

**European  
Patent Office**

**European Patent Academy  
Seminar IS02-2006  
"Patent-related IP management  
for innovation advisors"  
Swider Conference Centre, 11 October 2006**

# **Patent Strategies and Patent Portfolio Management**

Dr. Mark Schulze

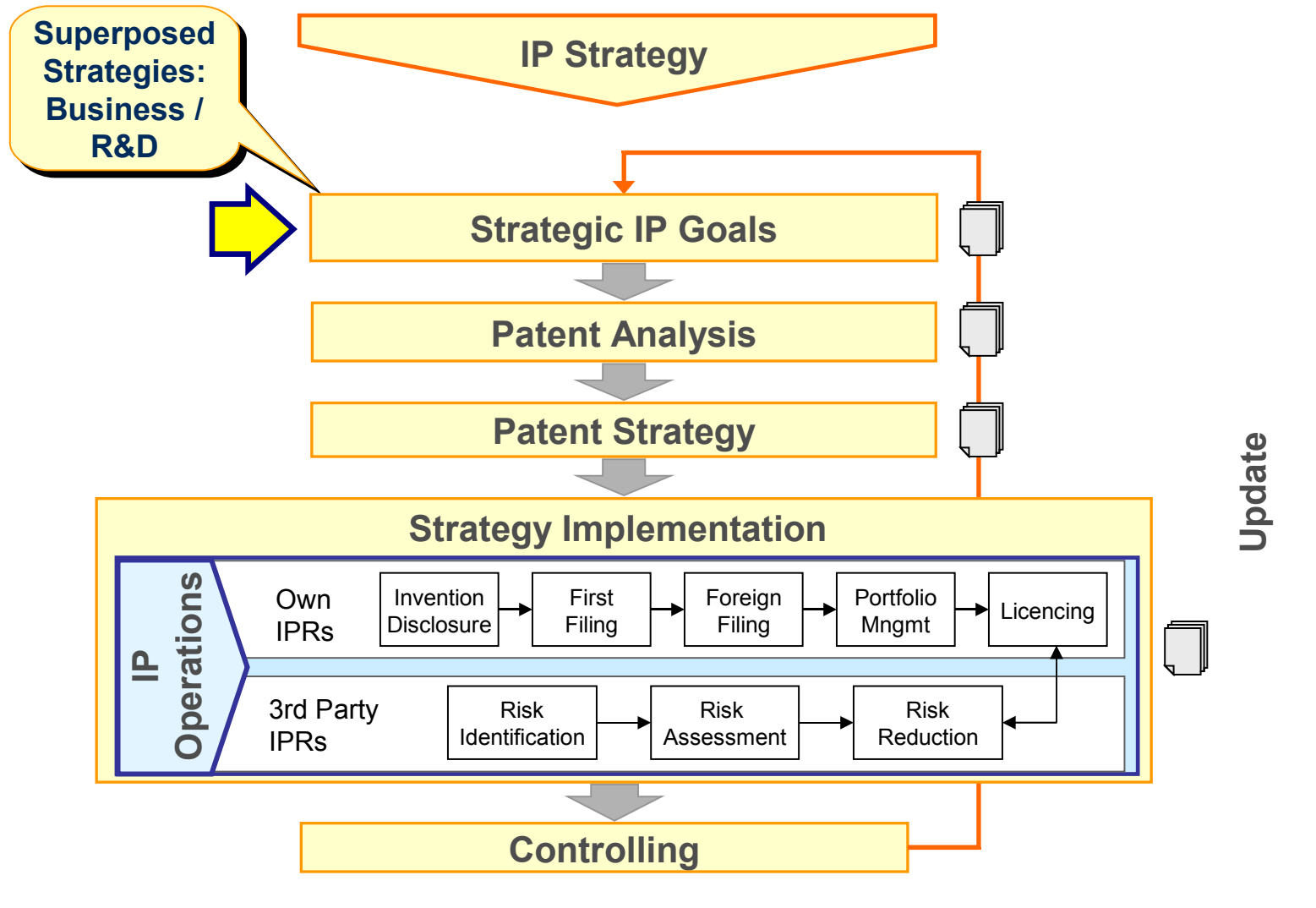
# Patent Strategies - a jungle?

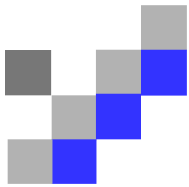
Everybody knows so many parameters .....



