



The role of Intellectual Property (IP) in R&D-based companies: Setting the context of the relative importance and Management of IP

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Intangible Assets and Value Creation – some quotes

One of the major problems with today's accounting systems is that they are still based on transactions such as sales. In the current knowledge based economy much of the value creation or destruction precedes, sometimes by years, the occurrence of transactions.

This difference, between how the accounting system is handling, or better not handling, value created is the major reason for the growing disconnect between market value and financial information.

Baruch Lev, Professor of accounting and finance at New York University



Intangible Assets and Value Creation – some quotes

The fundamental difference in this new economy is that there is not a direct one-to-one relationship between an intangible asset and a financial outcome.

Intangible Assets represent only a potential value that can be reaped through the application of a strategic management system like the balanced scorecard

David Norton, co-author of the Balanced Scorecard concept



Intangible Assets and Value Creation – some quotes

Industrial Value Chain Processes no longer dominate value creation. Today it is innovation, it is seeking new ways of meeting market demands, that is yielding the highest return on investment. And that means that companies will have to invest into their Intellectual Capital.

Leif Edvinsson, Pioneer of the Intellectual Capital concept and its implementation at Skandia



Patents and their exploitation by PROs (Public Research Organisations incl. Universities)

- Six European countries reported a combined portfolio of approximately 9000 patents
- US PROs reported over 5100 new patents granted in 1999, over 8200 new filings
- US Universities had over 8600 income generating license agreements in the year 2000
- PROs therefore play a significant role in our industry, especially with regard to early stage technologies
- New industries, like e.g. biotech, IT have been build to a significant extent on academic research results and related Intellectual Property

Source: Turning Science into Business, OECD, Summer 2003

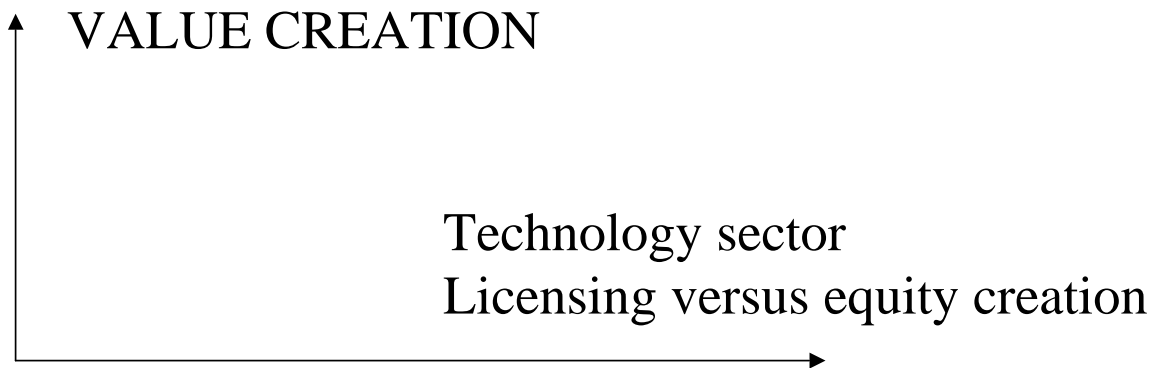


Brief Introduction of the Speaker

- Chief Executive of a Regional University Licensing company for over 10 years
- Director Business Development and Licensing at a large public research organisation for 3 years
- Chief Executive of a Business Development and Venture Capital Company for 3 years
- Now responsible for the licensing of the IP of the European Union Joint Research Center



