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# Final Report from the Expert Group on Intellectual Property Valuation

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European Commission

Final Report from the Expert Group on

# Intellectual Property Valuation

Research and Innovation

**EUROPEAN COMMISSION**

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EUROPEAN COMMISSION

# Final Report from the Expert Group on Intellectual Property Valuation

29th November 2013

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## Executive Summary

As intellectual property (IP) and intellectual property rights (IPRs) play an increasingly important role in corporate strategy, the accurate valuation of IP remains a major obstacle to their emergence as a tradable asset class. Though there are several generally accepted ways to measure the value of IP, the introduction of more transparency in IP valuation procedures may render the trading of IP rights significantly more efficient and profitable.

This report summarises the conclusions and recommendations of a European Commission (EC) appointed panel of European IP valuation experts drawn from a range of disciplines including those involved with accounting, business valuation, IP consulting, litigation and damage award activities. The panel's task was to consider how IP valuation plays a part in the policy for the "Innovation Union" and the bottlenecks that occur.

This Expert Group has received the mandate to review valuation methods for IP and their use; to identify bottle necks in the valuation methods used for the purpose of a company's financial reporting, access to finance and litigation; to identify good practices; and to recommend possible policy actions. Following the mandate given, this expert group has focused its analysis on IP and IPRs (excluding other intangible assets).

The intangible assets created through the processes of innovation represent a major share of the value of today's businesses. The IP rights associated with those assets are the legal underpinning for potential returns on investment in that innovation. Despite their fundamental importance, the understanding of IP and IP rights does however differ widely amongst businesses large and small.

There is a clear need to increase market actors' confidence and certainty in IP valuation methods as a way to stimulate IP transactions, to support IP based financing and to give companies the tools to provide information about their IP. This will also allow investors to better understand the business and the value of the company itself and even to provide decision makers with the required information to decide whether to enforce or to license IP.

However, the Expert Group has demonstrated that it is not the lack of valuation methods per se, or even standards for valuing IP that are missing, but rather other barriers that are having a greater influence on business and lenders. As IP is, by its nature, innovative and therefore different, each case for valuation requires investigation, rather than having an automated approach to IP valuation. As a result, IP valuation of a company's assets is an opinion, at a particular point in time – similar in many respects to the way that a legal opinion is given. Although an informed layman might proffer a good guess, it is important to note that in the same way that one cannot automate the judgement on a law suit, one cannot automate judgement on an independent IP valuation. There are many factors involved and evidence and purpose can have a large impact.

The valuation of IP assets is complicated by the fact that no two IP assets are the same. This is inherently the case when IP is protected by rights such as patents and trademarks, where a requisite for obtaining such rights is that the IP does not already exist. The uniqueness of IP makes comparisons with other IP difficult, thereby limiting the usefulness of comparison based pricing. As a result, valuations are often based on assumptions about the IP asset's future use, what important milestones will be met and what management decisions will be taken.

Valuation involves assumptions and judgement by the valuer derived from and justified based on a bespoke, rigorous analysis of the IP within its business context, together with its importance versus

other business drivers, broader industry and competitor constraints, dynamics and economic outlook.

Numerous valuation standards have been issued during the last years concerning different IP rights with different geographical scope and different regulation approach. They have different binding power for professionals, organizations or for certain applications. It is important to note that these standards and guidelines have no contradictory content. Also, from a content perspective they are quite homogeneous.

The bottleneck for the improvement of an IP market is not in the lack of accepted methods or standards, their content or consistency, but in the limited dissemination of the fact that they exist and the little confidence in their results.

This expert group has firstly investigated European best practice in IP valuation as performed by financial institutions that are providing capital, particularly to SMEs. This report presents the results of this research and their approach to IP backed financing – the successes and failures and whether IP valuation is actually carried out as part of the financing process.

The findings of the research carried out are summarised under the headings of equity financing and debt financing and some examples of current practice are provided. We note that there is a significant difference in the approach to lending to SMEs and start-ups compared with larger corporates that have a strong trading history. A solution is needed to fund the commercialisation of innovative ideas, with the value of the IP asset acting as collateral. Overcoming the barriers to lending against IP assets is therefore attractive at a national and European Level.

Equity investors typically invest into companies, but not into IP assets as such. The equity finance community considers the importance of IP when financing companies, however, the actual value of IP assets per se is rarely considered important. In general IP is evaluated but generally not formally valued in the regular banking, venture capital or private equity sectors.

The general consensus amongst those interviewed is that IP is too risky to be used as collateral for traditional loans. However, it must be noted that cases of intangible asset based lending (IABL) have occurred in certain circumstances. Combined asset based lending has been achieved whereby a bank provides a loan to a pension fund against tangible assets and the pension fund then provides a sale and lease-back arrangement against intangible assets. IABL from pension funds (on a sale and lease back arrangement) rather than banks, provides a route for SMEs to obtain loans that is gaining increasing attention. One reason given for this uptake in IABL between a company and director pension funds is the growing number of SMEs who have difficulties in securing bank loans.

In the Accounting and Reporting section the Expert Group reports that there are limitations on when and how it is possible to place the value of IP assets on the balance sheet of the company. The complexity of IP from an accounting perspective leads to problems in its reporting, which may result in the vulnerability of firms which base most of their performance on IP.

The existing regulatory situation implies that IP can only be recognised in rare cases, and mostly at historical cost based on a previous acquisition of such IP. It is difficult to recognise internally generated IP as, when the expenditure to develop the IP is incurred, it is usually unclear whether it will generate benefits in the future. As a consequence, an important part of internally generated IP is not recognised in the balance sheet of an enterprise, meaning that potential investors are not receiving some relevant information about the company.

The filing of a "management report" together with the annual report, giving detailed information about IP value, seems to be a useful vehicle to improve publicly available information on intangibles.

Finally, the Expert Group states that an issue that influences a company's decision to protect its IP, especially in the case of SMEs, is to what extent such rights are enforceable, the time and costs involved in litigation, and the foreseeable economic results. The quality of the enforcement system has an important impact in IP protection.

SMEs and large companies need to be assured an accessible justice system in case of infringement, validity and other IPR related litigation cases, which implies the need to provide judges and professional valuers with the appropriate tools and data to facilitate valuation in litigation.

As a result of the in-depth analysis carried out in all the mentioned areas, the Expert Group recommends a number of policy actions that could have a significant impact on reducing the identified barriers in order to increase the efficient use of IP valuation and to make such valuation flexible, transparent and reliable to respond to market requirements:

- Establishing a data source containing information for use by valuation professionals, as a way to enhance credibility of valuations by improving data and available information on IP transactions,
- Creating an organization to oversee IP valuation practice as a way to increase confidence in the quality of valuations being performed and to ensure that valuations are in line with generally accepted principles and standards,
- Introducing a risk sharing scheme for banks to facilitate IP secured lending to innovative companies, especially SMEs,
- Introducing an additional reporting section for intangible assets and IP that would increase the transparency of IP value within company accounts, providing important information to lenders, investors and stakeholders.

# 1. Introduction

> *Intellectual Property lies at the centre of economic success or failure*[1].

Intellectual Property (IP) and Intellectual Property Rights (IPRs) are still by and large seen through the legal lens, with a strong emphasis on Intellectual Property 'protection', rather than 'appreciation.' While the economic rationale for exclusivity is certainly valid, though also controversial, Intellectual Property needs to be seen as 'innovation in action.' IP bears the potential to make innovation economically functional and managerially controllable thus providing companies with an entry ticket to the market based economy and in this way creating additional value. IPRs allow selling, buying, trading or licensing innovation that has been made explicit and codified through the legal system. This means that IP can be used for various business purposes and like other forms of property; it can form the baseline of a secondary market, decoupled from the primary economic function of the underlying asset.

> *Intellectual property rights play an increasingly fundamental role in corporate strategy to maximize revenue and attract new investment. IPRs have substantially altered the competitive landscape of developed economies*[2].

The appreciation of the importance of IP to sustainable business value is still limited within many SMEs and financial institutions despite the successful good practice of a few. Many barriers can be recognised, by those practicing in the field, such as the complexity of IP development and protection, the costs of acquisition/maintenance etc. and the breakdown in communications around IP between companies' managers and decision makers who are not IP savvy. Nonetheless, some institutions are starting to grapple with the concept of lending against IP assets and should this practice become more widespread and understood, it presents a mechanism for encouraging innovation and economic growth.

Securing funding against IP assets is not the only factor that requires investigation and greater clarity. It is equally important that reporting practices allow such asset value to be transparently recorded. In addition, the ability to defend these assets and to claim damages also requires damage valuation to be transparent within the courts.

The present situation related to and the challenges facing IP valuation are investigated within this report in relation to three special issues, raising finance, accounting and reporting and litigation. These special issues are ultimately linked. Raising finance is a necessary and a key process for many business organisations in order to function. The availability and cost of financing will be determined by the organisations' ability to convince financiers of the significance of their operations, which increasingly is IP driven. A valuation of their IP would be such an indicator of IP significance. The organisation will need to provide information in a way that is accepted and is transparent. Linking the IP value with existing ways of company communication, such as including IP value in company financial reports could be one way to achieve this. Finally, the value of IPRs lies in their ability to exclude others from using the IP. IP valuation in a litigation environment is key to confirming and upholding the value of IP. Solutions to encouraging this ecosystem are investigated within the accompanying sections of the report.

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[1] Thurow, 1997
[2] Arora et al., 2001

## 1.1. The historical evolution of EC policy discussion in the field of IP value

Since the Millenium, the European Commission (EC) through its different Directorate Generals (DGs) has commissioned a number of studies and set up various expert groups devoted to various issues in the area of intangibles and intellectual capital, including IP and IPRs. The most relevant of these studies and reports are listed here.

- *The Intangible Economy – Impact and Policy Issues*, Report of the European High Level Expert Group on the Intangible Economy for DG Enterprise, October 2000;
- *Study on the Measurement of Intangible Assets and the Associated Reporting Practices*, prepared by the University of Ferrara, the Stern School of Business, and the University of Melbourne for DG Enterprise, April 2003;
- *Report on the Feasibility of a Pan-European Enterprise Data Repository on Intangible Assets*, prepared by Mantos Associates in association with IASCF and Athena Alliance for DG Enterprise, November 2004;
- *Reporting Intellectual Capital to Augment Research, Development & Innovation in SMEs (RICARDIS),* prepared by the High Level Expert Group on RICARDIS for DG Research, June 2006;
- *Creating a Financial Market for IPR*, prepared by the University of St. Gallen and the Fraunhofer Institute for DG Enterprise, December 2011.