„Where is the path through the jungle ???“

# PPM - A Process





# Strategic IP Goals

**Options  
for  
Strategic  
IP Goals**

**EXCLUSIVITY**

**REPUTATION**

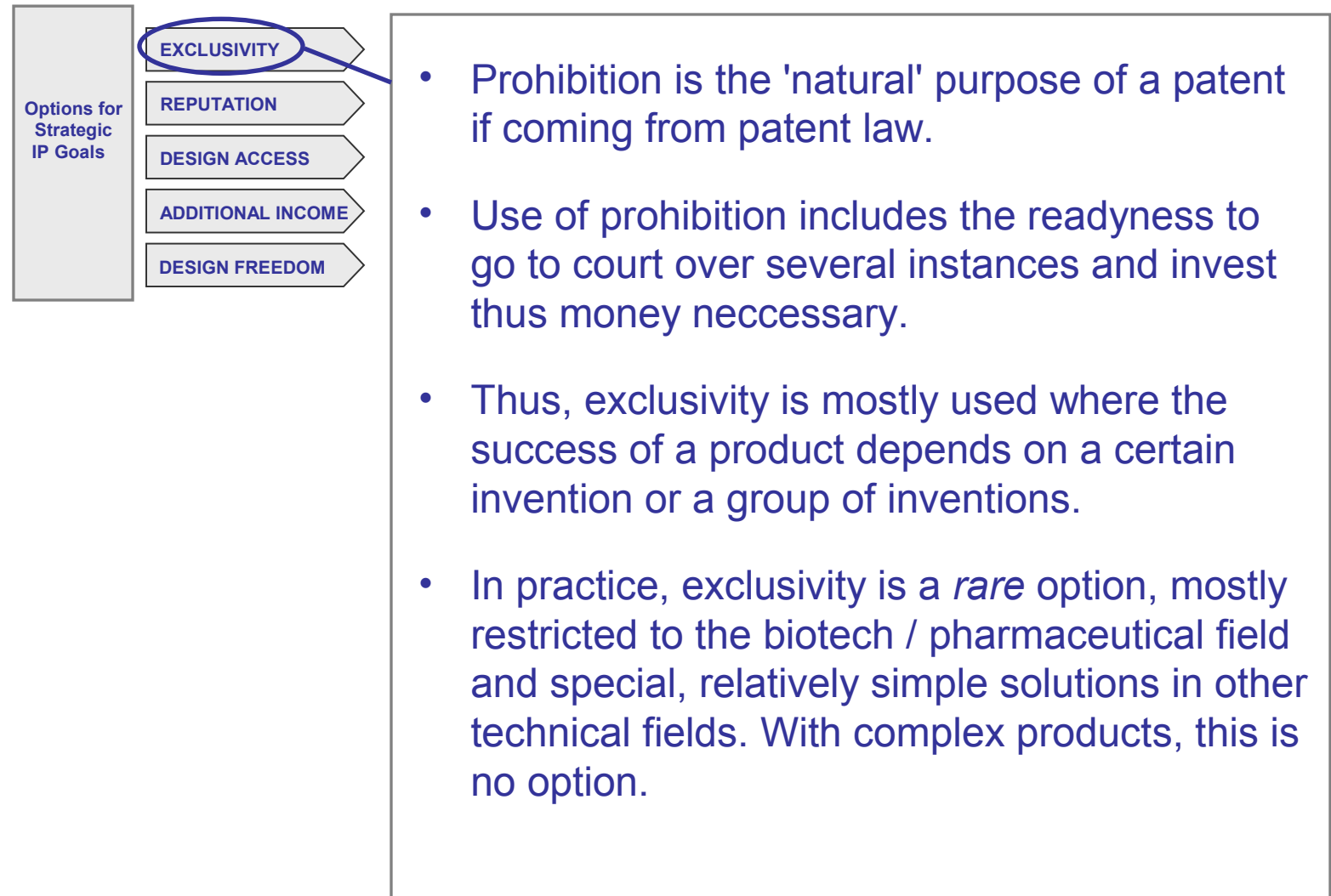
**DESIGN ACCESS**

**ADDITIONAL INCOME**

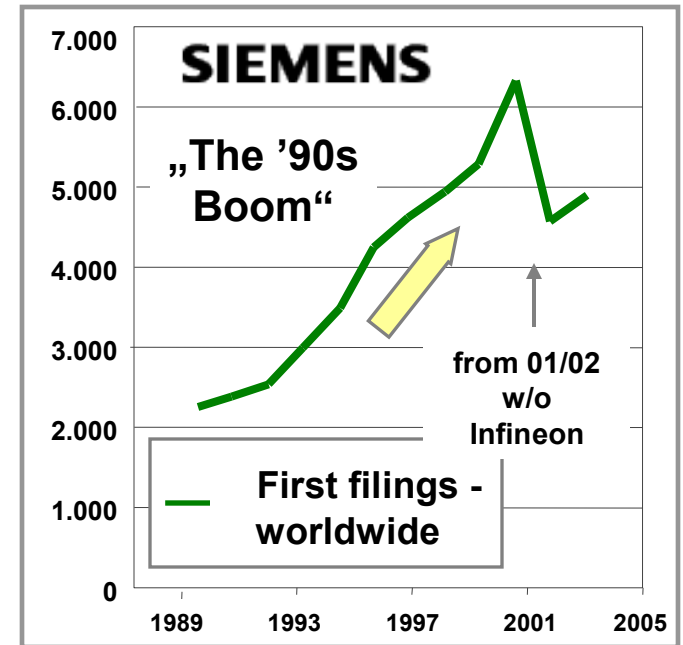
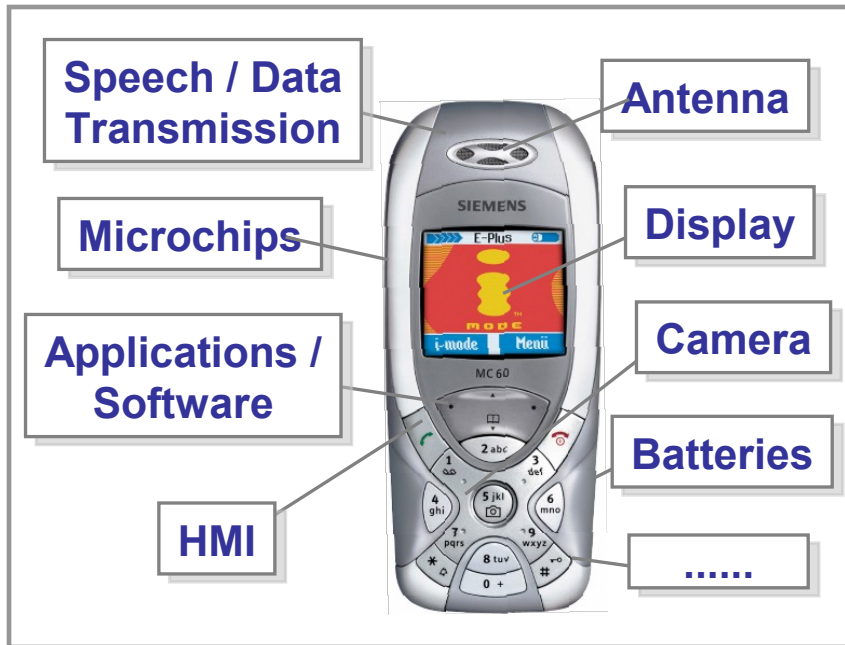
**DESIGN FREEDOM**

**Chosen  
Strategic  
IP Goal is  
often a  
mixture**

# Strategic IP Goals: Exclusivity



# (Counter-)Example: Cellular Phone

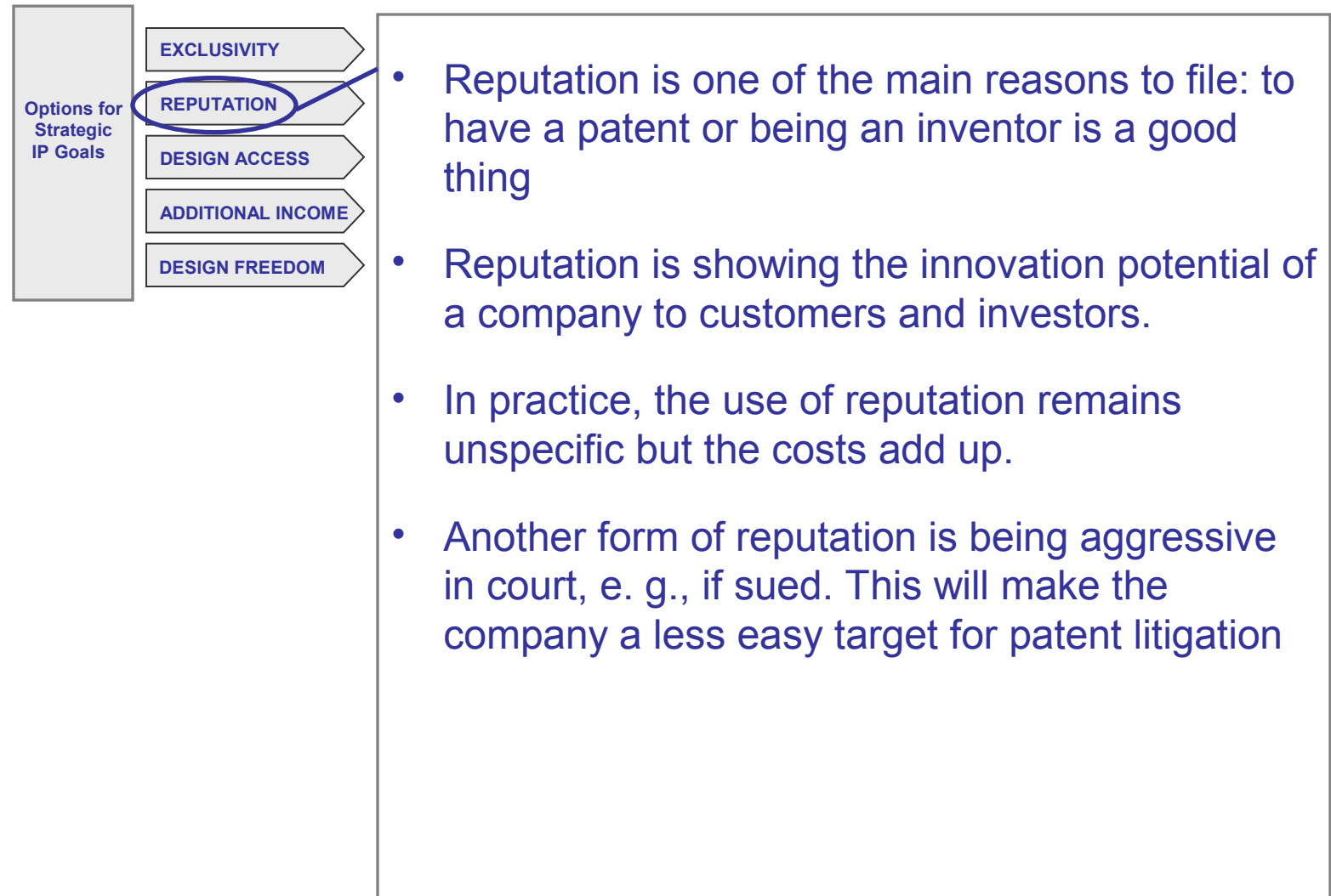


Exclusivity is not practical, but a stronger patent position is !

