National Seminar on IP Asset Valuation for Technology Transfer

Organized by
the World Intellectual Property Organization (WIPO),
and
the Hungarian Patent Office (HPO)

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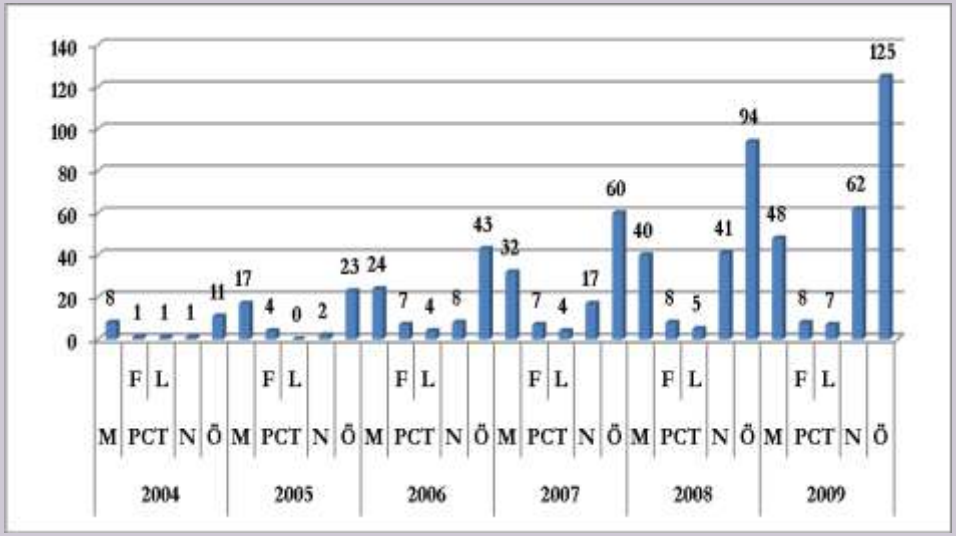
Patent portfolio of BIOPOLISZ Ltd.



Notes

M: Hungarian applications

PCT: PCT application (phases I. and II.)

F: PCT in process

L: PCT procedure finished

N: national applications

Ö: patent applications in total

[11] Ideértve a nemzetközi technológia-bróker rendezvényeket is.

The main indicators of BIOPOLISZ Ltd. between 2004 and 2010

Type of indicator	2004	2005	2006	2007	2008	2009	June 30, 2010
Prior art research	7	9	14	29	18	19	6
New patent applications	10	7	15	16	13	6	4
Project application	1	30	34	17	35	23	1
Technology law and spin-off cases	0	4	4	18	21	34	9
Participation in Hungarian conferences	21	24	2	28	11	28	6
Participation in international conferences	4	13	9	2	8	7	5
Business planning	4	2	n.a	3	0	0	0

Legal services of BIOPOLISZ Ltd. between 2007 and 2009

Technology law and spin-off cases	2007	2008	2009	June 30, 2010.
Licensing	**13**	**2***	**10**	**2**
Elaborating and checking other, innovation-related agreements	0	5	8	0
Written opinions and due diligences	0	10	4	1
Other technology law consultancy	0	4	8	5
Spin-off cases*	5	2*	4	1
Total:	**18**	**21**	**34**	**9**

Note:* with both spin-off cases, licensing consultancy was also needed

Presenting the research work of the DA_ELEM_07 INNOVTIT-project

Analysis of disclosures

Distribution of the number of disclosed PRO inventions

Year of disclose	Number of inventions	Ratio of inventions
2005.	15	18,07%
2006.	13	15,66%
2007.	**32**	**38,55%**
2008.	12	14,46%
2009.	11	13,25%
Total	**83**	**100,00%**

In each year approx. 15 new PRO dislosures are expected in the region.

Analysis of the patentibility tests

Distribution of the patentability test results

Result	Ratio of patentability tests	Number of patentability tests
Patentable	94,59%	35
Not patentable	5,41%	2
Total	**100,00%**	**37**

More than 94 % of the inventions with patentability tests (37) were considered patentable.