Although different in aims, contents and authors, these studies and reports show the emergence of common denominators.

- The overall importance and centrality of intangible assets for today's and future enterprises and European development towards a knowledge-based economy, and the related need to establish incentives for the promotion of these assets as main value drivers.
- The transversal/horizontal nature of intangibles which deal with many areas of business and economic systems, but which also represents a feature that makes them difficult to cope with by institutions and policy-makers.
- The need for better information and indicators on intangibles at both micro- and macro-level in terms of companies and social systems (cf. the recent 3% revaluation of US Gross National Product with the recognition of some intangibles).
- Creating more developed markets for intangible assets (and therefore ownership rights over them) also creates a monopoly power over them (for the owners). Competition policy should make sure that such monopoly positions are not abused.
- The opportunity of, if not need for, leveraging on intangibles, and especially those with a legal recognition, such as brands and patents, for favouring innovative and more knowledge-consistent forms of bank financing for company growth and investment processes. This is particularly true for European research-intensive SMEs.
- Encouraging banks to refocus on IP in their evaluation and lending processes, involving in this also the national and international banking supervisory authorities;
- The need for developing new segments of financial markets devoted to the valuation, exchange and funding of IPRs and other intangibles, by creating the necessary pre-conditions and infra-structures for such markets to operate in an efficient and effective way on a European scale.

- Commonly agreed and generally accepted methods for IP valuation and IP accounting are relevant basic issues which may explain the difficulty to see intangibles in company annual financial statements and disclosures. This issue is particularly true for internally generated intangibles, such are – in many cases – the IPRs.
- The need for promoting by companies and professions a more advanced form of narrative reporting dealing with intangibles as crucial long-term sources of competitiveness and value creation. Promoting the sharing and knowledge of good practices amid companies and member states is a condition for a cultural shift.

It is quite evident that many of the listed points are inter-related and to some extent overlapping, and hence they cannot stand without the presence and the recognition of several others. In this respect, many of the above mentioned studies stress the importance that the European Commission can embrace an overarching and consistent plan to deal with IP and IPRs and their promotion, exchange, valuation and protection.

## 1.2. The policy context

The Innovation Union is Europe's innovation strategy, one of the seven so-called Flagship initiatives of the Europe 2020 strategy, the EU's growth strategy for the coming decade. The strategy is to create an innovation system in Europe where scientific excellence, a broad and strong knowledge base and the ability to bring results to the market and innovate are all included. It is recognized that there is a need to put more efforts and support so that the results and ideas created will more easily be turned into products and services that will create value and generate sustainable growth.

The Innovation Union takes a broader perspective on innovation than what is traditionally done (i.e. technological innovation), to include for example social innovation, innovation in design, service innovation, organisational innovation.

The work of this Expert Group provides support to the EC in implementing the Innovation Union by looking at a very specific issue; namely the valuation of IP. The policy context for the Expert Group on IP valuation is also provided by the Industrial Policy Communication Update and the Single Market Act II.

## 1.3. The context of this Expert Group's investigation

One of the conclusions and recommendations of the "*Creating a financial market for IPR*" report, states that:

> *"Our quantitative survey showed that, currently, the market actors consider the problem of evaluating [IP] as the greatest barrier to IP transactions. The lack of commonly accepted valuation methods has adverse effects on buyers' and investors' confidence, because the value of the asset is highly uncertain. A liquid market is driven by the actors' confidence. Furthermore, experts find the applicability of [IP] valuation methods highly debatable."*

The authors of this report agree that bottlenecks related to the valuation of IP and IPRs are a barrier for engaging in IP transactions. However, the authors of this report believe that the lack of commonly accepted valuation methods *per se* is not the main barrier.

This Expert Group has investigated the state of play across the EU and a number of different barriers faced by the market related to the valuation of IP. The investigation was focussed on three specific interlinked environments (Raising finance, Accounting and Reporting and Litigation).

The results of this investigation and a number of recommendations are compiled in this report.

## 1.4. Intellectual Property (IP) and Intellectual Property Rights (IPRs)

This report refers to the valuation of Intellectual Property (IP) and Intellectual Property Rights (IPRs). For clarity's sake, for the purposes of this report, the following definition provided by the World Intellectual Property Organization (WIPO) is employed:

> *IP refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce. IP is divided into two categories: Industrial property, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source; and Copyright, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programs.*[3]

Some of the concepts mentioned in this report, however, are linked to the broader concepts of intangible assets (IA) and intellectual capital (IC). This is necessary as a number of concepts and initiatives, for example in accounting standards and valuation standards focus on these broader concepts which nevertheless include IP and IPRs.

[3] World Intellectual Property Organization (WIPO) website, accessed 30 October 2013

# 2. Review of IP valuation approaches, methods and standards

When BlackBerry announced it would look for 'strategic alternatives' in the Summer of 2013, a range of corporations immediately provided a bid for its 5000 plus patents and nearly 4000 pending patent applications. Interestingly, the bid value that was provided for the portfolio ranged between 2 billion and 5 billion US Dollars. Certainly, these were at the first instance 'back of the envelope' made patent valuations, yet a differential in value of 3 billion US Dollars leaves a substantial spread[4] reflecting the different inherent values to the different potential bidders, their different purposes for use and approaches to monetisation. The BlackBerry case is not an exception, but rather a typical illustration of the challenges and uncertainties surrounding the valuation of IP.

## 2.1. The practice of IP valuation

As IP is, by its nature, innovative and therefore different, each case for valuation requires investigation, rather than a valuation being calculated automatically. As a result, IP valuation of a company's assets is an opinion, at a particular point in time – similar in many respects to the way that a legal opinion is given. Although an informed layman might proffer a good guess, it is important to note that in the same way that one cannot automate the judgement on a law suit, one cannot automate judgement on an independent IP valuation. There are many factors involved and evidence can have a large impact.

The valuation of IP assets is complicated by the fact that no two IP assets are the same. This is inherently the case when IP is protected by rights such as patents and trademarks, where a requisite for obtaining such rights is that the IP does not already exist. The uniqueness of IP makes comparisons with other IP difficult, thereby limiting the usefulness of comparison based pricing. As a result, valuations are often based on assumptions about the IP asset's future use, what important milestones will be met and what management decisions will be taken.

The use of valuation methods will involve assumptions and judgement by the valuer. All assumptions are derived from and justified based on the bespoke, rigorous analysis of the IP within its business context, together with its importance versus other business drivers, broader industry and competitor constraints and dynamics and economic outlook.

In the view of this Expert Group, with every IP valuation, there is an element of expert judgement involved. This is why a uniform and definite, line by line and totally consistently transparent calculation, to be used in all instances, cannot be written down – and it would be naïve and misleading to do so.

In addition, valuation is an interdisciplinary study drawing upon law, economics, finance, accounting, and investment. It is rash to attempt any valuation adopting so-called industry/sector norms in ignorance of the fundamental theoretical framework of valuation. When undertaking an IP valuation, the context is all-important, and the valuer will need to take it into consideration to assign a realistic value to the IP.

The use of methods is highly context specific. The context of the particular valuation will determine which method, or methods, is most appropriate for valuing a specific asset in a particular situation.

The following sections provide a general overview of valuation causes and widely used IP valuation methodologies.

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[4] IP Finance Blogspot, 'A Kodak Moment', 17 August 2013

## 2.2. Valuation causes

There are a number of reasons why IP may be valued. The most common valuation causes are listed here.

### 2.2.1. Management-oriented causes

Management-oriented valuations are usually carried out voluntarily, free from any outside obligation. The addressees of the IP value information are typically enterprise-internal and the information function is frequently cross-departmental. The IP department informs, for example, the management about the value of the IP portfolio.

Management-oriented valuation causes are characterized by the fact that the valuation subject matter is dominated by the complementary assets available in the enterprise environment. Usually the IP value will be substantially affected by the abilities of the enterprise and the corporate strategy.

A valuation is carried out according to future utilization and subjective influences will typically play a big role. The enterprise is interested thus to illustrate in the valuation its completely specific situation with its completely specific future possibilities. Typical questions are for example the research and development management or economic analyses.

### 2.2.2. Enterprise-related causes and causes under company law

Typical enterprise-related causes and causes under company law are signified by the fact that the valuation subject matter is characterized by the complementary assets available in the enterprise environment. Usually, the IP value will be substantially affected by the enterprise ability and the corporate strategy. Typically an IP valuation will be conducted with a future reference.

With special causes in the context of the valuation of a company there is an outside obligation for the valuation, for example with expropriations or for fiscal reasons (determination of the assessment basis). In these cases, an objectified valuation must be executed. In case of transactions, like the purchase or sale of enterprises, voluntary valuations are carried out for the negotiations and subjective valuations are usually used.

### 2.2.3. Transfer-oriented causes

Transfer-oriented causes are characterized by the fact that the value of the IP is determined from the point of view of the IP owner or co-determined by a transaction. This means that the IP owner is not acting alone any longer in his decisions concerning the economic conversion of the IP. For example, a licensee decides by his own economic and technical possibilities how the IP is converted. Usually, the valuation will take place according to the future benefit for a third party, because the transfer is accomplished due to the desire for a future advantage.

For negotiations, the valuation usually takes place voluntarily. The valuation subject matter depends on the transfer subject matter and the economic conversion. In case of voluntary valuations, predominantly subjective values are determined. With forced valuations, as for example with transfer pricings, high yardsticks are set to the objectification of the values.

The primary addressee group of the value information is in this case enterprise-external and is interested in an as objectified as possible valuation. In case of strategic considerations of the enterprises, the information addressee is internal.

### 2.2.4. Conflict-oriented causes

Conflict-oriented causes are characterized by the fact that the valuation usually does not take place voluntarily and primarily for a third party external from the enterprise point of view. Only the determination of a strongly objectified value is concerned. For conflict-oriented causes, two opposite views of the IP value are characteristic. The IP value is made available to third parties as information from the point of view of the IP owner (or former IP owner). The valuation aims partially at the damage already arisen in the context of a retrospective valuation (payment of damages) and at the future benefit for a third party (liquidation value, transfer prices). The valuation subject matter is in case of liquidation the IP itself in the buyer- and market environment, in transfer price determination the IP right in the environment of the subsidiary company and in case of payment of damages counts the economic benefit of the infringer (or the lost profit of the IP owner). IP valuation is also required in other cases apart from infringement, such as litigation regarding IPR invalidation, mandatory licenses, disputes on ownership, etc.