Main focus of presentation

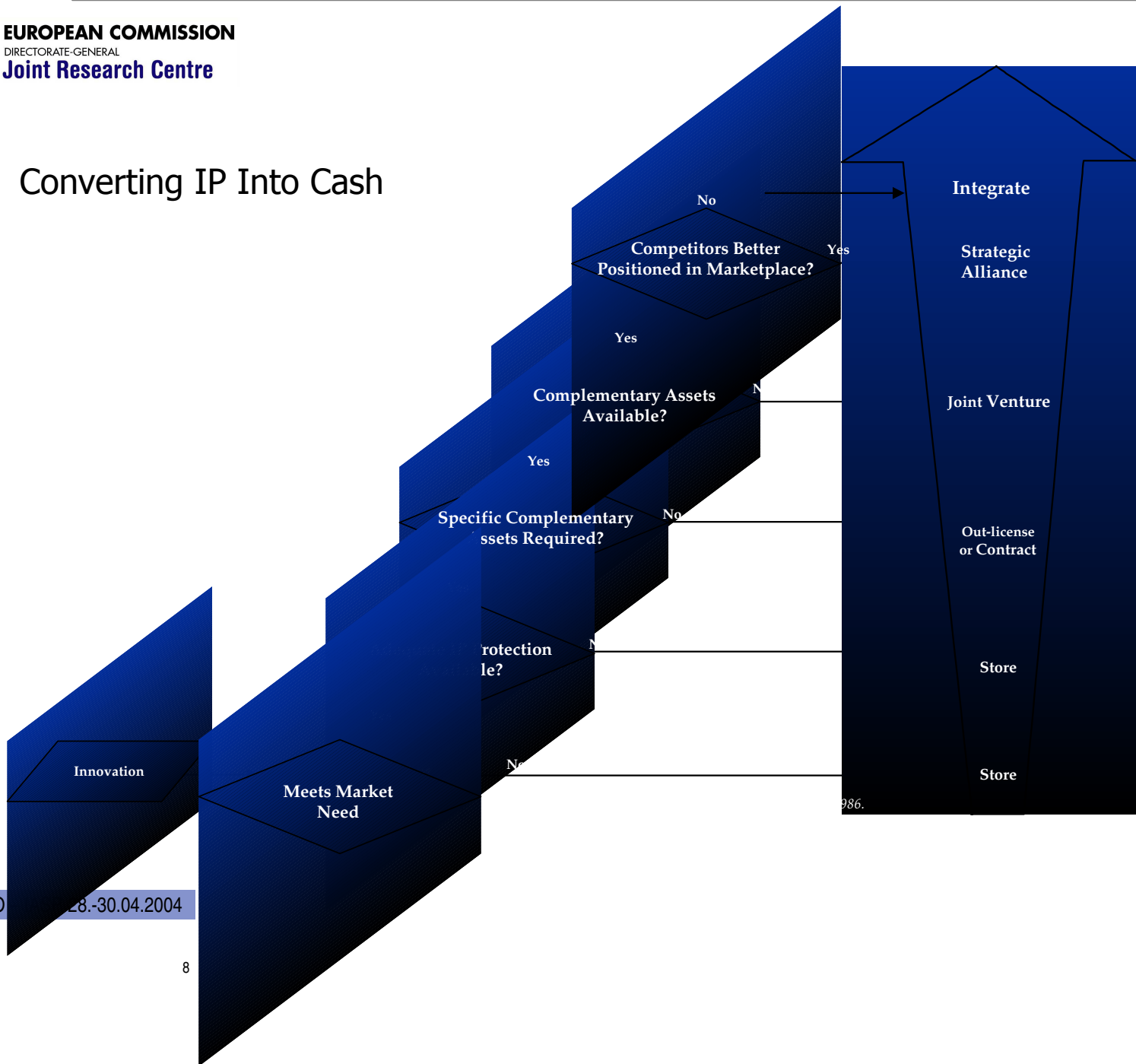


Looking at:

- Medical Devices
- Automotive Industry



Converting IP Into Cash





LICENSING vs. EQUITY

Massachusetts Institute of Technology

- In the early 80s among the first research institutions to focus heavily on the creation of start-up companies as opposed to a traditional licensing approach
- --> Reduction in royalty income
- MIT's economic impact studies on the licensing programme show a variety of positive technology transfer effects resulting from a focus on start-up deals
- MIT held equity in more than 100 companies in the end of the year 2000
- AUTM's 2001 survey quotes that 70% of 494 start-up deals in 2001 involved some form of equity consideration



Public Research Organisations (PROs) in Europe and start-up equity deals

- In some European countries there has been a tendency to adopt similar strategies
- Mainly Scandinavian, Benelux, UK and German institutions experimenting with this approach
- An estimate based on information obtained from the biggest German PROs points towards about 100 such deals that have been concluded in the last 5 years
- Which way should IA managers go?



An example in retrospect

- Fraunhofer Patent Center licensed medical device patent to a European start-up in the middle of the eighties; license coincided with large investment in the start-up by American multi-national
- Deal did not involve equity, 5% royalty in those countries where patent substantially granted and upheld, 50% reduction if in interference, opposition or nullity action
- However, 50% of proceeds from litigation against third parties, later reduced
- So far the license brought in more than \$100 million in royalties and other revenues, a substantial portion (about 90%) in the context of litigation
- Licensee group of companies sold in the end of the 90s--the sales price is publicly available information



An example in retrospect – What if they had taken equity ?

- IPRs were in an embryonic phase when licensed
- Substantial investment flowing in at the same time
- Company growing from 30 to a total of more than 2000 employees in ten years
- IPRs challenged heavily – in Germany, Europe and the US
- FDA approval took about 7 years
- Very likely that they would have received less than five percent equity in the first round of financing thereby heavily damaging the royalty conditions
- Dillution would have taken them down substantially



An example in retrospect – What if they had taken equity ?

