European Patent Academy
Seminar IS02-2006
"Patent-related IP management
for innovation advisors"
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Patent Strategies
and
Patent Portfolio Management

Dr. Mark Schulze
Everybody knows so many parameters ......

„Where is the path through the jungle ???“
PPM - A Process

Superposed Strategies: Business / R&D

IP Strategy

Strategic IP Goals

Patent Analysis

Patent Strategy

Strategy Implementation

IP Operations

Own IPRs

Invention Disclosure → First Filing → Foreign Filing → Portfolio Mgmt → Licencing

3rd Party IPRs

Risk Identification → Risk Assessment → Risk Reduction

Controlling

Update
Strategic IP Goals

Options for Strategic IP Goals

- EXCLUSIVITY
- REPUTATION
- DESIGN ACCESS
- ADDITIONAL INCOME
- DESIGN FREEDOM

Chosen Strategic IP Goal is often a mixture
Prohibition is the 'natural' purpose of a patent if coming from patent law.

Use of prohibition includes the readiness to go to court over several instances and invest thus money necessary.

Thus, exclusivity is mostly used where the success of a product depends on a certain invention or a group of inventions.

In practice, exclusivity is a rare option, mostly restricted to the biotech / pharmaceutical field and special, relatively simple solutions in other technical fields. With complex products, this is no option.
(Counter-)Example: Cellular Phone

Speech / Data Transmission
Microchips
Applications / Software
Antenna
Display
Camera
Batteries
HMI

Exclusivity is not practical, but a stronger patent position is!

Patent Portfolio Mngmt!
Strategic IP Goals: Reputation

- Reputation is one of the main reasons to file: to have a patent or being an inventor is a good thing
- Reputation is showing the innovation potential of a company to customers and investors.
- In practice, the use of reputation remains unspecific but the costs add up.
- Another form of reputation is being aggressive in court, e.g., if sued. This will make the company a less easy target for patent litigation
Strategic IP Goals: Design Access

- Design Access mostly means *Deterrence* or *Cross License Agreements (XLA)*.

- With Design Access companies share their IP potential: they give access to their own inventions and use the access to the invention of other companies.

- Design Access 'neutralizes' patents and emphasizes the selling of products without the danger of patent infringement problems.

- XLAs are based on the equal strengths of patent portfolios; imbalances can be accounted for by payments to the stronger side.

- The larger companies are the more likely they close a XLA.
### Strategic IP Goals: Additional Income

<table>
<thead>
<tr>
<th>Options for Strategic IP Goals</th>
<th>EXCLUSIVITY</th>
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</table>

- **Additional Income is not easy to generate.**

- **When Carrot Licensing**, one offers his patents to a licensee. This hardly works. To successfully carrot license, one must have a superior patented technology and additionally offer Know-How.

- **When Stick Licensing**, one threatens to sue a target company because of a concrete patent infringement if no license is taken out. The would-be-licensee is normally not willing to pay and is likely to go to court over several instances and tries to counter-strike.

- One must determined to give out one's best technology to the largest companies.
Strategic IP Goals: Design Freedom

- Design Freedom is the try to design products without violating patents.
- The most prominent realisations are Design Around and Opposition / Invalidation against third party rights, often after a product clearing.
- One does not need own patents to use a Design Freedom strategy.
# Strategic IP Goals (Summary)

<table>
<thead>
<tr>
<th>Affected Business Strategy</th>
<th>Options for Strategic IP Goals</th>
<th>Exemplary IP Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Differentiation</strong></td>
<td><strong>EXCLUSIVITY</strong></td>
<td>• Prohibition</td>
</tr>
<tr>
<td></td>
<td><strong>REPUTATION</strong></td>
<td>• no. 1 patent holder</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fighting legal battles to the end</td>
</tr>
<tr>
<td><strong>Cost Leadership</strong></td>
<td><strong>DESIGN ACCESS</strong></td>
<td>• Deterrence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cross License Agreements (XLAs)</td>
</tr>
<tr>
<td></td>
<td><strong>ADDITIONAL INCOME</strong></td>
<td>• Licensing (Stick / Carrot)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• XLAs with Compensation</td>
</tr>
<tr>
<td></td>
<td><strong>DESIGN FREEDOM</strong></td>
<td>• Design Around / Invalidation</td>
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PPM - the Look Around

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What influences a Strategy?

Options for Strategic IP Goals

- MARKET
- TECHNOLOGY
- PATENTS
- ENVIRONMENT

Patent Portfolio Management:

optimize patent activities under cost aspects
Patent Search: Statistics

- Search Capacity
- Search Know-How
- Patent Know-How
- Market Know-How

See Talk of J. Schaaf

Analyse goal-oriented: Return-of-Investment!
Aventis owns 29,000+ patents; about 1% show “Aventis” as assignee


Figure modified from Edlyn Simmons Figure:PIUG 2000 Meeting
Market Analysis

Market Size / Market Share / Turnover / Regions / Trends

**Market Overview**

<table>
<thead>
<tr>
<th>Competitors</th>
<th>Market Share</th>
<th>Characterisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Competitor A</td>
<td>18 %</td>
<td>financial troubles</td>
</tr>
<tr>
<td>2. Own Company</td>
<td>16 %</td>
<td>good service</td>
</tr>
<tr>
<td>3. Competitor B</td>
<td>12 %</td>
<td>small R&amp;D</td>
</tr>
</tbody>
</table>

**Market Size:** € 5.7 bn

**Exclusivity**

<table>
<thead>
<tr>
<th>Region</th>
<th>US</th>
<th>EP</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td></td>
<td></td>
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<tr>
<td>EP</td>
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</table>

**Design Access / Income**

<table>
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<tr>
<td>EP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Regions**

- US
  - Rest
  - Comp A
  - Comp B
  - Own Comp

- EP
  - Rest
  -Comp A
  - Comp B
  - Own Comp

**in 5 years**
Which technology is important?“
“How good am I at the technology?“

Different Segments (Technologies / Products)

IP Investments
lower higher
Comparison of Patent Position with ...