### 2.2.5. Finance- and accounting-oriented causes

Finance- and accounting-oriented causes are characterized by the fact that the valuation usually takes place for an external third party from the point of view of the enterprise. There are rules for accounting measurement and frequently the external obligation to carry out valuations. Depending on the questions asked there are retrospective valuations that are based on cost- (for example purchase price allocation), income- or market views (for example debt financing).

For the valuations, a high degree of objectification is necessary. However particularly with financial services also a view of the market environment and thus the IP asset's benefit potential for third parties will play a role in the valuation.

## 2.3. Qualitative approaches to IP valuation

Qualitative approaches to IP valuation provide a value guide through the rating or scoring of IP assets based on factors that are considered to proxies for IP value. These factors or "value indicators" can influence the value of the IP asset either positively or negatively. There are numerous methods presently used, each with different degrees of complexity.

In methods where the quality of the IP and it's environment are considered, the indicators used in these methods can include aspects such as legal and IP protection background, the technology and development level, the market for products utilising the IP, financial factors and the management competencies of the organisation that will use the IP. One can also decide which factors should have a greater importance. Ultimately, a combination of these factors acts like a proxy to the value of the IP accessed[5].

Other types of indicators may include information about the IP sourced from patent or trademark documents, such as number of citations and geographic coverage of IPRs. Using weighting and algorithms this information can be used to indicate a qualitative value for IP.

In order to assess the quality of a patent portfolio it is also possible to determine the strength of the patent claims. Such a claims analysis requires an understanding of patent drafting, the technology and the market and products on which the patent reads.

The result of qualitative methods will be a descriptive analysis and/or a score. This can be useful for management purposes, to assist with decision making and to communicate the significance of the

[5] Tirmale, 2013.

IP asset. Qualitative valuation methods are capable of accommodating a multitude of factors but do not give us an answer in monetary terms. This analysis is particularly useful as a part of due diligence and/or benchmarking but is also important for management related IP valuation causes.

*Input data required*

The input data required for qualitative methods will be details about the individual factors or indicators that are used as a proxy for IP value. Example indicators in the case of technology may include the level or IP rights protection related to the IP, the ease of identifying infringing products, the level of technological advancement and the competence of the organisation to bring products and services to the market. In qualitative methods which observe IP rights characteristics of an IP asset, for example patents, the input data may be patent metrics such as the number of forward references, the number of backward references, the number of claims, the length of the independent claims, claim strength, the remaining life, the market score, the technology score, the commercial score, and where applicable the foreign counterpart status[6].

*Possible sources of input data*

The main sources of input data would be the developer of the IP and the organisations that will incorporate any IP into products and services. Patent, trademark and design rights documentation and databases will also be sources of data.

## 2.4. Quantitative approaches to IP valuation

With regards to the valuation methods used by expert valuers, there are a combination of three methods used in accordance with international standards for IP valuation; the cost, market and income based approaches[7].

Quantitative approaches calculate IP value in money under a specific context and at a specific time. Within each of these approaches there are numerous different methods developed for specific contexts. The results of these methods will be a value range for the IP, expressed in monetary terms.

### 2.4.1. Income-based approaches

Income-based approaches seek to consider the value that is actually being realised by a business as a result of its ownership of the IP. Variations on the income approach to valuing IP assets provide a popular technique for IP valuation.

From a practical point of view, income based methods are the most relevant and widely used methods for valuing IP. However, the methods often involve using assumptions about the future use of the IP. Input data must be available and accurate for the valuation result to be correct. The principal IP valuation methods under the income approach are listed below[8].

- relief-from-royalty method, sometimes referred to as royalty savings method,
- premium profits method, sometimes referred to as incremental income method,
- excess earnings method.

[6] Adapted from IP Offerings enhanced patent valuation document – an example of a company who offers such qualitative valuations.
[7] See standards chapter of this report, Wurzer, A.J. et al., 2012, p. 388-445, and Pellegrino, M., 2012.
[8] Adapted from International Valuation Standards Council (IVSC) Professional Board Meeting documents, 03 November 2011

The key difference between these methods is the way that the income directly attributed to the IP is identified and separated from the total income attributed to a product or a process.

| For further detail on these methods see Appendix 2, Sections 1-4. |
|---|

*Discounting of future economic benefits*

Each of these methods involves the discounting of forecasted future economic benefits attributable to the subject asset (based on financial information) using a discounted cash flow or similar technique[9].

The heterogeneous character of most intangible assets means that it will seldom be possible to obtain reliable market data on discount rates for comparable individual assets. If the subject intangible asset is the principal asset of the business it is common practice to estimate the discount rate for an intangible asset by reference to the weighted average cost of capital (WACC) applicable to that business. However, the WACC rate may not be appropriate if the subject intangible asset has a distinct risk profile from the rest of the assets and liabilities utilised in the business or if there is other evidence that indicates an alternative discount rate[10]. Because of the limitations on deriving an appropriate discount rate from market data a so called the build-up technique is commonly used for valuing intangible assets[11].

*Input data required for income based approaches*

IP valuation methods under the income approach require a number of assumptions to be made namely the reasonable remaining useful life of the IP, and an appropriate discount rate (or weighted average cost of capital, taking risk into account) by which to obtain the present value of the future, hypothetical income stream.

All of the above need good due diligence and the valuation process quantifies remaining useful life and decay rates. This will quantify the shortest of the following lives: physical, functional, technological, economic and legal. This process is necessary because, just like any other asset, IPRs have a varying ability to generate economic returns dependent upon these main lives. For example, in the discounted cash flow model, it would not be correct to drive out cash flows for the entire legal length of copyright protection, which may be 70 plus years, when a valuation concerns computer software with only a short economic life span of 1 to 2 years. However, the fact that the legal life of a patent is 20 years may be very important for valuation purposes, as often illustrated in the pharmaceutical sector with generic competitors entering the marketplace at speed to dilute exclusivity when protection ceases. The message is that when undertaking a valuation using the discounted cash flow modelling, the valuer should never project longer than what is realistic by testing against these major lives.

Income approach methods require what is called prospective financial information for some of their inputs[12]. The input data required will include for example:

- revenues anticipated through use of the asset or asset group and the forecast share of the market;

[9] Adapted from IVSC Professional Board Meeting documents, 03 November 2011
[10] Adapted from IVSC Professional Board Meeting documents, 03 November 2011
[11] Adapted from IVSC Professional Board Meeting documents, 03 November 2011
[12] Adapted from IVSC Professional Board Meeting documents, 03 November 2011

- historic profit margins achieved and any variations from those margins anticipated taking account of market expectations;
- tax charges on income derived from the asset or asset group;
- working capital, capital expenditure requirements or replenishment costs of the business using the asset; and
- growth rates after the explicit forecast period appropriate to the asset's expected life reflecting the industry involved, the economies involved and market expectations.

*Possible sources of data*

Prospective financial information will be sourced from business plans, business forecasts and information provided to the valuer from the right-holder of the IP asset and third party experts.

### 2.4.2. Market-based approaches

This approach to IP valuation provides an indication of value by comparing the IP with identical or similar IP for which price information is available. The aim of a market-based approach to valuation is to base the value on comparable arm's length transactions for identical, or similar, assets. This methodology is attractive, being both credible and objective. Where information on such transactions exists, it generally provides the best benchmark for the value of the asset being valued.

Although the number of transactions which deal solely with the sale of IP assets (as opposed to the entire business) is increasing, the number of benchmark prices that can be obtained is still limited. Further, even where reliable transaction data are available, the characteristics of IP assets vary considerably and it is hard to adjust benchmark values to reflect the differences between the different assets.

In addition, the value of IP can be very dependent on who is using the asset, and how it is being used. Therefore, not only are data on the sale of IP assets uncommon, care must be exercised when using a benchmark value for an IP asset, as the price paid in one context may not be representative of the value of the same asset in a different context.

The general view of the group was that the use of direct comparators will never be achievable as each trade is -by its very definition - different.

There are a number of other market-based methods. For example, the relief from royalty method discussed under income-based approaches, and the residual value method.

For more information and detail on these methods see Appendix 2, Sections 1 and 4.

*Input data required for market based approaches*

Data required for the market based methods include:

- information regarding prices paid in similar transactions and
- the circumstances of the transaction that is being considered as a benchmark (relationship of parties etc.).

The valuer may not know the detailed terms, for example whether warranties and indemnities were given by the seller, whether incentives were involved, or the impact of tax planning on the transaction. Caution is required before relying on transactions where full information is not available.

*Potential sources of input data*

It is often the case that full information on a transaction may not be in the public domain, is difficult or impossible to obtain or may be subject to confidentiality. Potential sources of data include professionals in the industry or sector of the IP, IP transfer professionals and IP valuation professionals.

### 2.4.3. Cost-based approaches

There are two main cost-based methodologies that can be applied to valuing IP: historical cost and replacement cost. Both approaches seek to aggregate the costs incurred in developing the IP. Historical cost measures the actual cost incurred in creating the IP, whereas replacement cost quantifies the estimated cost of replacing the IP or creating an equivalent asset.

While historical cost-based approaches may satisfy the criteria of objectivity, consistency and reliability, their use has a fundamental drawback: there is not necessarily a correlation between expenditure on an asset and its subsequent value. For example, a patented drug developed at huge cost may never reach market because it unexpectedly fails to obtain regulatory approval. Similarly, the success of a brand may not reflect the costs incurred in developing it.

There are also practical difficulties involved in applying historical cost-based approaches, such as differentiating between expenditure that maintains the value of the IP, as opposed to investment expenditure that enhances its value, isolating the expenditure that is specifically related to developing the IP, the lack of relevant information on costs for older IP; and the need to adjust historical costs to reflect current prices.

The replacement cost approach overcomes these difficulties to some extent. The problem of translating a historical cost into a current cost does not arise, since this approach is based on current prices. It can, however, introduce an additional practical obstacle in that estimating the costs of recreating the IP can be subjective if no market benchmarks are available.

Where it is relatively certain (or at least highly likely) that, with a certain level of expenditure, it is possible to recreate the brand (or other IP) being valued, replacement cost also overcomes the issue that the link between value and cost is unclear. In this case, replacement cost represents the cost the business is avoiding through its ownership of the IP, and, in theory, should be the maximum a business is willing to pay to purchase or license the asset.

