovenia
... 32 member states in 2007 ...

Belgium • Germany • France • Luxembourg • Netherlands • Switzerland • United Kingdom • Sweden • Italy • Austria • Liechtenstein • Greece • Spain • Denmark • Monaco • Portugal • Ireland • Finland • Cyprus • Turkey • Bulgaria • Czech Republic • Estonia • Slovakia • Slovenia • Hungary • Romania • Poland • Iceland • Lithuania • Latvia • Malta

Today ... an area with over 650m inhabitants

38 European member states
Belgium • Germany • France • Luxembourg • Netherlands • Switzerland • United Kingdom • Sweden • Italy • Austria • Liechtenstein • Greece • Spain • Denmark • Monaco • Portugal • Ireland • Finland • Cyprus • Turkey • Bulgaria • Czech Republic • Estonia • Slovakia • Slovenia • Hungary • Romania • Poland • Iceland • Lithuania • Latvia • Malta • Croatia • Norway • Former Yugoslav Rep. Macedonia • San Marino • Albania • Serbia • Kosovo

Two European extension states
Bosnia-Herzegovina • Montenegro

Three validation states
Morocco • Republic of Moldova • Tunisia (as of 1.12.2017)
Our five locations in Europe

Headquarters

Liaison office with the EU

Our staff

Munich 3,784
The Hague 2,659
Berlin 266
Vienna 102
Brussels 4

Total 6,815

Around 60% are patent examiners.

Source: EPO data on 31.12.2015
Our staff: a multicultural working environment

- Over 30 different nationalities
- Three languages for working in and for communicating with applicants:
  - English
  - French
  - German

Three possible routes to file a patent

<table>
<thead>
<tr>
<th>Route</th>
<th>National</th>
<th>European</th>
<th>International</th>
</tr>
</thead>
<tbody>
<tr>
<td>Via</td>
<td>National offices</td>
<td>European Patent Office or national offices</td>
<td>International Bureau or European Patent Office or national offices</td>
</tr>
<tr>
<td>Valid in</td>
<td>One country</td>
<td>Up to 38 countries + 2 extension states + 2 validation states</td>
<td>Up to 148 countries</td>
</tr>
<tr>
<td>In brief</td>
<td>Applications are filed with the relevant national office and are valid for that state only</td>
<td>Same legal effects as national patents</td>
<td>An international patent procedure, not an international patent</td>
</tr>
</tbody>
</table>

In brief:
- Applications are filed with the relevant national office and are valid for that state only.
- One single application in DE/EN/FR for all EPC contracting states.
- Same legal effects as national patents.
- An international patent procedure, not an international patent.
- Applications can choose to enter the national/regional phase in various states.
Three ways to start the European procedure

European route
Applicant files a direct European application = 1st filing

National route
Applicant files a national application

International route
Applicant files a PCT application

Application enters European phase

1) By claiming priority of an earlier application filed with a national office within 12 months.

Basic steps in the European grant procedure

Filing  Search  Examination  Grant  Opposition  Appeal

Publication of the application and search report

Publication of the patent specification
Our products: European patent documents

- **Title**: of the invention, name of the inventor
- **Document type**: Application or Patent (A or B publications)
- **Detailed description of the invention**: how it is constructed, how it is used, benefits compared with what already exists
- **Claims**: providing a precise definition of what the patent protects
- **Drawings, Sequence Listings**
- **Abstracts**: summary of the invention particularly useful for search engines

Basic steps in the European grant procedure

1. **Filing**
2. **Search**
3. **Examination**
4. **Grant**
5. **Opposition**
6. **Appeal**

- **Filing**
- **Search**
- **Examination**
- **Refusal**
- **Appeal**
**Opposition**

8 Any person may oppose a European patent within nine months of its publication.

8 In 70% of opposition decisions, the patent is upheld either as granted or in amended form.

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**Appeal**

8 Appeals against decisions taken during grant and opposition proceedings are decided on by the EPO’s independent boards of appeal.
The EPO also processes international (PCT) applications

- We act as a receiving office for international applications (PCT)
- We carry out approximately:
  - 38% of all international search procedures
  - 56% of all international preliminary examinations
- The EPO delivers the international search report within 3 months*

* From the date of receipt of the application by the International Searching Authority.

