The Role of Patents and Standardisation in the European Digital Single Market

JRC-IPTS Workshop on Digital Innovation
Seville 23rd June 2015

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Total European patent filings

1 Direct European filings under the EPC and International filings under the PCT
Patent Filings World Wide (Les Echos 11 avril 2013)
EPO: Technical fields<sup>1</sup> with the most applications in 2014 (% vs. 2013)

<table>
<thead>
<tr>
<th>Technical Field</th>
<th>Applications</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical technology</td>
<td>11,124</td>
<td>3.1</td>
</tr>
<tr>
<td>Electrical machinery, apparatus, energy</td>
<td>10,944</td>
<td>7.4</td>
</tr>
<tr>
<td>Digital communication</td>
<td>10,018</td>
<td>6.2</td>
</tr>
<tr>
<td>Computer technology</td>
<td>9,869</td>
<td>7.2</td>
</tr>
<tr>
<td>Transport</td>
<td>7,533</td>
<td>1.2</td>
</tr>
<tr>
<td>Measurement</td>
<td>7,228</td>
<td>6.2</td>
</tr>
<tr>
<td>Organic fine chemistry</td>
<td>6,132</td>
<td>-1.4</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>5,905</td>
<td>10.8</td>
</tr>
<tr>
<td>Engines, pumps, turbines</td>
<td>5,318</td>
<td>-3.3</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>5,270</td>
<td>-5.6</td>
</tr>
</tbody>
</table>

<sup>1</sup> Classified according to the IPC and technology concordance table compiled by the Fraunhofer ISI for WIPO

<sup>2</sup> Based on European patent applications filed with the EPO
European Patent Office applicants 2013

Data Total %
Sum of Large Enterprise 1383 65.5%
Sum of University Public research center 116 5.5%
Sum of Entrepreneur 102 4.8%
Sum of SME 511 24.2%
Total 2112 100.0%
**European Patent Office: Top patentees 2014**

Analysis based on granted patents published in 2014.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Grants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SIEMENS AG</td>
<td>757</td>
</tr>
<tr>
<td>2</td>
<td>SAMSUNG GROUP</td>
<td>712</td>
</tr>
<tr>
<td>3</td>
<td>ROBERT BOSCH GMBH</td>
<td>633</td>
</tr>
<tr>
<td>4</td>
<td>LG GROUP</td>
<td>630</td>
</tr>
<tr>
<td>5</td>
<td>L M ERICSSON AB</td>
<td>574</td>
</tr>
<tr>
<td>6</td>
<td>BASF SE</td>
<td>543</td>
</tr>
<tr>
<td>7</td>
<td>HUAWEI TECHNOLOGIES CO. LTD.</td>
<td>493</td>
</tr>
<tr>
<td>8</td>
<td>PANASONIC CORPORATION</td>
<td>447</td>
</tr>
<tr>
<td>9</td>
<td>GENERAL ELECTRIC COMPANY</td>
<td>434</td>
</tr>
<tr>
<td>10</td>
<td>QUALCOMM, INC.</td>
<td>427</td>
</tr>
<tr>
<td>11</td>
<td>KONINKLIJKJE PHILIPS N.V.</td>
<td>409</td>
</tr>
<tr>
<td>12</td>
<td>JOHNSON &amp; JOHNSON</td>
<td>392</td>
</tr>
<tr>
<td>13</td>
<td>SONY CORPORATION</td>
<td>380</td>
</tr>
<tr>
<td>14</td>
<td>CANON INC.</td>
<td>368</td>
</tr>
<tr>
<td>15</td>
<td>AIRBUS GROUP</td>
<td>364</td>
</tr>
</tbody>
</table>
Patents as a regulatory tool

Problem area?
Too much protection?
Not enough protection?
Feasible measures
Patent regulation

Too much protection?

• Limiting research?
• ‘Anti-commons’
• Patent thickets
• Royalty stacking
• FRAND & injunctions
• Trivial patents
• Ethical limits
• Grace period needed?
• ...

Too little protection?

• Protection beyond 20 years (SPCs)?
• Software/business methods?
• Increase patent quality (raise the bar)
• ...

...
‘If we did not have a patent system, it would be irresponsible, on the basis of our present knowledge of its economic consequences, to recommend instituting one. But since we have had a patent system for a long time, it would be irresponsible, on the basis of our present knowledge, to recommend abolishing it’. (Fritz Machlup 1958)
Challenges for the Patent System

• open, collaborative innovation asks for
  – easy access to IP
  – timely, simple procedures
  – high presumption of validity of IP rights

• new business models focus on
  – branding
  – customer relation
  – first-mover-advantage
  – lock-in
  – combinations of open and proprietary models

• new technologies/innovation processes might demand
  – alternative forms of protection (license of right, shorter/longer IP terms, sui generis systems)
  – enlarged public domain: e.g. for basic research tools, interoperability standards
Standards:
- Mostly set by industry
- Perceived by public to be for the public good.
- In a technically interlinked world, their nature is potentially global.
- Accessibility and ownership issues increasingly debated

Patents:
- Temporary exclusive rights
- Can be used to exclude others from use of the technology, or license
- Embedded in standards, they offer their owners a 'double competitive advantage'.
- Territorial nature

Exclusively owned technologies embodied in standards - rules of inclusion and use must be clear:

Solution:
Licensing on FRAND terms - Fair, Reasonable And Non-Discriminatory - reasonable terms, and to all
Issues of wider interest in the context of a DSM

1. Patent quality
2. Intellectual property markets (open innovation, 'sleeping patents')
3. Patent aggregation (PAE, facilitator or welfare loss?)
4. SMEs as equal players?
5. Unitary Patent System and Unified Patent Court
6. Patent enforcement (availability of injunctions?)
Issues of specific interest to a Digital Single Market

1. Software (scope of protection and interplay with open innovation)
2. FRAND licensing
3. SDO patent policies
4. Patent pools
THANK YOU FOR YOUR ATTENTION

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