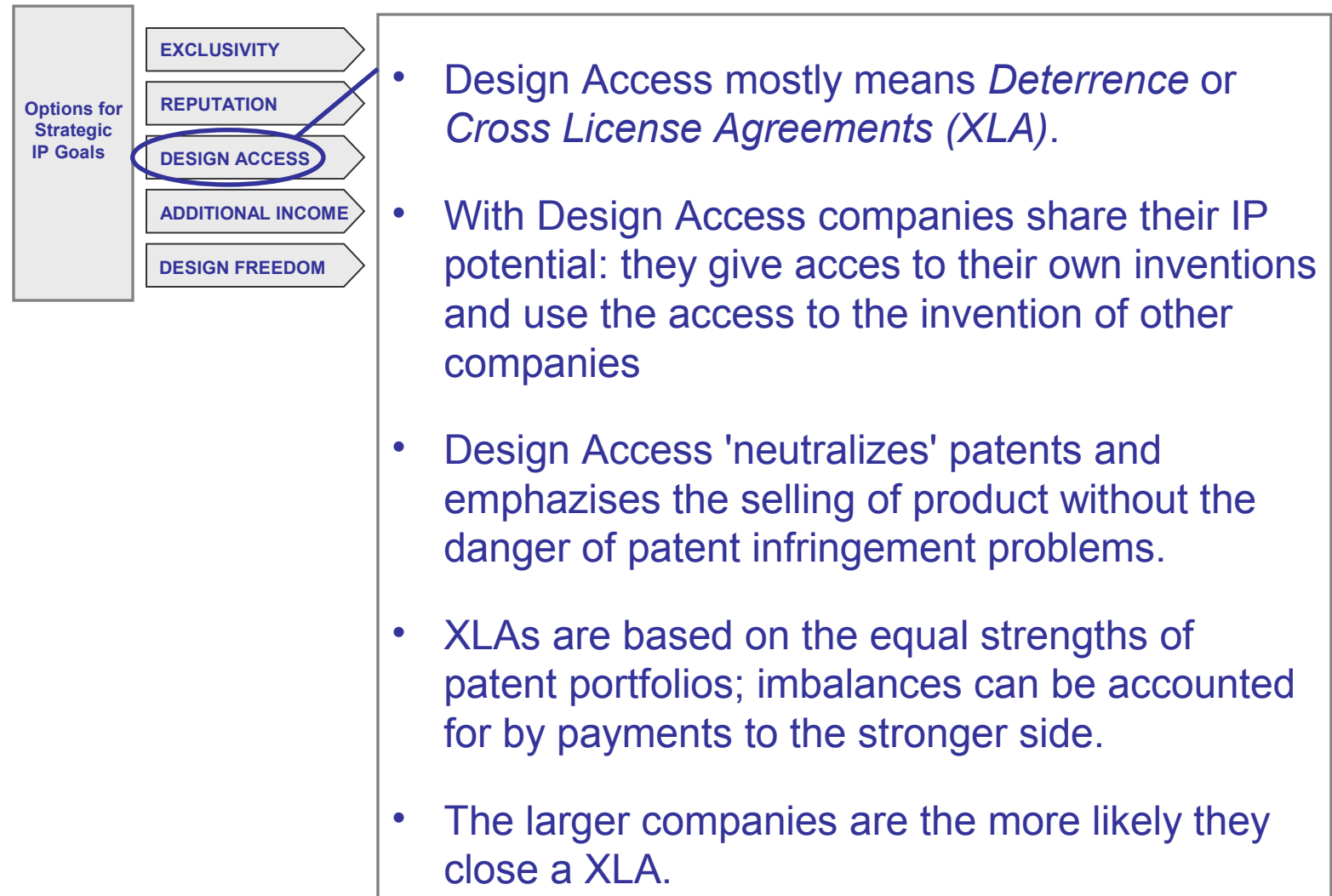


**Patent Portfolio Mngmt !**

# Strategic IP Goals: Reputation



# Strategic IP Goals: Design Access





# Strategic IP Goals: Additional Income

Options for  
Strategic  
IP Goals

EXCLUSIVITY

REPUTATION

DESIGN ACCESS

ADDITIONAL INCOME

DESIGN FREEDOM

- 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

Options for  
Strategic  
IP Goals

EXCLUSIVITY

REPUTATION

DESIGN ACCESS

ADDITIONAL INCOME

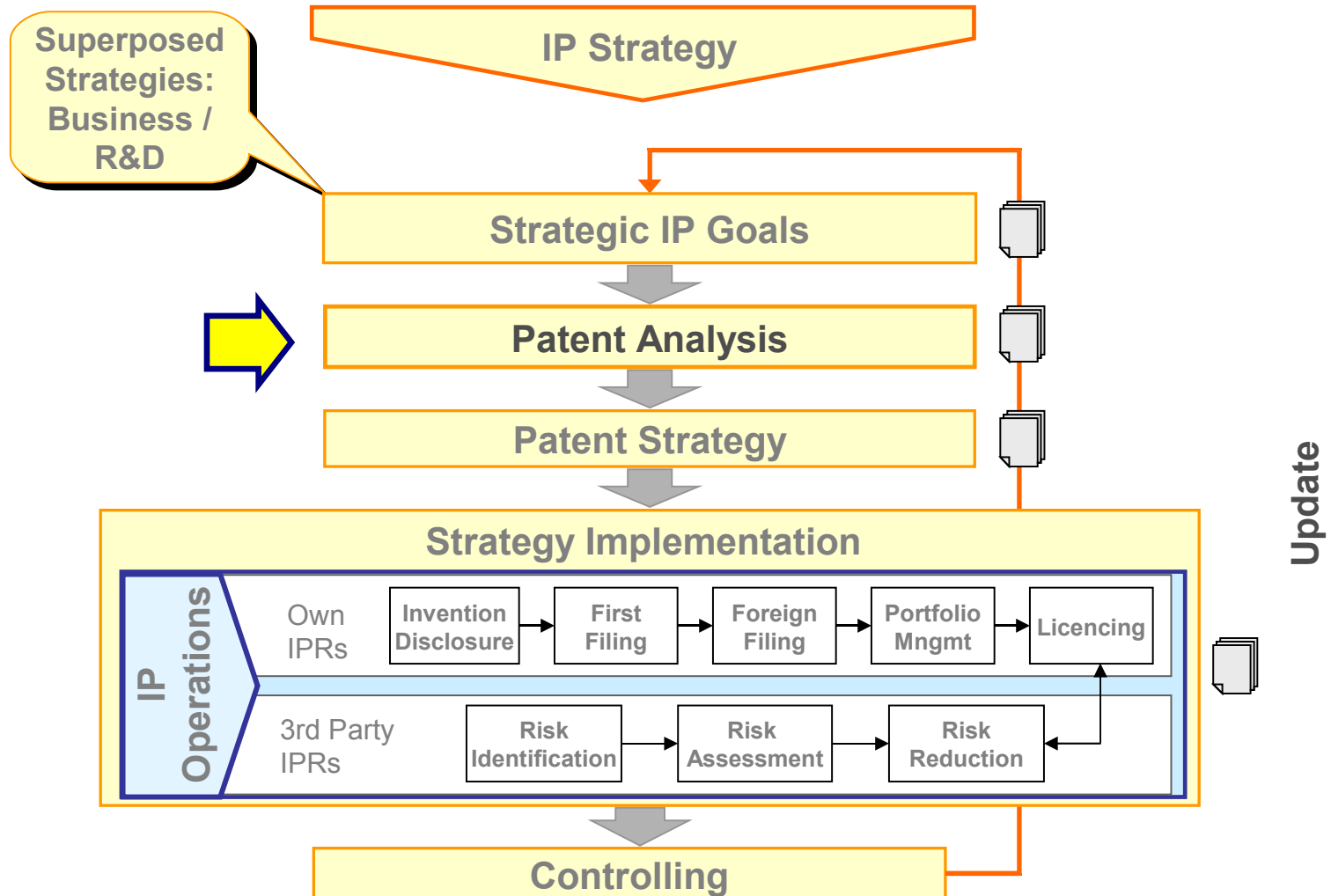
DESIGN FREEDOM

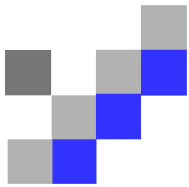
- Design Freedom is the try to design products without violating patents.
- The most prominent realisations are Design Around and Opposition / Invalidation against third party rights, often after a product clearing.
- One does not need own patents to use a Design Freedom strategy.

# Strategic IP Goals (Summary)

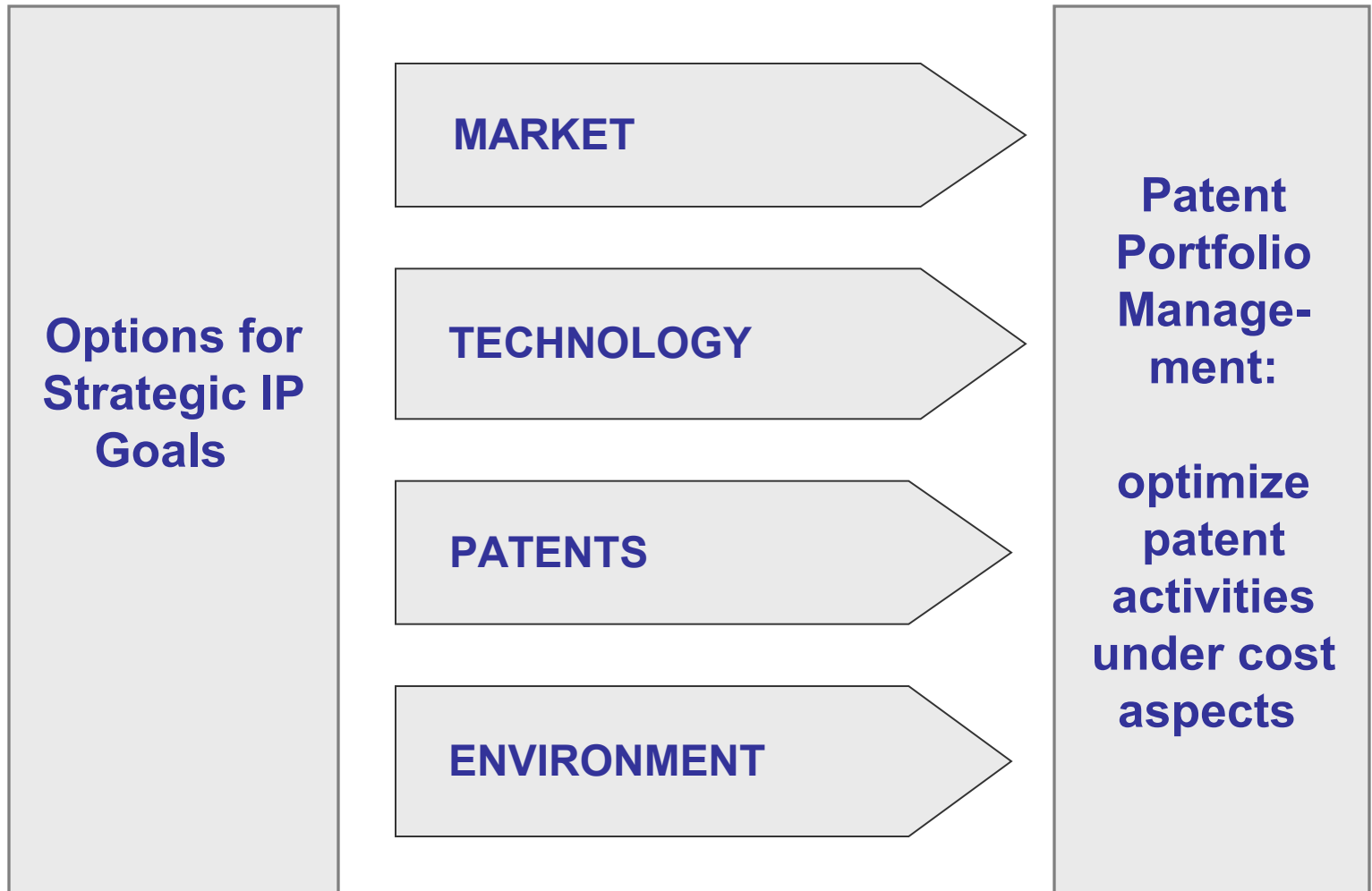
Affected Business Strategy	Options for Strategic IP Goals	Exemplary IP Strategies
Market Differentiation	<b>EXCLUSIVITY</b>	<ul style="list-style-type: none"> <li>• Prohibition</li> </ul>
	<b>REPUTATION</b>	<ul style="list-style-type: none"> <li>• no. 1 patent holder</li> <li>• fighting legal battles to the end</li> </ul>
Cost Leadership	<b>DESIGN ACCESS</b>	<ul style="list-style-type: none"> <li>• Deterrence</li> <li>• Cross License Agreements (<i>XLAs</i>)</li> </ul>
	<b>ADDITIONAL INCOME</b>	<ul style="list-style-type: none"> <li>• Licensing (Stick / Carrot)</li> <li>• <i>XLAs</i> with Compensation</li> </ul>
	<b>DESIGN FREEDOM</b>	<ul style="list-style-type: none"> <li>• Design Around / Invalidation</li> </ul>