Operational core activities in the grant procedure: Statistics 2016

<table>
<thead>
<tr>
<th>Filing</th>
<th>Search</th>
<th>Examination</th>
<th>Grant</th>
<th>Opposition</th>
<th>Appeal</th>
</tr>
</thead>
<tbody>
<tr>
<td>296,227 1)</td>
<td>244,689 4)</td>
<td>147,119 1)</td>
<td>95,940</td>
<td>4,102 3)</td>
<td>2,229 3)</td>
</tr>
<tr>
<td>159,353 2)</td>
<td>133,544 3)</td>
<td>137,939 2)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Direct European filings under the EPC and international filings under the PCT
2) European applications
3) Completed decisions
4) European, PCT and searches on behalf of national offices and third parties (Source: Annual report 2016)
Total European patent applications in 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>148 562</td>
</tr>
<tr>
<td>2013</td>
<td>148 027</td>
</tr>
<tr>
<td>2014</td>
<td>152 703</td>
</tr>
<tr>
<td>2015</td>
<td>160 004</td>
</tr>
<tr>
<td>2016</td>
<td>159 353</td>
</tr>
</tbody>
</table>

Applications are the files for which applicants have decided to request a European patent from the EPO. They are a direct measure of the explicit interest of innovating firms to assert their patent rights on the European technology market (Direct European applications and international (PCT) applications entering the European phase).

Origin of European patent applications in 2016

- **United States**: 25%
- **Japan**: 13%
- **Germany**: 16%
- **France**: 7%
- **Netherlands**: 4%
- **Switzerland**: 4%
- **United Kingdom**: 3%
- **Italy**: 3%
- **Sweden**: 2%
- **S. Korea**: 4%
- **P.R China**: 5%
- **Others**: 5%

EPO member states **48%**

Analysis based on European patent applications filed with the EPO (Direct European applications and international (PCT) applications entering the European phase).

Statistics are based on the first-named applicant.

EPO: the 38 member states of the European Patent Organisation, including EU28.
Granted patents in 2016

<table>
<thead>
<tr>
<th>EPO member states</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>20%</td>
</tr>
<tr>
<td>France</td>
<td>7%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>4%</td>
</tr>
<tr>
<td>P.R. China</td>
<td>3%</td>
</tr>
<tr>
<td>S. Korea</td>
<td>3%</td>
</tr>
<tr>
<td>United States</td>
<td>23%</td>
</tr>
<tr>
<td>Other EPO member states</td>
<td>8%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3%</td>
</tr>
<tr>
<td>Italy</td>
<td>3%</td>
</tr>
<tr>
<td>Sweden</td>
<td>3%</td>
</tr>
<tr>
<td>Others</td>
<td>4%</td>
</tr>
</tbody>
</table>

Analysis based on granted patents published in 2016. Statistics are based on the first-named patentee.

Technical fields with the most applications in 2016

<table>
<thead>
<tr>
<th>TOP 10</th>
<th>2016</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Medical technology</td>
<td>12,263</td>
<td>-2.1%</td>
</tr>
<tr>
<td>2 Digital communication</td>
<td>10,915</td>
<td>-1.2%</td>
</tr>
<tr>
<td>3 Computer technology</td>
<td>10,657</td>
<td>2.9%</td>
</tr>
<tr>
<td>4 Electrical machinery, apparatus, energy</td>
<td>10,293</td>
<td>5.1%</td>
</tr>
<tr>
<td>5 Transport</td>
<td>8,402</td>
<td>3.6%</td>
</tr>
<tr>
<td>6 Measurement</td>
<td>7,442</td>
<td>-3.8%</td>
</tr>
<tr>
<td>7 Engines, pumps, turbines</td>
<td>6,301</td>
<td>-0.5%</td>
</tr>
<tr>
<td>8 Organic fine chemistry</td>
<td>6,189</td>
<td>-4.0%</td>
</tr>
<tr>
<td>9 Biotechnology</td>
<td>5,754</td>
<td>-5.0%</td>
</tr>
<tr>
<td>10 Pharmaceuticals</td>
<td>5,744</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

Analysis based on European patent applications filed with the EPO (Direct European applications and international (PCT) applications entering the European phase).
Top EPO applicants in 2016