Analysis of Prior Art

Number of Prior Art researches taken per year

Year	Number of Prior Arts
2005.	15
2006.	9
2007.	33
2008.	13
2009.	12
Total	**82**

Goal: to get a realistic picture of the expected outcome of patenting before undertaking patenting costs

Analysis of Prior Arts

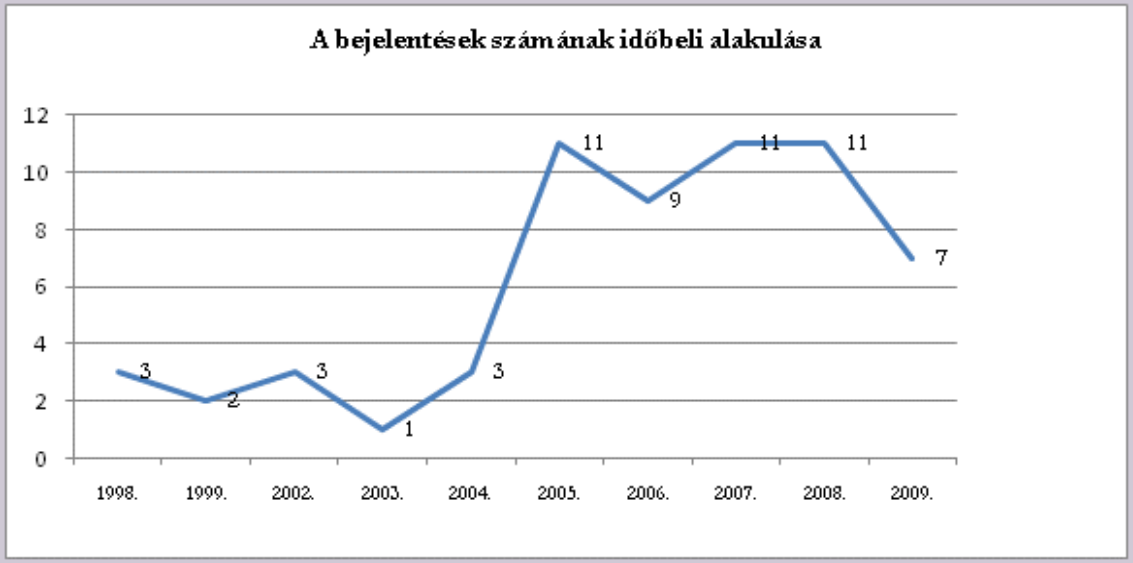
Distribution of Prior Art results

Result	Ratio of researches	Number of researches
Proposing the invention for patent/utility model application	35,21%	25
Proposing the invention for patent/utility model application with notes	**43,66%**	**31**
Application of the invention for patent/utility model is not proposed	21,13%	15
Total	**100,00%**	**71**

Among the prior art researches, 71 contained information on whether the invention is advisable for filing.

Evaluation of the documents required for industrial property protection

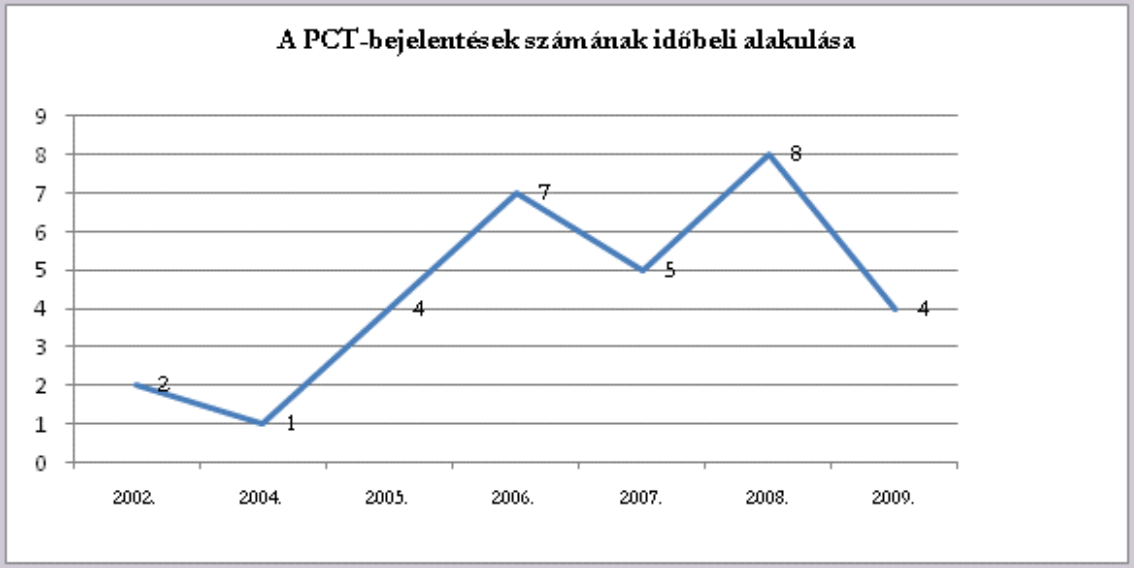
Number of patent applications per annum



The research used a database that contains industrial property data of 61 regional academic patent applications. The number of patent applications between 2005 and 2008 was 9-11 / year.

Evaluation of the documents required for industrial property protection

Number of PCT's per annum



Out of the 61 priority patent protection in the examined period 31 PCT filings were made in the examined period.