*Input data required for cost-based approaches*

The following packets of data may be required for the cost approach, either historically (historical cost method) or at the time of valuation (replacement cost method)[13]:

- Historical costs of developing the IP asset and their timings.
- Labour costs and any material costs involved in creating the asset.
- Cost of any advertising or other promotion required to create an asset of equivalent utility.
- Cost of any management time involved in project oversight.
- Legal, licensing and patent registration fees.
- Opportunity cost, i.e. the cost of any opportunities for alternative investment that would be foregone in order to develop an equivalent asset.

[13] Adapted from IVSC Professional Board Meeting documents, 03 November 2011

*Potential sources of input data*

In general sources of input data for cost based approaches will be from the accounts and business documents of the IP developer and the organisation which utilises the IP.

### 2.4.4. Multiple approaches used in combination

Because of the heterogeneous nature of many intangible assets there is often a greater need to consider the use of multiple methods and approaches to derive value than for other asset classes[14]. Having more than one set of results from different methods can give a more robust range of values and can bridge some obstacles in the availability and accuracy of information[15].

In practice – IP valuation experts use a combination of the above methods, cross-checked with cost and market approaches to value the IP assets in a company. That is part of the expectations of the standards used to test sensitivity.

### 2.4.5. Geographical distribution of methodology use

The methods used do not differ geographically, similar methods tools are used throughout Europe and in leading third countries, including the United States.

### 2.4.6. Recent developments in IP and IPR valuation methodology

The interest in IP valuation has been steadily increasing in recent years, particularly in the standardisation of existing approaches and methods. This is exemplified by the activity of a number of standardisation bodies where national and international discussions on the basic questions on the valuation of intangible assets (especially IP) came to a preliminary conclusion. However, there have not been significant changes in IP valuation methodology in response to the economic crisis of the late 2000s and early 2010s.

## 2.5. IP valuation standards

IP valuation standards are related to the specific task of performing proper IP valuations. At present there is a multitude of IP valuation standards set by different standardization bodies. They typically differ in terms of:

- their binding force,
- their geographical scope,
- their scope and regulatory depth,
- the valuation causes covered,
- qualification of the valuer,
- type of asset(s) valued,
- safeguarding quality standards, and
- regulation approach.

So far, the contents and recommendations of these different standards and guidelines are not contradictory in themselves. When the concrete recommendations are different, this is because of

[14] International Valuation Standards Council, International Valuation Standard 210 (2011)
[15] Kaldos P., 2013

the different purposes and fields of application (e.g. valuation causes) of these standards. So far, the developments from a content perspective are quite homogeneous within Europe and globally.

The fact that these valuation guidelines were established in different committees in national and international procedures adds great value to the results: The valuation of intangible assets usually is an interdisciplinary task that requires the competent consideration of information from distinct fields of knowledge. It shows that there is broad agreement of all parties involved on this fact as well as on how to integrate this information appropriately into the valuation procedure.

For more detail on IP valuation standards, see Appendix 3, Section 1.

For an overview of patent related valuation standards see Appendix 3, Section 2.

For an overview of trade mark related valuation standards see Appendix 3, Section 3.

## 2.6. The practice of IP valuation: The situation in 2013

### 2.6.1. Survey carried out by the Expert Group

A survey was conducted between March-May 2013 with the purpose of gathering general information about current IP valuation practices. Open questions were sent as an e-mail to 498 contacts in 3 sectors: Industry, Finance and Service Providers. The questionnaire comprised of 7 questions that investigated different aspects of the actual status of IP valuation practice. There were 40 responses that could be evaluated.

The questions in the survey are listed in Appendix 4, Section 1.

### 2.6.2. Summary of results from industry sector respondents

Whereas most respondents from the industry sector (more than 80%) report that their enterprises dispose of dedicated IP managers there is hardly any current IP valuation practice. Only few respondents say that IP is valuated systematically in their companied (~30%). The valuations performed are usually qualitative valuations. Monetary valuations are only conducted in one company of the target group.

Mergers and acquisitions (M&A) causes: More than half of the industry related respondents do not have any experience in IP valuation for M&A purposes. The ones who report in frequent IP valuations in the context of M&A are applying predefined valuation tools: check lists for due diligence, evaluation of the scope of each patent acquired (1), qualitative portfolio evaluation (1) or application of accounting standards for purchase price allocation (1).

Litigation causes: More than half of the respondents said that there are no litigation cases in their professional environment. The other ones report that they are performing valuations to estimate the risks that are incurred by concrete litigation. In doing so primarily qualitative technical and legal aspects are assessed. Monetary valuations seem only to be conducted in very rough estimations.

Accounting purposes: According to respondents not all firm accountants have an overview of the IA in the enterprise. The majority of companies do not state their intangible IA in the balance sheets (besides ones purchased from outside – due to the requirements set by accounting standards). If there is any reporting to investors then it is mainly expressed in statistics and lists.

Respondents from the industry sector are detecting the deficiencies in current IP valuation practice mainly in too complex valuation methods or valuation methods that are not tailored to their

respective industries. Besides they observe a lack of valuation experience and of IP valuation related knowledge.

### 2.6.3. Summary of results from finance sector respondents

According to the respondents in the finance sector there is no IP valuation method that is commonly used within financial institutions. None of the respective companies has dedicated IP experts, the finance companies rely on completely foreign expertise.

M&A causes: Only one respondent says they are performing M&A related IP valuations by using the "Discounted Cash Flow approach". For some respondents IP value is not important in M&A activities.

Accounting purposes: Respondents stated that their firm accountants are familiar with the existing IAs, although these IAs are mainly attributed to goodwill.

Respondents especially mentioned a lack of transparency of current IP valuations.

The respondents disagreed on the question whether systematic valuation methods would increase SME's access to foreign capital. Whereas half of the respondents thought that an improved view on the value of an SME's assets would raise the probability for getting loan the others pointed at the high valuation costs, the uncertainty of assessed values for the situation of forced liquidation and the fact that IP is "only" supporting the business model.

### 2.6.4. Summary of results from Service provider respondents

As can be expected the majority of responding service providers reports on the availability of IP management expertise in their enterprises. Most respondents do not have own IP that could be stated in the balance sheet. However, their companies do care about foreign IAs. There are some respondents who offer IP valuation as a service to customers. Doing so these service providers either favour a specific valuation approach / valuation method: income approach different methods (1), relief from royalty method (3), incremental income approach (1) or comply with specific valuation standards: ÖNÖRM A 6801 (1), IDW S5 (1).

M&A causes: Most service providers report that they provide M&A related valuation services to their customers. The most important service seems to be purchase price allocations (also pre-deal) to depict the deal in the buyer's balance sheet. The methods and instruments used for these valuations are in general the service providers' standard valuation tools (see question 1).

Nearly all interview partners agree upon the hypothesis that M&A could be facilitated by an improvement in IP valuation and corresponding training.

Litigation causes: Less than 30% of respondents said that they are providing valuation services in a litigation context. The ones who offer such services use the standard valuation tools (see question 1). Respondents disagree on the question whether more appropriate IP valuations would decrease IP litigation disputes.

Respondents pointed out the poor availability of comparative data which is needed in most IP valuation proceedings.

### 2.6.5. Recommendations or suggestions from the survey respondents

The respondents provided a great variety of ideas for the improvement of IP valuation in Europe. The suggestions range from the setting of very simple standards, the Europe wide adoption of existing IP valuation standards, the creation of registers containing dedicated IP valuers, the

acknowledgement of IP valuation as a profession, to better information and education on IP valuation issues.

Due to the fact that the answers are very heterogeneous and subjective they are not displayed in full. However, the following quote from a responded summarises the viewpoint of the service sector:

> *"Having an authoritative or regulatory body that sets standards and provided certifications on a global basis would improve the current limitations with regards to IP valuation work. This would not only improve the valuation situation in Europe, but set guidelines for companies operating in multiple jurisdictions. Education is another aspect and it parallels the use of a regulatory body. Education and awareness is key and currently education around IP valuation is self-taught, based on hands on experience, or based on reference book knowledge. As stated previously, the access to data and comparable transactions would greatly increase the IP valuation process and lead to more accurate analyses".*

# 3. Special Issues Section– IP valuation and Raising Finance

This Expert Group has investigated European best practice in IP Valuation as performed by financial institutions that are providing capital, particularly to SMEs. This report presents the results of the Expert Group's research on how financial institutions approach IP backed financing and whether IP valuation is actually carried out as part of the financing process.

This special issues section summarises:

- existing practice of raising finance using IP assets,
- the use of IP valuation as a tool to support IP based financing,
- existing bottlenecks for raising finance using IP assets.

## 3.1. Background

Many surveys and reviews are being, and have been, carried out in relation to the consideration of IP during lending processes. One example, the Athena Alliance Report was published in 2009 and is entitled "Maximising Intellectual Property and Intangible Assets". This report sets a background to the present study on the approaches that financial institutions have to IP and intangible asset based financing[16].

At that time, the Athena Alliance Report observed that any innovation that had taken place was not in the development of the financial products themselves, rather it was recognizing the value of intangible assets for corporate finance. The paper addressed the primary issues in intangible asset (IA) finance facing financial firms and companies alike by profiling successfully structured and completed IA debt-and-equity deals. Specifically, case studies were presented as models for intangible asset–based lending and intangible asset–focused equity investment

The report states that: "Uncertainty surrounding intangible asset valuation is the most significant obstacle to greater interest and activity in IA finance". Sometimes this is incorrectly interpreted as meaning that the methodologies uses are uncertain – this is not the case amongst qualified and expert IP valuers who follow the methodologies laid out in well published standards[17]. Rather, the following points summarize the primary challenges in the IA-based lending and equity investment sector, a position that has not changed significantly in the past 5 years.

- IA financing vehicles require flexibility and specialization to account for differing and unique factors inherent in intangible assets.
- A robust market for IAs is necessary to ensure appropriate and accessible liquidation events for financial firms with both debt and equity positions, especially in distressed situations. The recent proliferation of IA licensing and sales, including auctions, has added depth to this market. But with low recovery rates currently standard, greater awareness is needed to ensure that companies' and financial firms' IAs are valued correctly and licensed and sold at prices reflecting high return rates.
- Intangibles are important assets to be secured in lending and compare with the traditional assets of real estate, accounts receivable, and inventory.

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[16] Many financial institutions look at the total value of intangible assets on the balance sheet as opposed to the single elements of intellectual property (IP) and other intangible assets that contribute to that value. IP as referred to here in relation to IP assets comprises Patents, Trade Marks, Registered Designs and Copyright that have specific legal chain of ownership and documentation.

[17] See IP valuation standards section of this report.