**TOP 10**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Applicant</th>
<th>2016</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Philips</td>
<td>2,568</td>
<td>6.9%</td>
</tr>
<tr>
<td>2</td>
<td>Huawei</td>
<td>2,390</td>
<td>22.4%</td>
</tr>
<tr>
<td>3</td>
<td>Samsung</td>
<td>2,316</td>
<td>-2.1%</td>
</tr>
<tr>
<td>4</td>
<td>LG</td>
<td>2,313</td>
<td>10.6%</td>
</tr>
<tr>
<td>5</td>
<td>United Technologies</td>
<td>2,067</td>
<td>10.6%</td>
</tr>
<tr>
<td>6</td>
<td>Siemens</td>
<td>1,871</td>
<td>-1.2%</td>
</tr>
<tr>
<td>7</td>
<td>Qualcomm</td>
<td>1,704</td>
<td>-0.1%</td>
</tr>
<tr>
<td>8</td>
<td>General Electric</td>
<td>1,628</td>
<td>21.5%</td>
</tr>
<tr>
<td>9</td>
<td>BASF</td>
<td>1,410</td>
<td>1.9%</td>
</tr>
<tr>
<td>10</td>
<td>Robert Bosch</td>
<td>1,327</td>
<td>-11.1%</td>
</tr>
</tbody>
</table>

Analysis based on European patent applications filed with the EPO (Direct European applications and international (PCT) applications entering the European phase). Statistics are based on the first-named applicant.

European Patent Office

Applicant categories in 2016

- Large enterprises: 66%
- SMEs, individual inventors: 28%
- Universities and public research: 6%

Source: Annual report 2016.
Objectives of the unitary patent

- A less expensive and less cumbersome patent system for Europe
- Facilitates access to patent protection for SMEs and research centres
- Makes Europe more attractive for innovation and investors
- Boosts Europe’s competitiveness

The unitary patent and the EPO member states

Unitary patent states
Austria • Belgium • Bulgaria • Cyprus
Czech Republic • Denmark • Estonia
Finland • France • Germany
Greece • Hungary • Ireland • Italy
Latvia • Lithuania • Luxembourg
Malta • Netherlands • Poland
Portugal • Romania • Slovakia
Slovenia • Sweden • United Kingdom

Other EPO member states
Spain • Iceland • Switzerland
Norway • Turkey • Monaco
San Marino • Liechtenstein • Croatia
Serbia • Albania • Former Yugoslav Republic of Macedonia
Basic principles of the unitary patent

- Based on a European patent granted by the EPO under the EPC
- Unitary effect extends to the 26 EU member states currently participating, at the patent proprietor’s request
- Registered by the EPO in one single administrative step
- An additional option for patent proprietors, alongside the existing European and national patent systems
- Can be combined with the European patent to cover up to 40 European countries
- Uniform litigation system

Concrete benefits

- Protection in one single step for the 26 states currently participating
- Simplified registration procedure instead of 26 different validations
- Simplified and cost-effective renewal fee payment
- No post-grant translation required (after initial transition period)
- Centralised register maintained by the EPO
- Uniform litigation system affording greater legal certainty
Language arrangements for post-grant translations

For a transitional period of up to 12 years:
- If the patent is granted in French or German, a translation into English will be required
- If the patent is granted in English, a translation into one of any of the EU languages will be required

At the end of the transitional period:
- No translation required anymore

Patent Translate is providing machine translation in 32 languages, free of charge

Language arrangements for applications

Translation costs will be reimbursed

- for SMEs, universities, public research organisations from the EU
- if the application is filed in an EU language other than English, French or German
The European patent with unitary effect

**Same grant procedure as for classic European patent**

- European patent application
- Filing and formalities examination
- Search report with preliminary opinion on patentability
- Substantive examination
- Grant of European patent
- Appeal proceedings
- Refusal or withdrawal of application
- Limitation/revocation/opposition proceedings
- At the request of the patent proprietor

**Unitary patent for the territories of the 26 participating states**

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**When will it all start?**

- European applications already "in the pipeline" today might be given *unitary effect if granted after the system starts*

- **Minimum of 13 states** • including GB, France & Germany • must ratify the Agreement on a Unified Patent Court before the unitary patent system comes into effect

- First unitary patents will cover only the states which have ratified the UPC Agreement, then more as states accede
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www.linkedin.com/company/european-patent-office

Contact us via www.epo.org/contact

Time to watch an online video!

Watch a film about the EPO

via the EPO website:
https://www.youtube.com/user/EPOfilms

via Youtube:
https://www.youtube.com/watch?v=YJKpyid60qk
We are recruiting engineers and scientists

Working as a patent examiner

Who can apply?
Engineers and scientists who are nationals of EPO member states and who have the necessary language skills

In which technical fields?
Opportunities exist in a whole range of technical fields

More information on [www.epo.org/jobs](http://www.epo.org/jobs)

Thank you for your attention!