# PPM - the Look Around



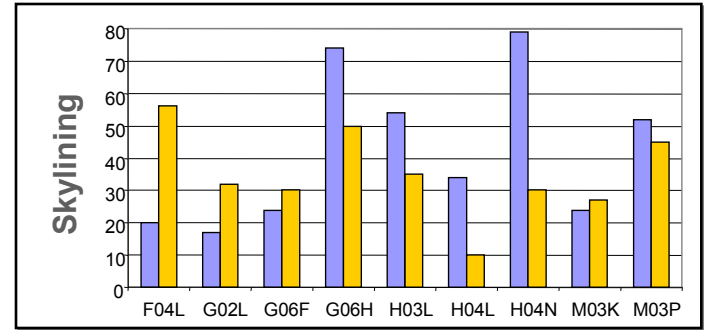
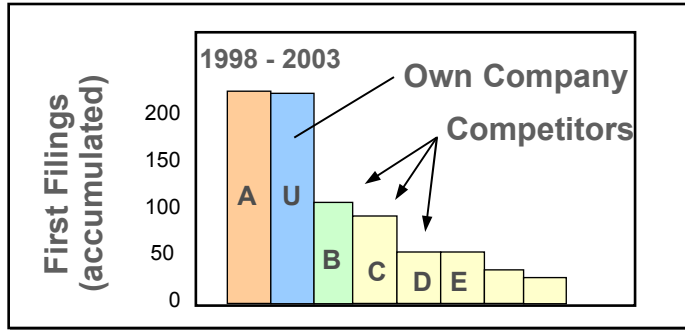


# What influences a Strategy ?

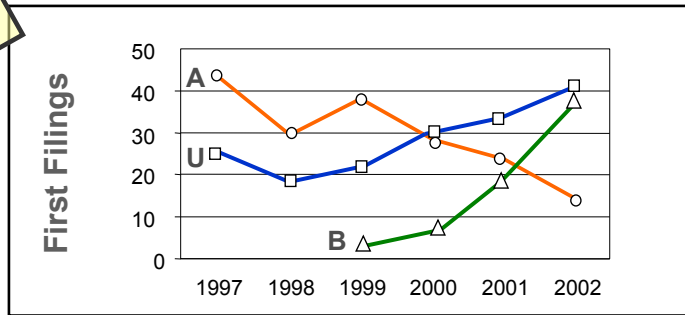


# Patent Search: Statistics

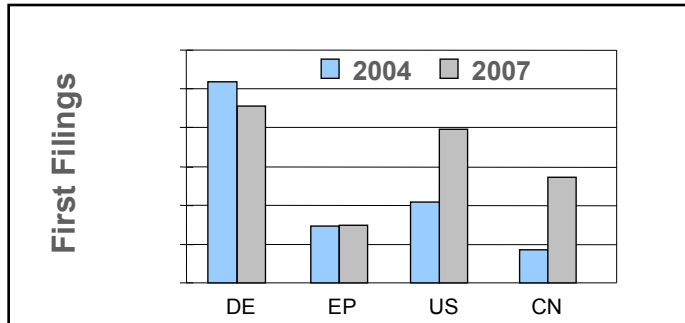
Overall



Trends



Regions



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

! Analyse goal-oriented: Return-of-Investment !

See Talk of J. Schaaf

# Patent Search: The Assignee Problem

Aventis owns 29,000+ patents; about 1% show "Aventis" as assignee

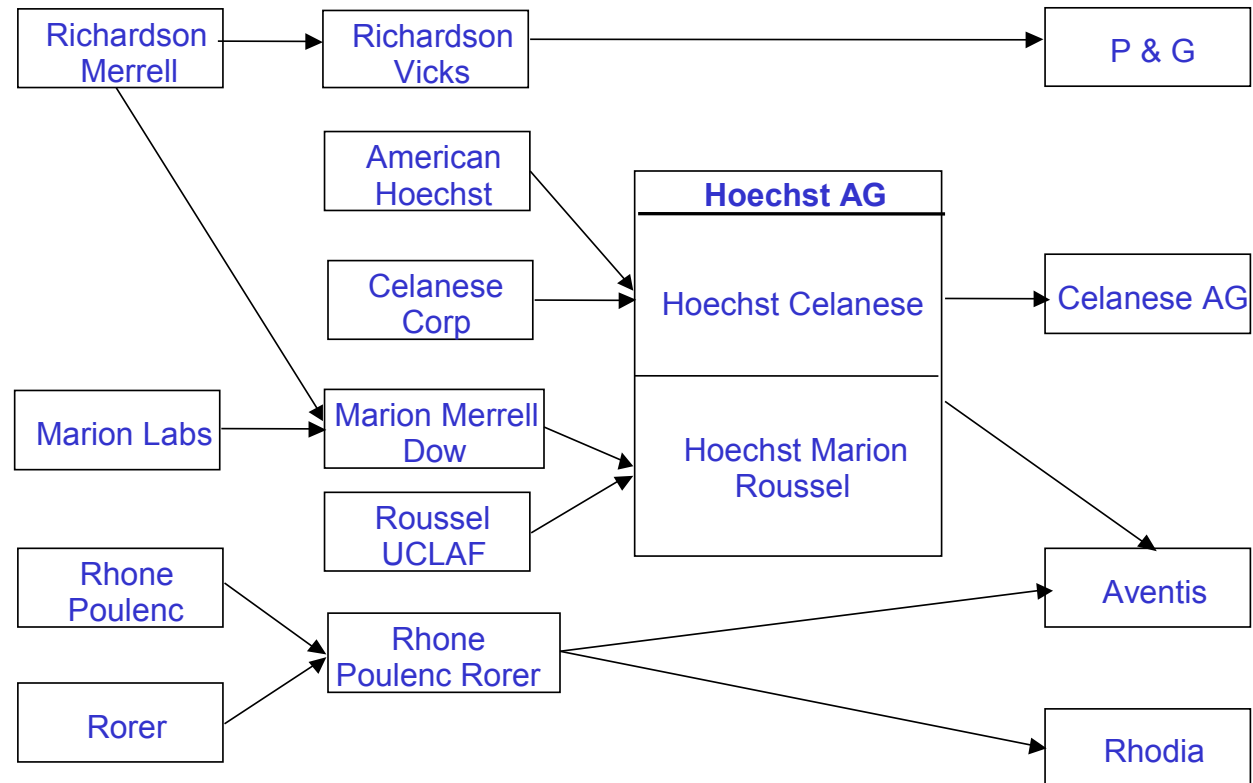
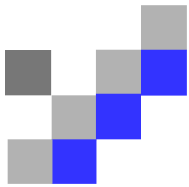