- Sales price for the licensee group of companies around \$2 billion
- Roughly 20 times of royalty and litigation revenues
- You do the math !!
 - So far licensor received about 5 % of the value of the company just by straightforward licensing
 - Avoided all the potential risks of being a shareholder
 - But had there been an IPO, no upside in the deal



Equity versus royalties

- Taking equity in lieu of royalties is not a straightforward strategy (even disregarding the current extreme volatility in the markets)
- It needs to be weighed in the light of the different objectives of an IAM programme
- Are we doing equity deals just for the sake of profit maximization?
- Or do we have other topics on the agenda, such as future contract research income, regional economic development, creating jobs, etc.
- The core of the business of the IP and technology provider is still the License--and we need to take into consideration what can happen during the life of a successful piece of IP: mergers, acquisitions, interferences, oppositions, and large-scale litigation



Licensing in different technology sectors

- University develops engineering invention in the late 1980s
- Initial patent application filed in 1987
- Followed by a number of improvement inventions which were filed in the period of 1990 – 1994
- A number of collaborative projects with industry are concluded
- Negotiations with the entire industry (worldwide) are taking place
- The industry is interested in know-how exchange; nobody can be motivated to sign a license
- Patent portfolio is downsized but major pieces are kept in place in Germany and the US
- Co-inventor leaves the university and works for three different companies (during a period of about 6 years) who all pretend wanting to develop the invention and achieving market introduction; not one succeeds



Licensing in different technology sectors

- Co-inventor is approached by yet another company in the year 2000
- Major engineering company is introducing infringing product to the market in 2001
- Co-inventor approaches consultant for support with the filing of improvement patents before signing new employment contract
- At least three multinationals are openly discussing entering this market
- Co-inventor's new employer approaches the consultant; wants to license the entire portfolio
- Negotiations take a year; contract signed in 2003 – downpayments sum up to 2 million €

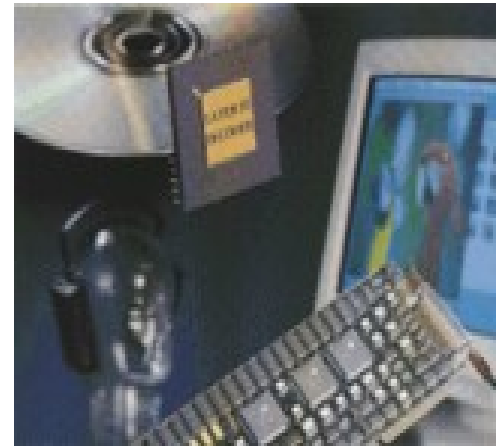


Licensing in different technology sectors – the MP3 case – Music from the Internet

Audio & Multimedia (AMM)

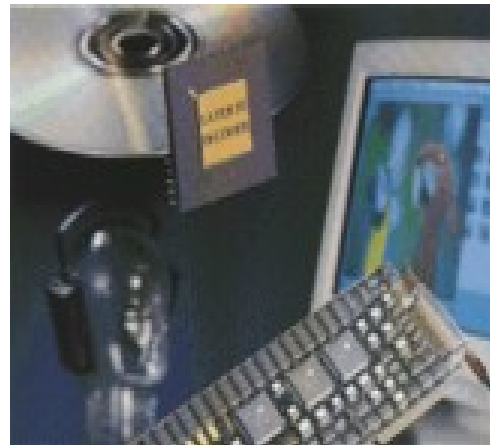
In the field of high quality low bit-rate audio coding, Fraunhofer IIS-A is the leader among the international research labs. They have been the main developer of the most advanced audio coding schemes, like MPEG Layer-3 (mp3) and MPEG-2 AAC (Advanced Audio Coding).

20 priority patents in about 10 years -
Portfolio prosecuted on a worldwide basis



Licensing in different technology sectors – the MP3 case – from the list of licensees

Apple, Alpine, Autodesk, Microsoft, MusicMatch, Toshiba, Toyota, Samsung, Sony Ericsson, Sun Microsystems, TDK, Matsushita, Yamaha, Johnson Controls, Kobe Steel, Fujitsu, Philips,





Conclusions

- Intellectual Asset Management is a multi-faceted business which requires an extremely longterm strategy in order to be financially successful
- Equity can work, but it introduces a large number of additional variables and risks into the equation
- IP licensing follows different decision-making paths in different technology sectors
- Signing a license is comparatively easy--making sure that the license works in an economical/financial sense is far more complicated
- Be prepared for anything that might go wrong in these relationships; and the likelihood that the licensor will have to go to court in order to secure the contractually defined benefits is high
- But that should not demotivate anyone!!