Evaluation of the documents required for industrial property protection

Breakdown of filings in terms of the setout of national phases

Set out of national phase	Ratio of priority applications	Number of priority applications	Ratio of PCT-applications	Number of PCT-applications
National phase was set out	***21,31%***	13	41,94%	13
National phase was not set out	78,69%	48	58,06%	18
Total	**100,00%**	**61**	**100,00%**	**31**

Out of the patent protections one fifth or 13 got into the national stage.

National phases were set out only in approx. 40 % of the PCT filings.

Analysis of the licensing agreements

Distribution of the licensing agreements in terms of the degree of licensing lump sum

Upfront	% of licensing agreements	# of licensing agreements
Under 1.600.000 HUF	16,67%	1
1.600.000 - 2.600.000 HUF	***66,67%***	***4***
Above 2.600.000,- HUF	16,67%	1
Total	**100,00%**	**6**

The upfront examined in the licensing agreements is between 1,5-3,5 million HUF (6-15k EUR).

Analysis of the licencing agreements

Distribution of the licensing agreements in terms of royalty

Degree of Royalty	Ratio of licencing agreements	Number of licencing agreements
Between 1% and 5%	***71,43%***	***5***
More than 5%	28,57%	2
Total	**100,00%**	**7**

The licensing fee (royalty) specified in percentage of the utilized value of the licensing agreement is in the range of 1 %-6,75%.

According to the realization of the invention's through licensing it is ascertain that despite all efforts of the University for invention protection, the vast majority of the public funded R&D results remains of public domain.

Invention lifeline

Distribution of the inventions in terms of the utilization in the form of licensing

Utilization ín a form of licencing	Ratio of inventions	Number of inventions
Inventions utilized ín a licencing form	***6,09%***	7
Inventions not utilized ín a licencing form	93,91%	108

About 6 % of the inventions were utilized by licensing.

Invention lifeline

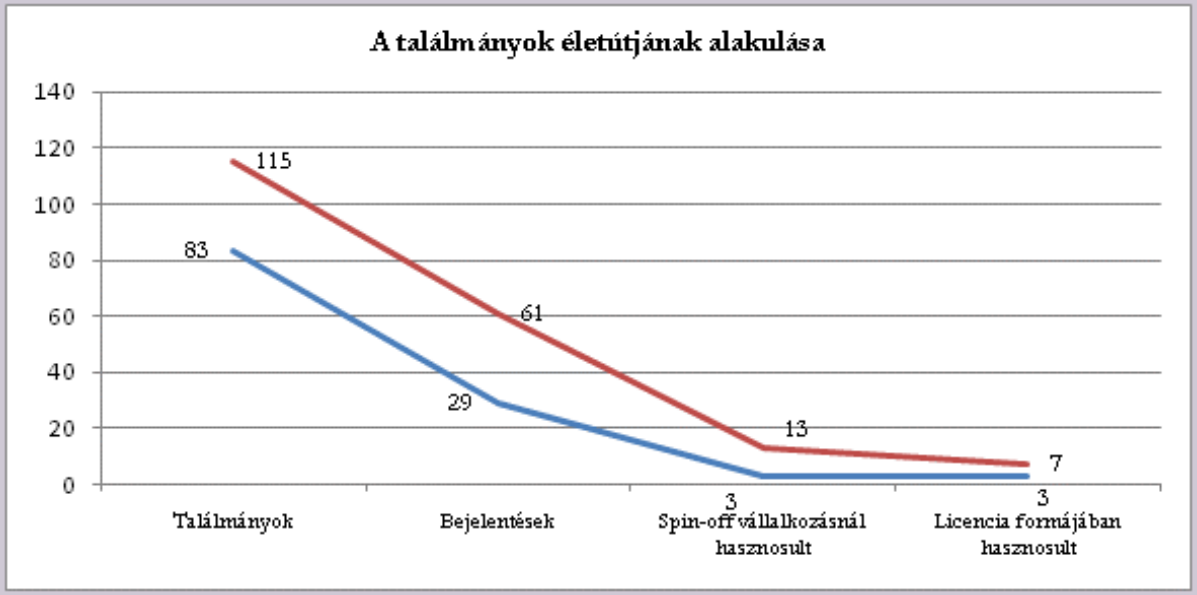
Distribution of the inventions in terms of utilization at the spin-off companies

Utilization at the spin-off companies *	Ratio of inventions	Number of inventions
Inventions utilized at the Spin-off companies	***11,30%***	13
Inventions not utilized at the Spin-off companies	88,70%	102
Total	**100,00%**	**115**

About 11.3 % of the inventions was utilized in spin-off companies.