- Even financial firms specializing in IAs rightly evaluate investment opportunities within the broader view of the profitability and growth potential of a target business. These holistic due-diligence processes, however, do not discount the independent value of many IA classes.
- Valuation methodologies used to provide lending against IAs are diverse and understandably imprecise; however, conservative loan-to-value ratios, advance rates, and other debt-and equity protocols allow firms to account more easily for the inherent imprecision of IA valuations.
- Intangible assets, as an asset class, provide financial firms with flexibility in structuring deals, allowing for both debt-and-equity vehicles and hybrid models. These vehicles can be adapted to address financing requirements for companies of all sizes and needs.
- The securitization market for intangibles, while suffering from the same problems plaguing the overall securitization market, provides additional mechanisms for companies with IA-licensing businesses. These companies can use a debt model to generate cash flow for positive assets or, more likely, use an equity model for pre-commercial phase assets.

There is a place for IA investments in the capital allocation process, even if it is not yet mature. IA-based finance will only develop if its return on investment (ROI) can compete with other asset classes, if it can rely on a variety of liquidation mechanisms, and if a number of mainstream financial firms get involved in this exciting market.

## 3.2. Intellectual Property asset finance models

In general SMEs have access to a range of financing options—from debt to equity to asset transfer. This spectrum of financing—equity, debt, and hybrids—offer smaller companies alternatives for meeting their early and mid-growth capital requirements.

The role of intangible assets and IP in the financing process is more often an indirect one, with IP playing a supporting part in bigger picture for the provision of loans and equity investments.

The Athena Alliance Report outlines an array of models for equity-and-debt financing targeting IAs that remain current and can be usefully used as an appropriate background for this report. Financing options where IP is central to funding transaction are elaborated below.

### 3.2.1. Equity financing

For start-up and smaller companies looking to raise capital, the first viable sources of funding are often angel and venture capital (VC) investors. Some of these recognise the importance of IP and may value IP, however many do not.

Companies that do secure venture funding find they often require additional backing. A number of financial options exist, including returning to the angel/VC community for another round of equity investment.

*Equity financing of companies with IP assets*

Equity investors invest into a company as a unit and not into IP *per se*. Therefore, investors using this model are financing IP indirectly. In return for their investment they receive an equity stake of a company with owns IP and intends to exploit the IP.

*IA-Focused Equity Investment*

Large investment banks and boutique private equity (PE) firms alike have raised and invested funds targeted at IP and other intangible assets. Broadly defined, these firms are targeting the traditional venture capital space, looking for promising early stage innovation and inventions. However, rather than looking for entrepreneurs and start-up companies, these firms are looking to invest in IP and IA for development and commercialization purposes, even before start up. While funds and firms often differ in structure, these enterprises work with companies to either buy the IP/IA or invest in the company for commercialization of the IP/IA.

### 3.2.2. Debt financing

On the opposite end of the spectrum, debt financing focused on intangible assets allows companies to structure deals without diluting equity investors. Loans are the traditional source of finance for small businesses and are usually used to finance buying assets and to meet other longer-term capital needs.[18]

For companies beyond the start-up phase, debt is often a more attractive option—both to finance on-going operations and to expand. When choosing debt, companies may opt for more traditional instruments, such as leveraging accounts receivable or inventory.

Debt is rarely the first option for a start-up company, apart from a few basic exceptions, such as inventory and equipment loans. Some companies may choose to pursue debt after an equity round.

The following cases articulate the pure intangible asset–backed loan (IABL), the securitized IABL, and syndicated loan structures with dedicated IP tranches.

*IP secured lending - Intangible Asset–Backed Lending (IABL)*

Financial markets for asset-backed loans (not necessarily intangible) are already well developed and take many forms: Consumer loans, such as home mortgages and auto loans for individuals are the staple of the credit and banking system. Inventory and equipment loans for businesses are available from either traditional banking sources or from specialized asset-based lenders. Specialized asset-based lending includes assets such as accounts receivable and extends from straightforward loans to complex lease-back arrangements.

Similar to these transactions, intangible asset–backed loans leverage a portfolio of IP or other intangible assets to secure a loan. For such loans, the interested financial firm values the IA and then structures the loan secured by the company's IA and/or a licensing agreement/royalty revenue stream tied to the IA (most commonly, an IP portfolio). Companies can use a single IA-backed loan. In such cases, only the IA and its revenue stream are used to secure the loan. In either case, companies can secure their IA in addition to a blanket lien against common collateral such as real estate or receivables. In the latter case, they may be able to receive additional capital by specifically securing an additional lien against the IA.

Some firms specializing in IABLs will serve as a credit enhancement agent to a larger bank or firm that ultimately lends the funds. These firms might partner with investment and commercial banks, and even private equity firms, to secure a line of credit for the target company to provide the larger institution with additional protections to offset the complexity and uncertainty surrounding IA valuations.

[18] LloydsTSB Bank website, accessed May 2013

*Securitizations in IABL*

The securitized IABL is a slight variation on the form of IABL discussed above.

Securitizations, as mentioned earlier, allow companies to grant a security interest in a particular revenue stream, whether current or prospective. In recent years, royalty financing arrangements, especially in the pharmaceutical and biotechnology sectors, are increasingly useful as sources of securitizations. These arrangements range from straightforward securities in royalty streams that are already cash-flow positive ("royalty interest") to more complex and risky investments in prospective future revenues from products that are still in the premarket/pre-commercial stages ("revenue interest" or "synthetic royalty" transactions).

The "royalty interest" securitization allows a company to sell the rights to an investor for cash up front or to sell a percentage of the rights for cash up front while still retaining a partial right to future royalty revenue. Either way, the investor is attempting to purchase the royalty revenue stream at a discount from what it will pay over its life.

The "revenue interest" securitization model follows the same structure but is simply executed earlier in the life of the patented or copyrighted entity—for the purposes of this definition, before the royalties have generated any revenue. Because the royalty has yet to generate revenue, the investing institution generally negotiates more favourable terms for itself due to the greater level of risk. Ultimately, the investor pays the rights' holder for part or all of the prospective royalty revenue stream in exchange for the rights to future royalty pay days.

Both the royalty and revenue interest models allow a seller to use future cash flows from an asset or group of assets to receive upfront payments from investors in exchange for a security interest in the revenue. The seller wants to monetize the assets immediately and the investor accepts future payments based on partial or outright ownership of the royalty rights. The seller is able to hedge the risk of unpredictable future cash flow from the revenue by taking the money up front; however, the investor attempts to accurately model and predict the revenue and gain in that upside, with most investment firms modelling for a 20 percent internal rate of return.

A "royalty interest" securitization can also serve as a debt vehicle because it is already revenue generating. This financing vehicle takes the securitization of the royalty revenue stream and collateralizes it for a loan rather than selling the rights. The appeal of this approach is in retaining the long-term profitability of the royalty revenues of a commercially successful invention. There are risks associated with borrowing that are inescapable, however: the interest payments on this mortgage of a blockbuster-to-be might be very large and unsustainable over time.

Financial firms will be concerned with the maturity of the cash flow; the life of the patent and, subsequently, the terms of the revenue stream; the consistency of the revenue stream; liability for infringement; and other factors related to the risk and potential of the royalty revenue. At the same time, the firm will be concerned with the creditworthiness of the licensees because, ultimately, those companies are the ones whose commercial viability impacts the financial firm's client's ability to repay the debt.

Companies that have not yet generated revenue on a particular product can pursue a variety of models that grant both debt and equity around the security in a prospective royalty revenue stream.

*IP as general collateral for loans*

More generally, IP assets are being increasingly written into the contracts governing broad asset-backed loans. While intangibles have always been included in a blanket lien on all assets, it is becoming more commonplace for creditors to focus their analysis more directly on intangibles, either as a separate asset or as an integral part of overall company value.

Apart from an independent Intangible Asset Based Loan (IABL), larger companies have also arranged funding through a dedicated amount of IA-secured debt within a broader lien structure, often a syndicated loan with multiple financial institutions. These types of loans utilize IP as general collateral.

*Alternative Model—Sale and Lease Back*

Apart from the debt-and-equity financing arrangements, the "sale lease-back model" is worth considering for companies looking to raise capital for further innovation and business development. The sale lease-back is employed by some companies to secure short-term funding by selling a portfolio of IP to a firm along with an agreement to receive a license for the IP to continue commercialization and business operations. The company receives immediate funding to reinvest in the business and the licensing firm structures the contract to pursue continued monetization of the asset.

These alternative and hybrid models show the adaptability of financial firms to structure IA-focused instruments to meet the needs of companies.

### 3.2.3. Blended Equity–Debt Models

Venture debt is a hybrid equity-and-debt model that allows companies to access capital in loan form while issuing warrants for equity in the company in addition to the interest paid on the loan. This structure gives the debt issuer a strong upside as an incentive to lend to an otherwise risky enterprise.

A number of financial firms employ the VC equity model for financing, yet its debt focus provides entrepreneurial, start-up companies another avenue for raising capital. Venture debt blends the early stage focus of the VCs with the lending competence of banks, while structuring deals that make this blended model worthwhile for the companies and investors alike. Firms such as Silicon Valley Bank offer, among other more traditional financing options, venture debt financing.

In most venture debt cases, the investing firm establishes an interest rate on the debt, taking into account the viability of the company and the current funding structure, as well as the reputation of the company's current funders. Interest rates can range from prime plus 1 percent to prime plus 5 percent, with loan terms varying from 24 months to 48 months. Additionally, the firm will likely require liens on all of a company's assets. The deal will also include warrants in the company to buy shares at a fixed price.

There is another set of private equity (PE) firms that target investments in companies with a critical focus on IP and intangible assets. These firms are not necessarily targeting raw or undeveloped IP assets for the purpose of monetizing the IP itself through licensing. Rather, these firms look for early stage or start-up companies with integral IP assets for the companies' intended markets. In essence, these firms screen their deals by looking for critical IP assets and the overall cash flow the companies generate. These models also often utilize a hybrid approach to equity investing, similar to the venture debt market.

## 3.3. IP valuation approaches used in financing institutions: The situation in 2013

A number of financing institutions were consulted directly in the UK, Sweden, Germany and Hungary about a company's ability to raise finance using IP as an asset. All types of financing institutions (debt, equity) were consulted to gain a thorough picture of the financing environment.

In addition, a number of questions in the online survey carried out by the Expert Group are directly relevant to raising finance using IP. Where applicable the answers to these questions are incorporated in the following section of this report.

The questions asked from financing institutions are listed in Appendix 5, section 1.

For a full list of the consulted financing institutions please see Appendix 5, section 2.