Figure modified from Edlyn Simmons Figure:PIUG 2000 Meeting

See Talk of  
J. Schaaf

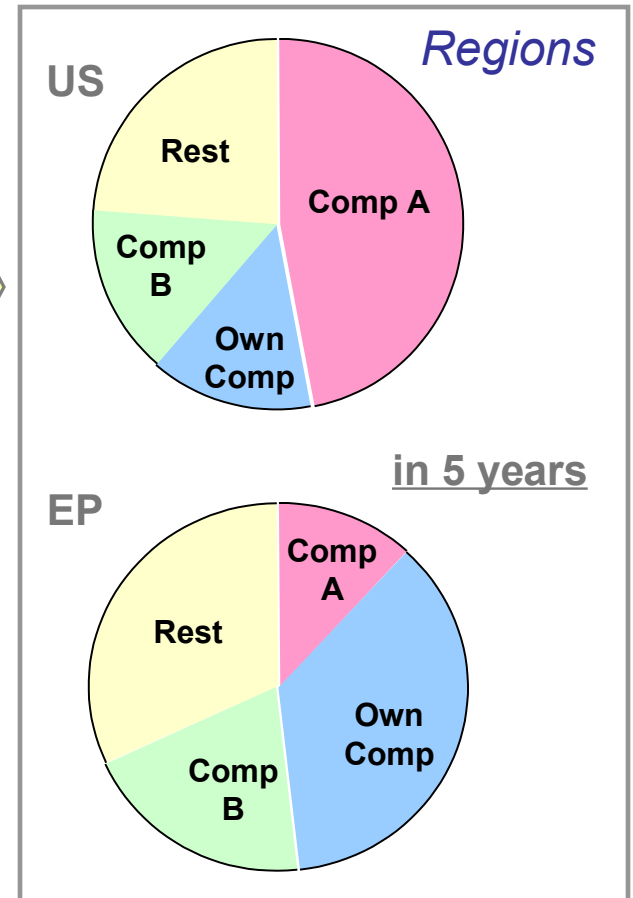
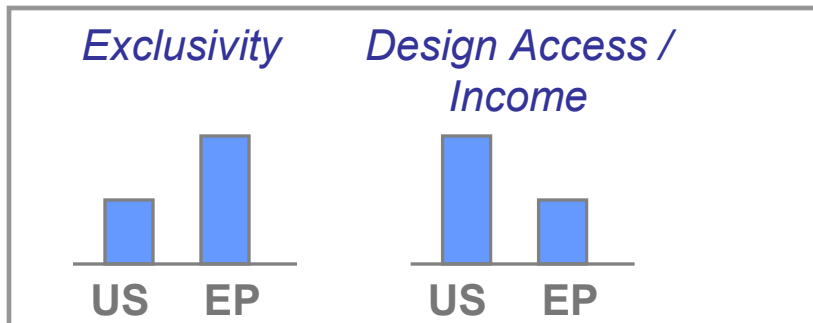


# Market Analysis

## Market Size / Market Share / Turnover / Regions / Trends

*Market Overview*

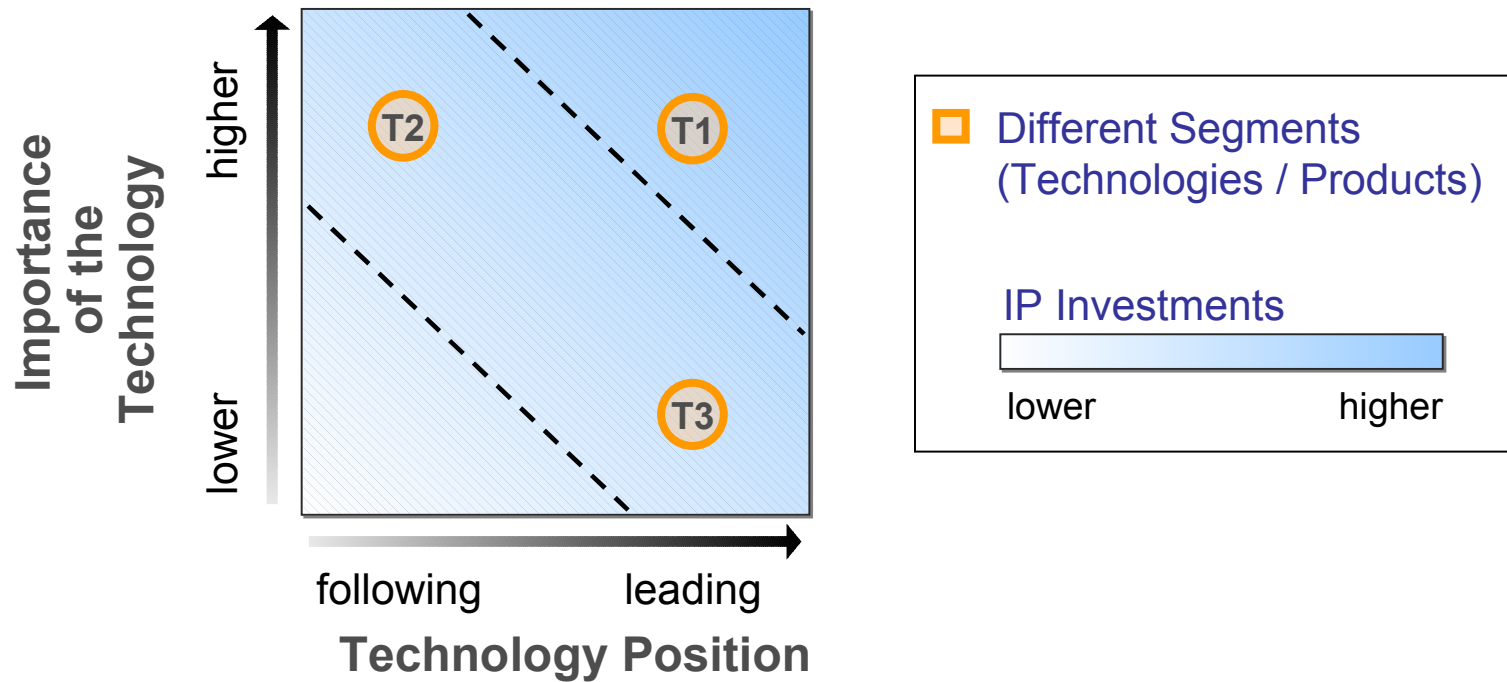
Market: Gas Turbines		Market Size:
		€ 5,7 bn
Competitors	Market Share	Characterisation
1. Competitor A	18 %	financial troubles
2. Own Company	16 %	good service
3. Competitor B	12 %	small R&D
:	:	:





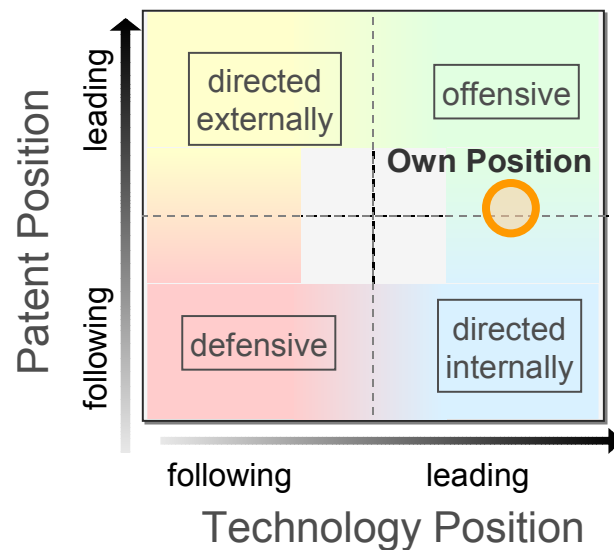
# Technology Analysis

- „Which technology is important?“
- „How good am I at the technology?“



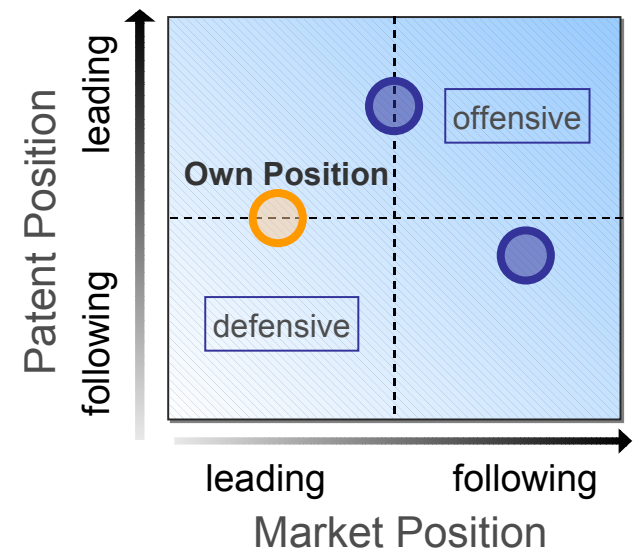
# Comparison of Patent Position with ...