Inventions lifeline

The invention lifeline



Methods for IP valuation at TTOs:

Tools for the valuation of a given invention or technology, thus helping to make strategical decisions concerning that invention

When using evaluation methods, several aspects should be considered, e.g. the development level of the technology to be evaluated

Development levels:

- Early phase : idea, patent, prototype or spin-off company
- Second phase: not a product yet, but a working technology, invention or project
- Third phase: products already on the market or ready to be introduced on the market

Development level	1st phase projects	2nd phase projects	3rd phase projects
Evaluation methods	Citation map / prior art research		
	Cost-based evaluation method		
	Market-based evaluation method		
	Option-based evaluation method		
	Income-based evaluation method		

There are two qualitative ways of IPR asset valuation:

- citation map

- research of the prior art / freedom to operate

Some of the main tasks of technology transfer offices

- Examining the criteria of novelty and inventive step with a prior art research, based on the keywords of the invention

- Freedom to operate analysis
  -To check whether a certain activity (technology) infringes any existing patent

A prior art research summarizes the state of the art patents and articles
However, taking the related technological and market trends into consideration is also advised
Thus, it is useful to prepare a citation map and a corresponding analysis. These help to reveal the current participants on the technology's market and their IP strategies

Citation maps

- Consist of citations and references
- With the help of theses references (and the applicant data) found in patent applications, it is possible to outline the future market trends
- Thus, it is possible to constantly follow the market trends of a particular technology
- Citation maps also enable the enterprises to keep track with the **competitors** of their patents

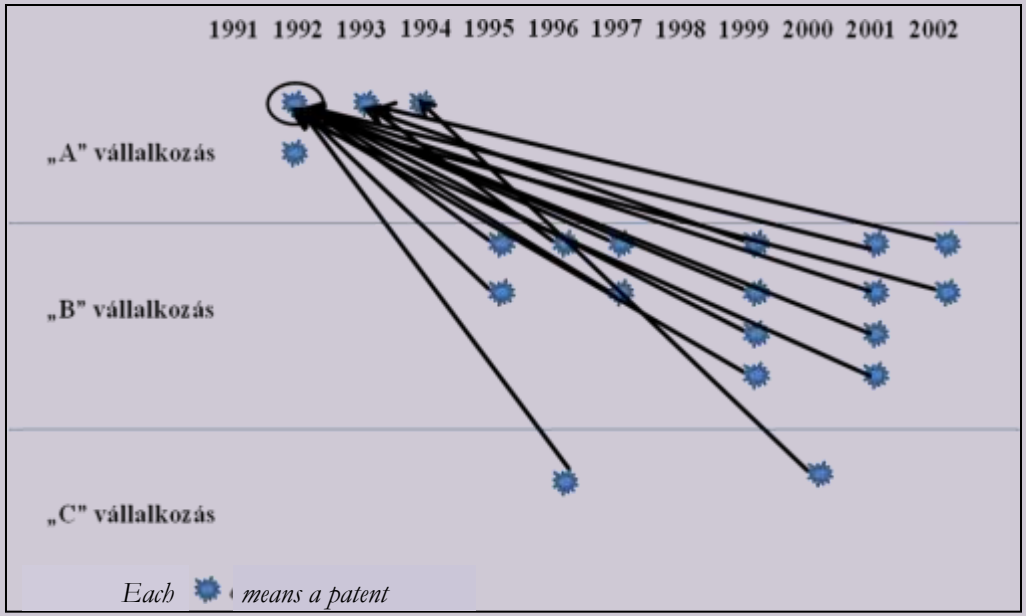
To determine the technology trends of an early phase technology:

- First, we have **to find the relevant patents by a prior art research** or a freedom to operate analysis
- Then, we can **draw the citation map** of these patents

- The map of patent references is based on the relationships of patents
- The map will show the relations among the patents of e.g. a start-up company and the patents of companies already on the market
- The density of the citations of patents will show what patents determine the technology's market trends the most
- For a company, it is useful to examine its patents and constantly **monitor the companies that cite its patents**

This figure shows the references to the patents of company 'A'. The first patent is cited the most out of the four. It is also apparent that the patents of company 'B' significantly refer to the circled patent of company 'A'.

Citation map of company 'A'



Source: Kayal (2001), p. 59.

- The evaluation method does not tell the exact value of a patent but enables to use the number of the references to estimate the possible competitors and thus the importance of the patent
- In general, the more references there are to a patent, the more valuable it is
- This evaluation method can be useful even to decide which patent is worth to maintain
- This method can be used in all the 3 development phases
- **As the technologies of universities and public-funded research institutions are mainly in the 1st phase, prior art researches, citation maps and cost-based evaluation methods are the most advised**
- **Thus, the evaluation is mostly qualitative, without metric indicators**


Thank you for your kind attention!