### 3.3.1. The findings from the surveys: whether IP is valued?

The findings of the research carried out by the Expert Group are very much in line with the Athena Alliance 2009 report. Observations are summarised under two main headings associated with Equity and Debt financing and some examples of current practice are provided.

We note that there is a significant difference in the approach to lending to SMEs and start-ups compared with larger corporates that have a strong trading history – and where exceptions to the general observations apply this is an important factor.

### 3.3.2. Equity financing - Equity financing of companies with IP

Equity investors typically invest into companies and not into IP assets. The equity finance community considers IP as important when financing companies. A below par IP environment or low quality IP can be a deal breaker in an investment for investors. However, the actual value of IP assets per se is rarely considered important. By and large, even if the institution looks at IP seriously, IP is not formally valued in the regular banking, VC, or Private Equity sectors. In general IP is evaluated but generally not formally valued.

- Liens, warrants and debentures on IP assets and figures relating to IP capitalised on the balance sheet may be reviewed – but as factors in a risk assessment as opposed to part of a formal IP valuation.
- VCs are more likely to base valuation on EBITDA multiples or other multiples related to track record etc.
- For those financing cash flow and not assets, due diligence of legal rights effecting the balance sheet and future cash flow is of greater importance.
- An IP audit is considered by some VCs as an important tool to assist the investment process by signalling the quality of the IP in possession of the investee. However, no formal valuation of IP is performed. There is more emphasis on market potential, human resources and returns on investment than on IP value. Growth prospects and profitability are given higher consideration than IP.
- Investors may consider formal IP valuation to be fruitless in the case of SMEs as ownership/validity can be challenged when companies are still nascent and small companies find it difficult financially to defend their position.
- IP Value may be of more interest to a VC at exit, especially if the buyer is a corporate.

- Financiers taking equity positions are also electing to take a charge over software assets, protected by escrow arrangements[19].

### 3.3.3. Debt financing - IP secured lending - Intangible Asset–Backed Lending (IABL)

The general consensus amongst those interviewed is that IP is too risky to be used as collateral for traditional loans. Some respondents noted that while IP is too risky as a sole basis for lending decisions, it may be considered as part of a loan package.

However, it must be noted that cases of IABL have occurred in certain circumstances.

Combined asset based lending has been achieved whereby a bank provides a loan to a pension fund against tangible assets and the pension fund then provides a sale and lease-back arrangement against intangible assets. IABL from pension funds (on a sale and lease back arrangement) rather than banks, provides a route for SMEs to obtain loans that is gaining increasing attention. One reason given for this uptake in IA backed lending between a company and director pension funds is the growing number of SMEs who have difficulties in securing bank loans. HSBC in the United Kingdom have provided an overdraft facility (processed directly from a good relationship with the bank manager, belief in the company manager and the product) subsequent to a sale and lease back arrangement from a pension fund and the independent valuation that had been provided during the transfer.

There have been instances where specialist lenders have entered into sale and licence-back agreements secured against IP assets, including trademarks and software copyright[20].

The first transactions leveraging brand assets to address pension fund deficits have been completed. Large organisations including Philips, GKN, Costain, Diageo and TUI have adopted imaginative structures that leverage IP and/or the income streams derived from it[21].

### 3.3.4. Examples of IP based lending and IP valuation at financial institutions

Clydesdale (and Yorkshire Bank) Growth Finance have a formal process for *evaluating* IP, when providing debt equity following VC investment, although the IP is not valued as such.

Swedbank primarily bases their lending on cash flow, and if the cash flow is deemed sufficient to service the debt, the bank looks at securitization (in which case the bank could ring fence the IP if they consider it crucial for the cash flow).

Italian Patent and Trademark Office, CONFINDUSTRIA, the Italian Banking Association (ABI) and other partners developed a patent evaluation “grid” and a design evaluation “grid” in 2008. The aim is for banks and investors to use the results of the evaluation method to determine the value of IP and to give finance. At the present time banks are not compelled to apply the grid for the enterprises to access the financial measures but it a preferential factor. Banking groups in Italy involved in the initiative are Medio Credito Italiano, group Intesa S. Paolo, Unicredit, Deutsche Bank. The actual use of the grid and success indicators is unclear.

The Small Business Development Company Ltd. (KvfP Zrt.) in Hungary is introducing an equity-debt hybrid financing product for technology intensive SMEs. The company takes up to 49% equity in SMEs. The financing involves the sale of equity back to majority owners or third parties after 5 years. IP can be considered as collateral.

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[19] Intellectual Property Awareness Network (IPAN) Brief - no. 18, April 2013
[20] ibid.
[21] ibid.

For a full list of consulted financing institutions and further details of these case studies see Appendix 5, Sections 2-3.

### 3.3.5. Existing frameworks that enable finance to be raised against IP assets.

It was clear from the responses to the consultations that specific frameworks or regulations already exist which are enabling factors for raising finance using IP.

*UNCITRAL Supplement on Security Rights in Intellectual Property*

The UNCITRAL "Legislative Guide on Secured Transactions: Supplement on Security Rights in Intellectual Property" is an example of a framework regarding the creation of a legal basis for IP securitization and IP based lending (IABL). The overall objective of the Supplement is to make credit more available and at a lower cost to IP right holders, thus enhancing the value of IP as security for credit. At the same time, the Supplement seeks to achieve this objective without interfering with fundamental policies of IP law. However, to date no EU member State has implemented it into national legislation[22].

*Recording of assignments and security interests in patent documentation*

Many patent databases support IABL and the establishment of security interest in IP by allowing the recording of assignments, licences, security interests and changes of ownership in the patent and trademark documents.

*Tax regulator rules in relation to asset based lending from pension funds*

Tax regulator rules in relation to asset based lending from pension funds are more flexible than companies think which means that IP assets can be used to secure finance. The regulation drives the requirement for a formal IP valuation if a connected party is involved in the asset transfer.

### 3.3.6. Barriers preventing IP being valued

The general conclusion of the Group from the responses of the surveys and from direct experience is that IP is not generally being formally valued except where there are particular regulatory requirements to do so. Some of the obstacles cited by respondents are summarised below.

### 3.3.7. Obstacles in the use of IP value and IP valuation in IP based equity financing

The process of incorporating a value of the IP has not been necessary within the investment decisions of equity financiers. There is limited acceptance of IP value considerations and IP valuations in the investment process.

Consequently, investment criteria for an IP owning company under equity financing do not necessarily prioritise the value of the IP. Other factors related to profitability, human resources and returns are considered by investors. The question still exists as to whether investors would be more successful if they considered IP value in their investment choices?[23]

### 3.3.8. Obstacles to IP valuation for IP secured debt financing

Many of the respondents in our survey highlighted similar obstacles preventing IP secured debt financing.

[22] Information provided by Senior Legal Officer at UNCITRAL Secretariat
[23] Coller IP Management, "Management, management, management or what?", 2013

*IP has limited liquidity*

"Markets for resale of IP and intangible assets exist, but are presently less formalised and offer less certainty on realisable values"[24]. In the case of default, IP is difficult to sell to recover sums owing. There is no firmly established secondary transaction market for IP assets (even though some assets are being sold out of insolvency) where value can be realised and therefore this reality and perception limits certain financial institutions' (particularly banks) willingness to lend against IP. Banks do not have the knowledge to „store" or „sell" IP. In addition, in the case of forced liquidation, IP asset value can be eroded.

*High administrative costs of small-scale lending*

Pre-qualification and risk assessment of borrowers is relatively expensive on a small scale. The costs may be higher as banks have little expertise with IP as collateral.

*High risk perception attributed to IP assets as collateral*

Information asymmetry is a core reason commercial banks are generally reluctant to provide loans to SMEs. In most instances, SMEs are unable to provide information on their creditworthiness they tend to lack appropriate accounting records and collateral. This leads to uncertainty on the project's expected rates of return and the integrity of the borrower. Gathering such information on SMEs can be challenging and costly[25]. There is a clear link here with the need to communicate the significance and vale of IP assets in reports, and this issue is elaborated in the Accounting and Reporting section of this report.

*Banks' understanding of IP value*

Better informed lending decisions – obtaining insights into off-balance sheet assets (which generally include most, if not all, of a business's IP and intangibles) provides lenders with a more representative picture of a company's resources and value[26]. Lenders need to gain confidence in managing the particular risk profiles associated with these assets. This involves familiarisation, training, and the adoption of recognised standards for intangible asset value management. Banks are not equipped with sufficient knowledge relating to IP assets and IP value. Risk assessment does not consider the valuation of IP as a supporting process.

Internally generated IP is seldom represented on company balance sheets. It is therefore incumbent on a company's directors to understand and explain their IP and intangibles in language a lender will understand.

*Insolvency Practitioners understanding of IP value*

Similar comments apply as to those summarised for the banks above which in turn inhibits the formation of a secondary market and vice versa. The three factors relating to banks, insolvency practitioners and liquidity throughout the intangible assets' life cycle all act to inhibit consideration of IP value.

[24] Intellectual Property Awareness Network (IPAN) Brief - no. 18, April 2013
[25] Organisation for Economic Co-operation and Development (OECD), accessed November 2013
[26] Intellectual Property Awareness Network (IPAN) Brief - no. 18, April 2013

*Changing value of IP assets*

IP value can change within a short amount of time. IP has a limited shelf life. Thorough understandings of the factors that affect the IP value need to be understood by both the lender and borrower. As stated previously, factors such as forced liquidation can have an impact.

*Basel III regulation*

Acting perhaps against the inclusion of intangible asset value is the upcoming banking regulation, Basel III. The Basel Accords are a set of rules on banking regulations in regards to capital. Basel III is a series of additions to the existing accords designed to limit the likelihood and impact of a future financial crisis. It requires banks to hold more higher-quality capital against more conservatively calculated risk weighted assets (RWAs). It also looks to ensure sufficient liquidity during times of stress and to reduce excess leverage. The latest draft states that Institutions shall determine the intangible assets to be deducted from CET1 capital in accordance with the following:

(a) the amount to be deducted shall be reduced by the amount of associated deferred tax liabilities that would be extinguished if the intangible assets became impaired or were derecognized under the relevant accounting standard;

(b) the amount to be deducted shall include goodwill arising from the valuation of significant investments of the institution.

## 3.4. Further observations on IP valuation for Raising Finance

There are a number of other factors cited that impact on the acceptance and uptake of IP Asset Based Lending and/or the drivers to have IP valued and these are included below.