## ... the Technology Position



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

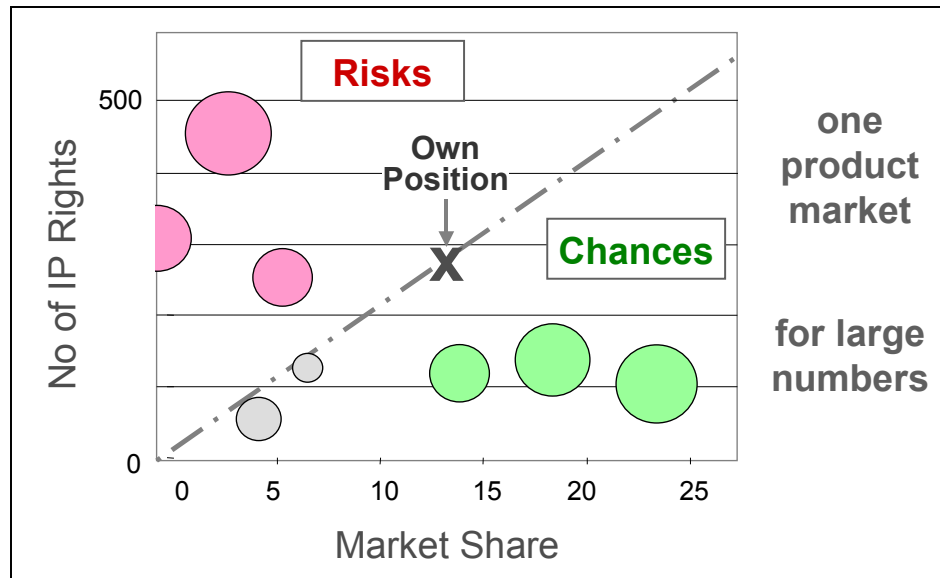
## ... the Market Position



The number of IPRs is typically being related with the relevant sales; only then one can speak of a 'stronger' or 'weaker' position.

## ... a closer look ...

... shows the well-known license analogy used in a risk-chance-diagram.



one  
product  
market

for large  
numbers

License demand ~

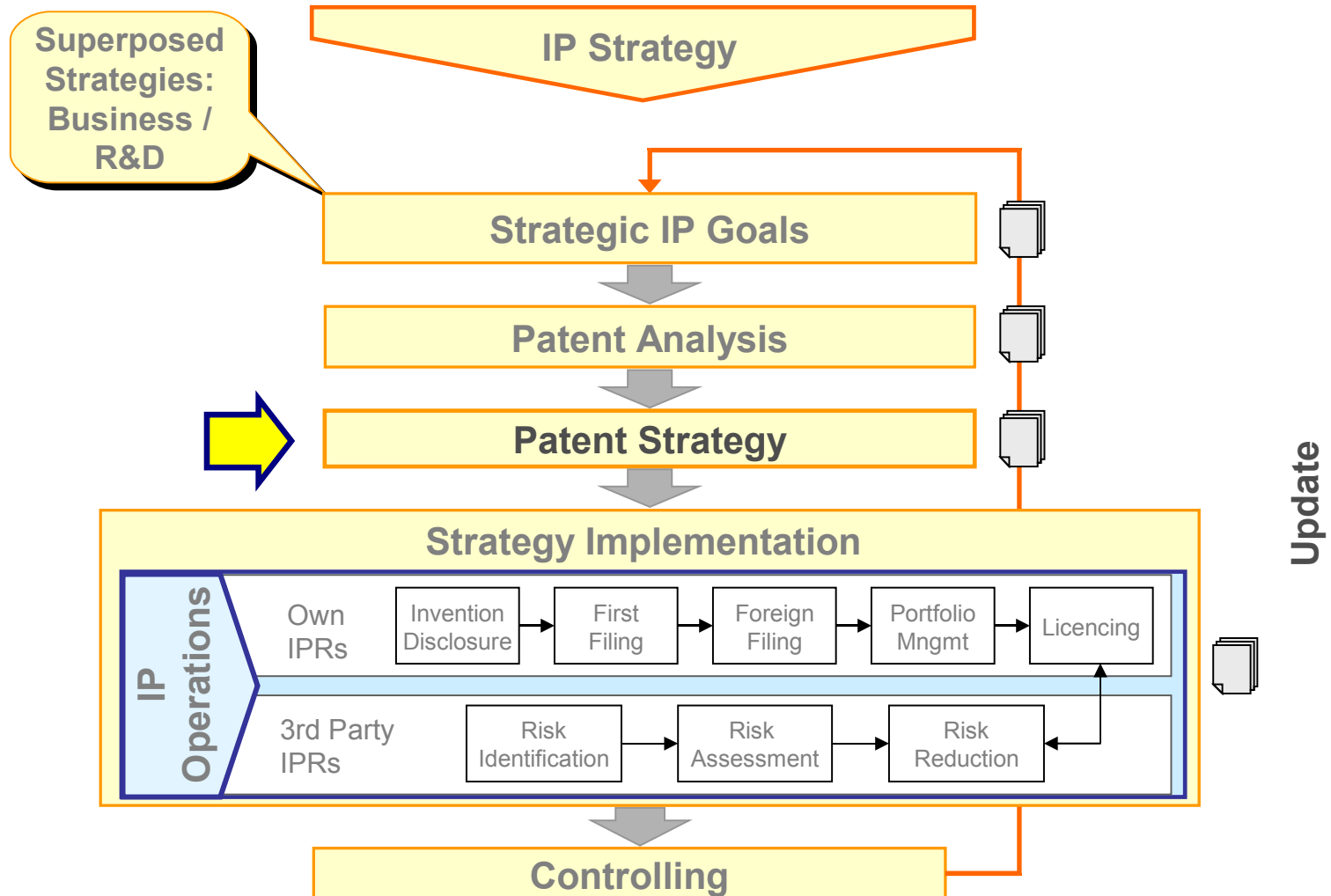
$$(\text{Sales})_{\text{Comp}} * \text{Patents}_{\text{Own}} \\ * \text{Licence Rate} * \text{Hit Rate}$$

License balance ~

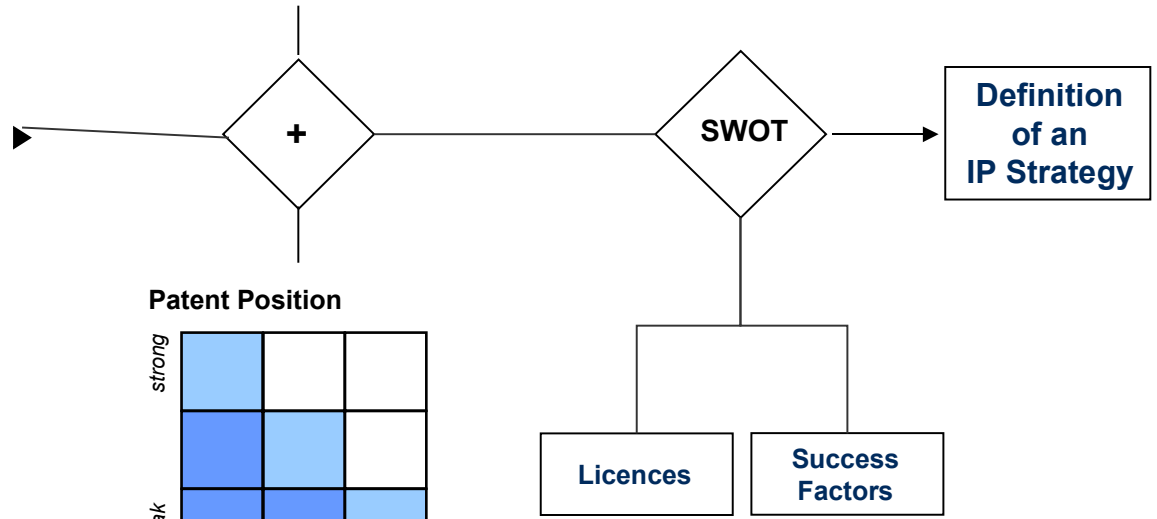
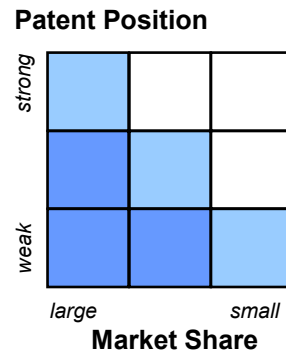
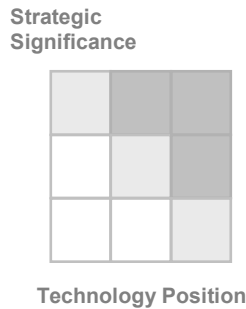
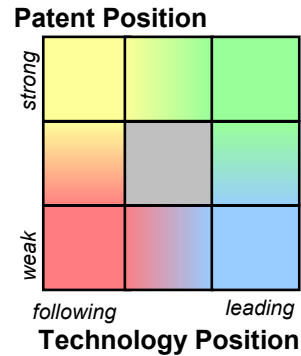
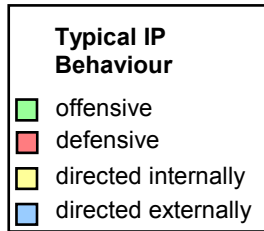
$$\text{Own Demands} - \\ \text{Demands from the Comp.}$$

The risks and chances must be usually verified by taking a closer look into the IPRs, incorporating „quality“.