... the Technology Position

The correlation of the patent position with the technological 'strength' gives a hint for the strategic direction.

... the Market Position

The number of IPRs is typically being related with the relevant sales; only then one can speak of a 'stronger' or 'weaker' position.
The risks and chances must be usually verified by taking a closer look into the IPRs, incorporating „quality“.

License demand $\sim (Sales)_{Comp} \times Patents_{Own}$
* Licence Rate * Hit Rate

License balance $\sim$
Own Demands – Demands from the Comp.
Developing a Patent Strategy

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Update

11 October 2006, 20
Sketch: Strategy Development

Typical IP Behaviour
- offensive
- defensive
- directed internally
- directed externally

Patent Position
- strong
- weak

Technology Position
- following
- leading

Market Share
- large
- small

SWOT

Definition of an IP Strategy

Licences
Success Factors
- decisive factors / features
Generic Patent Strategy – an example

In case of a (yet) strong Patent Position but weak Resources and large exposure, secure **Design-Access via XLAs** and licence patents selectively.

### Typical IP Behaviour
- offensive
- defensive
- directed internally
- directed externally

### Strategic Significance

<table>
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<tr>
<th>Technology Position</th>
<th>Patent Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>leading</td>
<td>strong</td>
</tr>
<tr>
<td>following</td>
<td>weak</td>
</tr>
</tbody>
</table>

### SWOT

- Licences
- Success Factors
A Target Portfolio should be defined

The Target Portfolio should give operative goals regarding the development of the patent portfolio w.r.t quantity and quality.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Now</th>
<th>Trend</th>
<th>in 3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>T2</td>
<td>13</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>T3</td>
<td>5</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

Patent portfolio management must also incorporate measures and metrics to ensure efficient controlling.
Implementation

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Patent Activity as a 'Pull'!
Where to file?

- Foreign filing is costly. The selection of countries is thus budget-restrained.

- Foreign filing is governed mainly by (a) own turnover and margin, resp. or (b) market size, mostly not the main manufacturer‘s countries.

- Patentability, 'Prosecutability‘ and 'Culture‘ as further important Factors

- In the simplest case, use a country list; better: dependent on the value of the IPR
Application Paths‘

- Only national: **Adv:** faster grant, **Disadv:** high costs immediately
  - Regional / PCT: **Disadv:** usually slower grant (PCT up to 30 / 31 Monate); **Adv:** delayed costs, cheaper for more countries.

- The decision how to file is also dependent on the own pre-application search.

- In detail, one has to calculate the costs and reason higher spending.
Distribution of Costs

⇒ (AT, CH, DE, FR, GB, IT)

Grant:
EP: in Year 6
US: in Year 5
JP: in Year 6

Accumulated Costs:
EP: € 65,000
US: € 19,000
JP: € 29,000

from: Martin Baader, Der Leiter Patente 2004; Infineon Technologies
The Value of Patents

- Patent Experts: **Evaluation** (qualitative value)
  
  Relative value of patents using a value spectrum, e.g. \{1 ... 5\} or \{A ... F\}
  
  **Application**: patent selection; portfolio management; patent comparison

- Business Experts: **Valuation** (quantitative value)
  
  Financial value of patents and patent portfolios (in €) using known (?) valuation methods
  
  **Application**: transaction pricing or licensing fees; financing (e.g. start-ups) etc.
Some Evaluation Parameters

Customer Attractivity

- Large Performance / Cost Advantage
- Medium Performance / Cost Advantage
- Small Performance / Cost Advantage

Scope of Invention

- Basic
- Larger Improvement
- Detail

Proof of Use

- easy
- costly
- Not possible

Circumvention

- Not possible
- Possible but costly
- Alternatives exist

Value

Not only the average
Generating Inventions

• Overproportionally many inventions should be generated in attractive technologies

• This generation can - at least partly - be controlled, e.g. by
  - Invention-on-Demand-Workshops
  - Incentives (Money, Management Appreciation)

• Generally, from a portfolio management point of view it is desirable - but also more costly - to have more inventions than applications can be filed so that one can choose from a pool of inventions and file or discard.
• For the different steps of the operative patent activities there should be defined *processes with (competence orientated) responsibilities and tasks*!

<table>
<thead>
<tr>
<th>Example: of Patent Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I.D.</strong></td>
</tr>
<tr>
<td><strong>who</strong></td>
</tr>
<tr>
<td><strong>respons.</strong></td>
</tr>
<tr>
<td><strong>when</strong></td>
</tr>
<tr>
<td><strong>report</strong></td>
</tr>
</tbody>
</table>

• This includes *reporting* to the business functions responsible (e.g. quarterly review), but also to ‘inventor‘s side’ (inventor, head of R&D)

• Reporting also regarding **Costs**
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  - Risk Assessment
  - Risk Reduction

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Key Factors for successful PPM

- The strategic orientation of patent work too is subject to the *RoI-rule*, i.e. to be performed in adequate detail
- *Verifiable benefit* justifying the additional effort
- *Clear assignment* of roles with defined contributions by the parties involved in the process
- Controlling must lead to *consequences*
- Comfortable IT-support
- Strategy process properly *timed* with processes for setting up business strategies and budgets
- Support by *line management*

Patent work is a speculative business with significant chances and risks. Therefore, much ground would be lost without a strategically oriented approach.
Patent Strategies and Patent portfolio management

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Thank You!