### 3.4.1. IP is not on the balance sheet of the vast majority of SMEs:

The "bubble" in the trading of large patent portfolios has influenced the view of the value of IP, particularly amongst the larger corporates. Whilst it is recognised that awareness of the use of IP is greater than 4 years ago, a broad ranging survey of IP ownership in SMEs carried out by a pension fund advisor[27] found that 84% of those surveys valued the IP at ZERO. Of the remainder only 6% placed a value on the IP greater than 10% of the business value

### 3.4.2. The IP commercialisation process is uncertain

According to one respondent "a main issue is that you hardly know what will become substantial IP until you are out of the development stage and have a track record, no matter what theoretically correct valuation technique you use."

### 3.4.3. It's not about the mechanics of the valuation process:

According to one respondent "there would not be more bank financing of development stages of what could become IP just because there was a formal valuation process".

## 3.5. Methodologies for the valuation of IP in the context of raising finance

In relation to raising finance using IP, it is clear that IP assets fall into two categories; IP assets which already produce a revenue stream and those that do not. In the former case the securitisation of the existing revenue stream aids the IP valuation process by providing objective information about income. In the second case many more assumptions need to be made regarding

[27] Information provided privately.

the future of the IP asset. These cases, while using similar IP valuation methods will be fundamentally different due to the source and reliability of input data.

### 3.5.1. Suitable IP valuation methods

For the valuation of IP in relation to raising finance a value-in-exchange for the IP asset is required. In certain cases such as when valuing collateral for loans, a lower liquidation value may be required as the assets may need to be disposed of within a set amount of time. As this is the case market based or income based approaches are most suitable for this purpose.

If income based approaches are used the economic benefits attributed to the IP asset itself must be separated from the economic benefits attributed to the product which utilises the IP. If the revenue stream attributed to an IP asset is in the form of an existing royalty fee structure then this may be accepted as the income from the IP. If a product or service is commercialised directly, the income attributed to the IP may be separated using the relief-from-royalty method, premium profits method (sometimes referred to as in incremental income method) or the excess earnings method. These are elaborated in the methods section of this report.

Variations on the income approach to valuing IP Assets provide a popular technique for IP valuation. The Relief from Royalty approach is probably most useful considering the type and source of information required for the valuation in this context. In practice – IP valuation experts use a combination of the above method, cross-checked with cost and market approaches to value the IP assets in a company. That is part of the expectations of the standards used to test sensitivity.

## 3.6. Conclusions – IP valuation and Raising Finance

For many expert IP valuers, it is not the valuation methods per se or the lack of data per se that are seen as the barrier to raising IA based finance. It is the combination of the obstacles highlighted in this chapter which prevent the wider uptake, particularly the lack of liquidity through an established, free secondary market and the perception of risk related to lending against IP Assets.

Striving to find a simple, risk free method that can be used by all to value IP may not be the answer to unlocking the barriers to IP backed lending.

Many of the barriers discussed in this report are likely to be addressed as the market gains greater experience in IP transactions and as IP becomes recognised as a tradable asset. However in order to enhance market confidence in IP having tradable value and monetise innovative ideas, market intervention is required in relation to reducing the real or perceived risk to lenders.

### 3.6.1. Policy Recommendations in the field of raising finance using IP

The respondents to the survey provided a great variety of ideas for the improvement of IP valuation in Europe. The Expert Group proposes the following recommendations:

- That provision be made through establishing a European facility that will underwrite the risk to lenders for IP asset based lending.
- That the credibility of IP valuations is enhanced by improved valuation information especially by collecting information and data on actual IP transactions in a suitable form so that it can be used to support IP Asset based lending decisions.
- That greater establishment and recognition of IP valuation qualifications and experience, providing greater confidence through use of a wider and larger dataset of transaction data and

encouraging more transactions may have a greater impact in establishing the free market required to reduce the perceived risk of lenders financing innovative SMEs against IP assets.

- That requirements and mechanisms to report greater IP data relating to value are investigated.

The above proposals are elaborated in the proposals section of this report.

# 4. Special issues section – IP valuation and accounting and reporting

> *"Intangible assets go unrecorded (or under-recorded) on the balance sheet…. we know that the [accounting] standard [IAS 38] is rudimentary because it is based on historical cost, which may not reflect the true value of the intangible asset"*[28].

The question of how to report intangible assets has been under debate since the turn of the nineteenth century (e.g. Dicksee, 1897), Financial Statements (FS) appear still largely based on tangible assets - such as building and machinery - as primary bases for reporting. Intangible assets are until now treated in a more exploratory, if not suspicious, way, as it will be documented by the following sections.

This special issues section summarises:

- The situation on IPR/IP valuation from an accounting/auditing and reporting standpoint.
- Existing treatment of intangible assets within accounting and reporting
- existing bottlenecks for valuing IP and incorporating IP value in Financial Statements.

Accounting standards generally refer to intangible assets, and this special issues section will refer to intangible assets (IAs) where standards do so. IP and IPRs are considered to be intangible assets and are therefore included in the definition.

## 4.1. Background

The rules in relation to recording the values of IP assets in Financial Statements (FS) are well documented. To the extent that values are allowed to be reported, these are currently considered by reference to traditional IP valuation methods. However, there seems to be a disconnect between the real value of IP/IPR and financial reporting.

There are limitations on when it is permissible to place the values of IP assets on the balance sheet of the company that owns them. In general, this placement is permitted when the IP assets have been acquired, and/or a purchase price allocation has been performed. By contrast, a significant proportion of internally generated IAs is not recognised in the balance sheet of an enterprise

Whilst, in most circumstances, this reduces the information available to users of financial statements, there are good reasons why these restrictions are in place.

Firstly, there are greater difficulties in valuing IP assets than many other assets because of fewer reference points being publicly available. These valuation difficulties are overcome to some extent when assets are purchased from a third party because the price paid represents an independent reference point. Even where it is a business as whole that has been acquired rather than individual IP assets, there is at least a reference point for the value of the business, which provides an anchor point for a purchase price allocation.

Secondly, the value of IP assets is highly contextual. The value-in-use to one owner may be very different to the value-in-use of a different owner. In particular, the value of IP assets can fall much more rapidly in situations of financial distress compared to other, tangible assets. Many users of financial statements are interested not just in how the business has done, but also in what security exists in the event things go wrong in a business: the balance sheet is one of the principal pieces of

[28] Hans Hoogervorst, Chairman of the International Accounting Standards Board (IASB), June 2012.

information that is available to help stakeholders understand the financial position of a business. Incorporating IP assets on the balance sheet, particularly those assets whose value has not been tested in the market (through a transaction of some sort), can give a false picture of the financial viability of a business.

## 4.2. The treatment of intangible assets in accounting regulations

An important feature is that in the European Union there are two levels of accounting regulation: the international level, which corresponds to the International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB), which apply compulsorily to the consolidated financial statements of listed companies and voluntarily to other accounts and entities according to the choices of each country legislator, and a national level, where the local regulations are driven by the European Accounting Directives which have been issued from 1978 onwards, and which apply to the remaining accounts and companies in each country.

### 4.2.1. International Accounting Standard (IAS) 38: an overview

The first international standard on recognition and measurement of intangible assets was International Accounting Standard (IAS) 38 "Intangible Assets", which was first issued in 1998. Even though it has been amended several times since, there has not been any significant change in its quite conservative approach to recognition and measurement of intangible assets.

*Intangible assets (IAs)*

Broadly speaking, an asset is a resource that is controlled by the enterprise as a result of past events (for example, purchase or self-creation) and from which future economic benefits (inflows of cash or other assets) are expected to flow to the entity. An intangible asset is defined by the standard as an identifiable non-monetary asset without physical substance.

In general terms, there is a specific reference in IAS 38 to IP and indirectly to IPR in the introductory paragraph 9, which states:

> *"Entities frequently expend resources, or incur liabilities, on the acquisition, development, maintenance or enhancement of intangible resources such as scientific or technical knowledge, design and implementation of new processes or systems, licenses, intellectual property, market knowledge and trademarks (including brand names and publishing titles). Common examples of items encompassed by these broad headings are computer software, patents, copyrights, motion picture films, customer lists, mortgage servicing rights, fishing licences, import quotas, franchises, customer or supplier relationships, customer loyalty, market share and marketing rights."*

However, in paragraph 10 of IAS 38 it is clarified that:

> *"Not all the items described in paragraph 9 meet the definition of an intangible asset, i.e. identifiability, control over a resource and existence of future economic benefits. If an item within the scope of this Standard does not meet the definition of an intangible asset, expenditure to acquire it or generate it internally is recognised as an expense when it is incurred. However, if the item is acquired in a business combination, it forms part of the goodwill recognised at the acquisition date."*

Indeed, in order to recognise an IA on the face of balance sheet IAS 38 requires recognition of the IA.:

> *"The recognition of an item as an intangible asset requires an entity to demonstrate that the item meets:*
>
> *a. the definition of an intangible asset; and*
>
> *b. the recognition criteria."*

As mentioned, the three critical attributes for having an IA that can be defined as an asset for accounting purposes, are identifiability, control and future economic benefits flowing to the entity.

The recognition criterion of identifiability is described as follows in paragraph 12 of IAS 38:

> *"An asset is identifiable if it either:*
>
> *a. is separable, i.e. is capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset or liability, regardless of whether the entity intends to do so; or*
>
> *b. arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations."*

"Control" is an essential feature in accounting and is described as follows in paragraph. 13 of IAS 38:

> "*An entity controls an asset if the entity has the power to obtain the future economic benefits flowing from the underlying resource and to restrict the access of others to those benefits. The capacity of an entity to control the future economic benefits from an intangible asset would normally stem from legal rights that are enforceable in a court of law. In the absence of legal rights, it is more difficult to demonstrate control. However, legal enforceability of a right is not a necessary condition for control because an entity may be able to control the future economic benefits in some other way."*

However, paragraphs 14 to 16 of IAS 38, provide a good description of the difficulty of accepting IAs in company financial statements.

For details of paragraphs 14-16, see Appendix 6, Section 1.

As aforementioned, in order to have an IA recognised as an asset on company balance sheet, such intangible has to satisfy also some specific accounting recognition criteria, which are delineated in paragraph 21 of IAS 38:

> *"An intangible asset shall be recognised if, and only if:*
>
> *a. it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity; and*
>
> *b. the cost of the asset can be measured reliably".*

### 4.2.2. The differing treatment of internally generated and acquired intangible assets

The recognition criteria illustrated above are deemed to be always satisfied when an IA is acquired by a company from an external party at a price. Therefore, there are no particular problems to record an acquired IA on the balance sheet of the company at the consideration paid (historical

cost). Quite a different situation in accounting and reporting terms according to IAS 38 is when an intangible asset is created/developed internally by a company, which is a frequent occurrence as to IP and IPRs.