# Developing a Patent Strategy

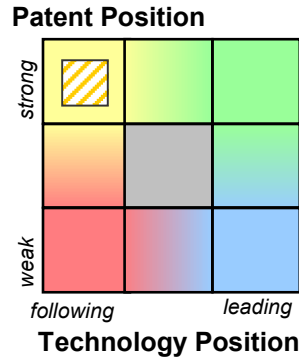
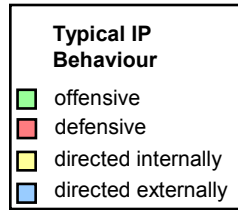


# Sketch: Strategy Development

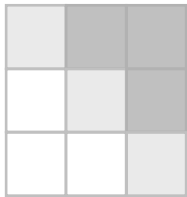


▪ decisive factors / features

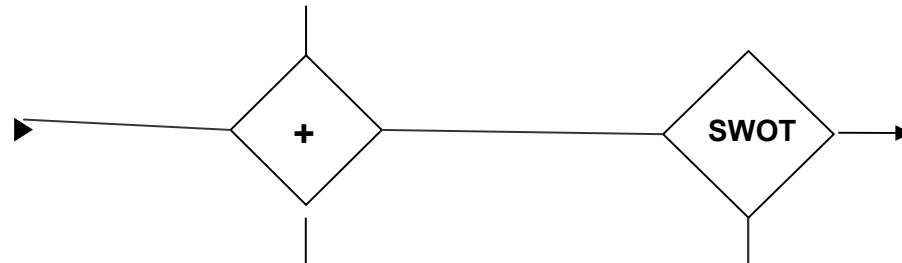
# Generic Patent Strategy – an example



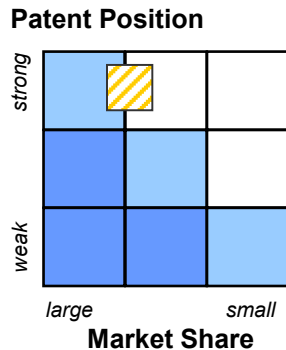
Strategic Significance



Technology Position






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

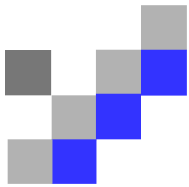


# A Target Portfolio should be defined

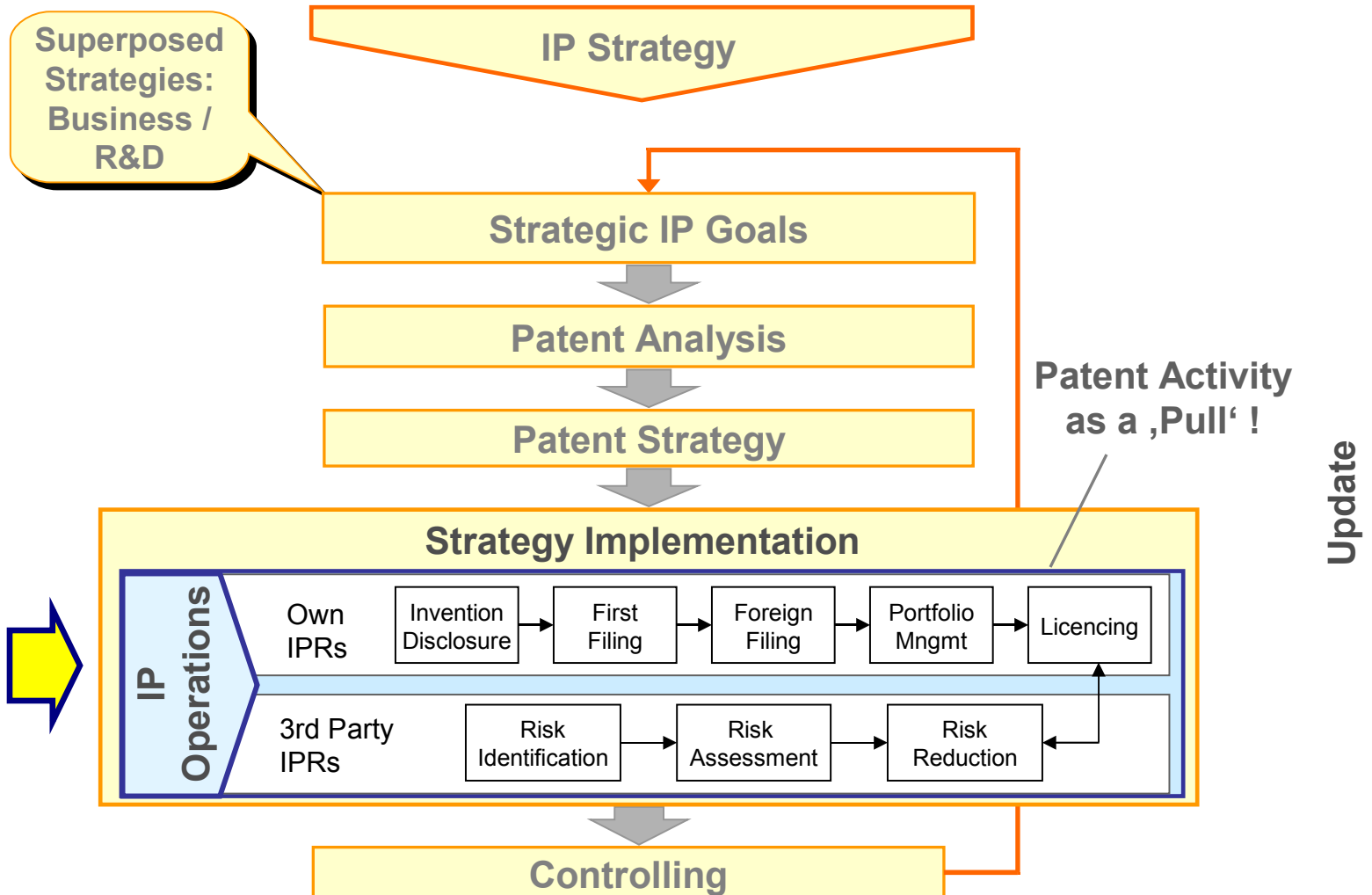
The Target Portfolio should give operative goals regarding the development of the patent portfolio w.r.t quantity and quality.

Technology	Now	Trend	in 3 years
T1	20		10
T2	13		15
T3	5		13

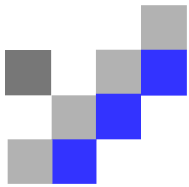
Patent portfolio management must also incorporate measures and metrics to ensure efficient controlling.



# Implementation







# 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*



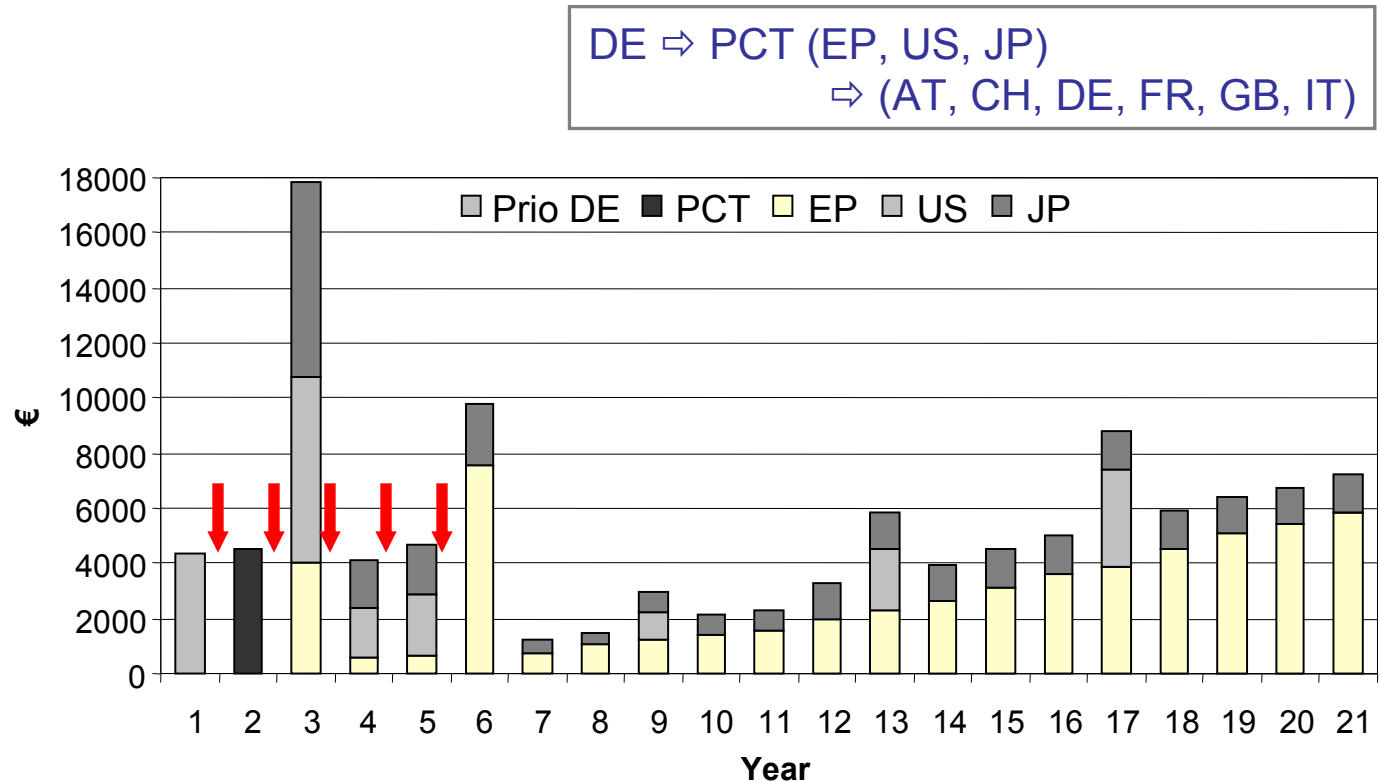
# „Application Paths“

- 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.

Early development;  
long cycles;  
,unsure'  
Patentability

Fast Implementation;  
Short Cycles;  
,sure' Patentability

# Distribution of Costs



## Grant:

EP: in Year 6

US: in Year 5

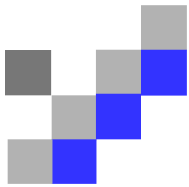
JP: in Year 6

## Accumulated Costs:

EP: € 65.000

US: € 19.000

JP: € 29.000



# The Value of Patents

- Patent Experts: **Evaluation** (qualitative value)

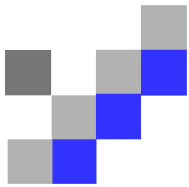
Relative value of patents using a value spectrum,  
e. g. {1 ... 5} or {A ... F}

**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

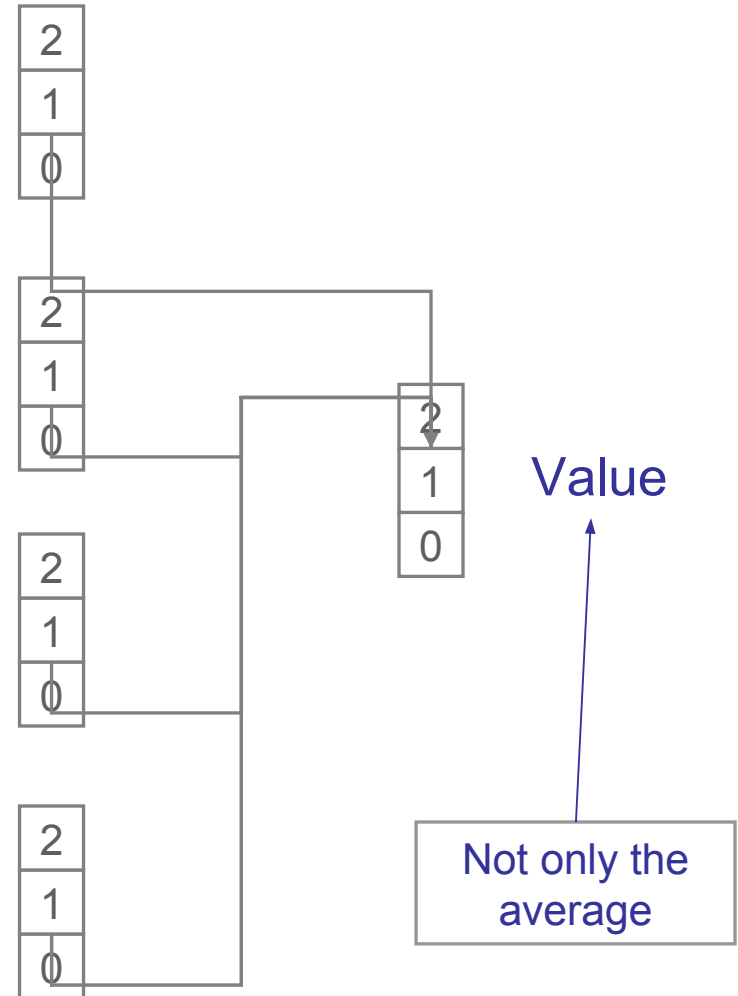
- Basic
- Larger Improvement
- Detail

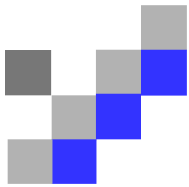
## Proof of Use

- easy
- costly
- Not possible

## Circumvention

- Not possible
- Possible but costly
- Alternatives exist





# 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.



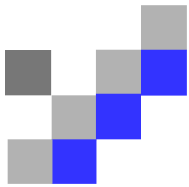
# Processes - Get it Going

- For the different steps of the operative patent activities there should be defined *processes with (competence orientated) responsibilities and tasks !*

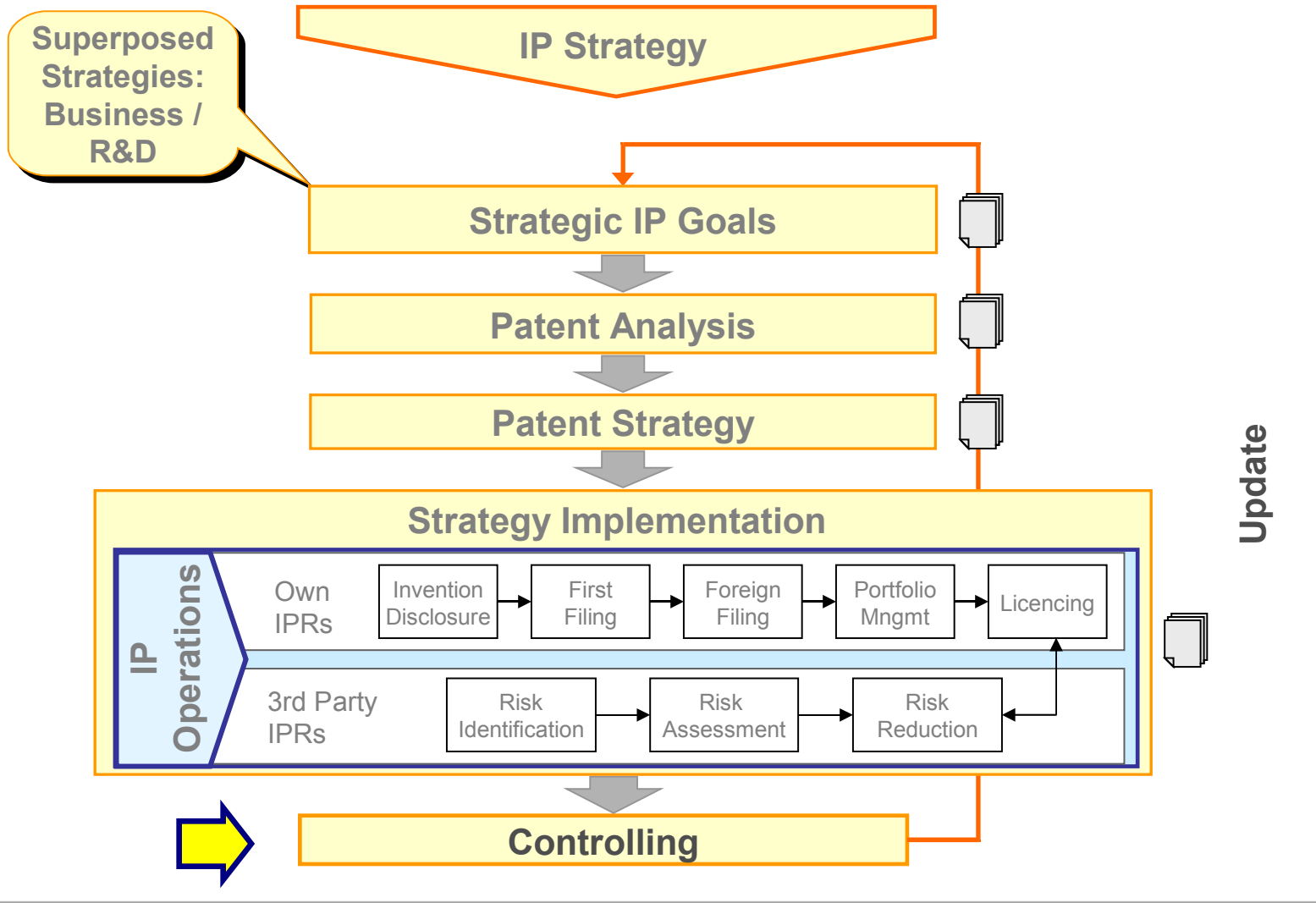
Example: of Patent Value

<i>I.D.:</i>	Inventor
<i>who:</i>	Patent Professional, Head of R&D group
<i>respons.:</i>	Patent Professional
<i>when:</i>	1 x month / quarter
<i>report:</i>	Patent Professional

- 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*



# Implementation



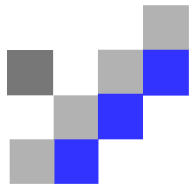




# Key Factors for successful PPM

- The strategic orientation of patent work too is subject to the *Rol-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 !**