#### 4.2.3. EU Accounting Directives

Over the past 35 years, accounting standards in most EU Member States transposed from the EU successive Accounting Directives have tended to adopt similarly restrictive criteria for recognition of IAs and IP, and allowing only measurement at historical cost.

By contrast, the Accounting Directives are relatively silent and therefore permissive about this. For instance they foresee a caption in the balance sheet for IAs that are either acquired or created by the undertaking, the latter being in so far as national law permits their being shown as assets. The new EU Accounting Directive no. 2013/34, that has been approved on 26 June 2013, and must be implemented by Member States in the next two years, continues to allow for the recognition of internally generated IAs, and also confirms the ability as an alternative measurement to historical costs (option for Member States), to revaluate fixed assets including IAs subject certain conditions are met. The basis of measurement shall be defined by each Member State using this possibility.

Reference to such rules in the EU Accounting Directive are included in Appendix 6, Section 3.

### 4.3. Recognition and measurement of intangible assets within accounting and reporting

#### 4.3.1. Recognition and measurement of internally generated intangible assets

It is with *internally* generated intangible assets where IAS 38 (and other accounting rules and regulations) introduces important differences in the treatment of these assets. This is the area which is currently the subject of much debate among regulators and other stakeholders.

Conceptually, there is no reason for treating internally developed IA differently from the externally developed one. However, in practice, it is often difficult to recognise internally generated IA because, when the expenditure to develop IA is incurred, it is often very unclear whether that expenditure is going to generate future economic benefits. It is this uncertainty that prevents many IAs from being recognised as they are being developed (as an enterprise would normally account for an internally generated tangible asset). It is this perceived lack of reliability of the linkage between expenditures and future benefits that pushes towards the treatment of such expenditures as period cost. It is not until much later, when the uncertainty is resolved (e.g. granting of a patent), that an IA may be capable of recognition. As current accounting requirements primarily focus on transactions, an event like the resolution of uncertainty surrounding an internally developed IP asset is generally not captured in company financial statements.

This position means that a significant proportion of internally generated IAs is not recognised in the balance sheet of an enterprise. As a consequence, investors are not receiving some very relevant information about the enterprise.

#### 4.3.2. Recognition of research and development costs

Research and development (R&D) is one process of internally creating certain types of IAs. The accounting treatment of IAs created in this way is, therefore, significant for this discussion.

Among accounting standard setters, including IASB with its IAS 38, the most frequent practice is to require the immediate expensing of all research costs. However, France, Italy and Australia are examples of countries where national accounting rule makers allow the capitalisation of research

costs subject to conditions being satisfied (though, in practice, these conditions can rarely be satisfied for research costs)[29]. This is driven by the fact that Australia and France prescribe the same accounting requirements for both research costs (or applied research costs in the case of France) and development costs. Presumably, this is due to the difficulties in differentiating between these costs.

The IASB has attempted to avoid some of the problems of differentiating clearly between research costs and development costs by also employing the terms "research-phase costs" and "development-phase costs" in IAS 38. In particular, if it is not possible to determine which phase a cost has been incurred in, it is deemed to have been incurred in the research phase and the cost is required to be immediately expensed.

### 4.3.3. Condition-based capitalisation

In some circumstances, internally generated IAs can be recognised when the relevant set of recognition criteria is met, and in particular the existence of a clear linkage of the expenditure to future benefits accruing to the company (*condition-based capitalisation*). In these cases, the cost that a company has incurred *in that financial year* can be capitalised as an asset, the previous costs having already been expensed in earlier income statements. For example, this may be the case of a patent: when a patent is obtained by the relevant authority, only the expenses incurred during that financial year can be capitalised and disclosed on the face of balance sheet among intangible fixed assets.

Even if the relevant recognition criteria are met, then the measurement is also mostly conservative, namely at historical cost with the capitalisation of only the expenditures incurred for the year in which such an accounting recognition occurs.

The predominant approach for development costs is condition-based capitalisation. This approach is employed by all standard setters[30] including the IASB. Among the standard setters and legislators that allow or require capitalisation, the conditions that the enterprise must satisfy for capitalisation to commence primarily relate to the existence of a clearly identifiable product or process and evidence of its technical and commercial feasibility. In IAS 38, in particular, development-phase costs must be capitalized provided that such expenses meet a six-criteria feasibility test, whereas research-phase costs shall be expensed.

The reinstatement of immediately expensed costs (whether research or development), once capitalisation of development costs commences, is not allowed or practiced in any of the jurisdictions that employ the condition-based capitalisation approach.

### 4.3.4. Business Combinations

It should be noted that the aforementioned accounting difficulties in dealing with IAs occur only when it is internally generated (recognition issue). If an IA is acquired as a consequence of a business combination, then there are less restrictive recognition and measurement criteria. In fact, in connection with a business combination, the acquirer recognises all IAs if they meet the definition of an intangible asset. This can result in the recognition of intangibles – including brand names, IP and patents, and customer relationships – that would not have been recognised by the acquired company that developed them in the first place. In particular, IAS 38, paragraph 34 states that:

[29] In France, only applied research costs can be capitalised, while basic research costs must be expensed.
[30] Except three national accounting rule setters (Germany, Japan and the US).

*"In accordance with this Standard and IFRS 3 (as revised in 2008), an acquirer recognises at the acquisition date, separately from goodwill, an intangible asset of the acquiree, irrespective of whether the asset had been recognised by the acquiree before the business combination. This means that the acquirer recognises as an asset separately from goodwill an in-process research and development project of the acquiree if the project meets the definition of an intangible asset. An acquiree's in-process research and development project meets the definition of an intangible asset when it:*

*a. meets the definition of an asset; and*

*b. is identifiable, i.e. is separable or arises from contractual or other legal rights."*

Therefore, in a business combination the intangible assets that are "identifiable" (either separable or arise from legal rights) can be recognised and capitalised in the balance sheet.

*Methodology for valuing IA in business combinations*

Paragraph 33 of IAS 38 requires such acquired IA to be measured at fair value. The IASB also has a specific standard on how to measure fair value, and this would also be used for measuring IP acquired in a business combination.

The main features of the measurement method can be found in the standard IFRS 13 described in Appendix 6, Section 3.

### 4.3.5. Purchase price allocation with reference to intangible assets

The IASB has for some years required IAs to be allocated out of goodwill in connection with business combinations, and these assets have to be recognized and measured at fair value, even though they do not meet the IAS/IFRS accounting recognition criteria and might be difficult to measure appropriately. Therefore, there exists today some information about certain IP assets in financial statements, even if not homogenous.

According to IFRS 3, the excess value of purchase price paid by an acquirer over the revalued book value of an acquiree is to be allocated on the acquiree's intangible assets that do not appear in the balance sheet. This exercise is generally known as "purchase price allocation".

### 4.3.6. Amortization, impairment and subsequent measurement of intangible assets

After initial recognition, the accounting value in the balance sheet of intangible assets with finite useful lives (e.g. IP/IPR, licenses) have to be amortised over the asset's expected life and is subject to impairment test when needed. Intangible assets with indefinite useful lives (e.g. goodwill, brands) shall not be amortised, but "only" subject at least annually to an impairment test to verify whether the impairment indicators ("triggers") are met.

Alternatively intangible assets can be revalued at fair value less amortization, provided there is an active market for the asset to be referred to.

### 4.3.7. Revaluation of intangible assets

After initial recognition (at cost or at fair value in the case of business combinations), IPR assets can be measured either at historical cost less amortization or be revalued at fair value less amortization, provided there is an active market for the asset to be referred to, as can be inferred from para. 75 of IAS 38:

*"After initial recognition, an intangible asset shall be carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated amortization and any subsequent accumulated impairment losses. For the purpose of revaluations under this Standard, fair value shall be measured by reference to an active market. Revaluations shall be made with such regularity that at the end of the reporting period the carrying amount of the asset does not differ materially from its fair value."*

However, the standard indicates that the revaluation model can only be used in rare situations, where there is an active market for these assets.

#### 4.3.8. Conclusion of the accounting regulatory situation

The above described regulatory situation implies that under the IFRS regime, IP/IPR can only be recognized in relatively rare cases, that is either stemming from an acquisition at acquisition cost or from being part of a business combination at fair value. In the latter case, IP/IPR cannot be expected to be subsequently re-measured at fair value in IFRS FS under the present requirements. Note that a similar case is under US GAAP, which do not even contemplate the option for revaluing intangible assets.

### 4.4. Possibilities for complementary reporting of IP and IPRs

#### 4.4.1. Non-financial information on IP/IPRs

In recent years, the role and relevance of non-financial information has grown considerably in the eyes of investors, rule-makers and companies. Accordingly, also non-financial indicators linked to IP and IPRs have become an important source of disclosure and assessment about the value creation of a firm, which complement the scarce financial measures and information on these resources in today's company accounts. Examples of such useful information on IP/IPRs can be the number of patents, the number of patents actively employed in firm activities, the time to expiration for the major IPRs, the description and the number of patent submissions and the associated degree of success, and alike. Sometimes non-financial indicators are mixed with financial data to create new insightful information. Examples of such indicators for the IP/IPRs and research area are sales per patent (or family of patents) or revenues from the products/services introduced from R&D in the last 3-5 years.

#### 4.4.2. IFRS "Management Commentary"

In December 2010, the IASB published an IFRS Practice Statement on "Management Commentary" which is not a mandatory financial reporting standard but has the status of a recommendation. This statement advises companies to present a Commentary on the IAs of the company, attached to the company's annual financial statement. Guidelines on how to prepare such a Commentary were also included in the IFRS statement.

A Management Commentary is defined as "a narrative report that provides a context within which to interpret the financial position, financial performance and cash flows of an entity". As it is the case of annual financial statements, the information included in the management commentary should consider the needs of the "primary users of financial reports. Those users are existing and potential investors, lenders and other creditors"[31] and may add qualitative information which is not normally admitted in the financial statements of the company, not even in the ordinary prescribed quali-quantitative data included in the notes.

[31] paragraph 8, IFRS Practice Statement on "Management Commentary", December 2010.

The Commentary is intended to be a complement and a supplement to the financial statements and should communicate "integrated information about the entity's resources and claims against the entity and its resources"[32].

More detailed explanation about the advised contents of a Management Commentary can be found in Appendix 6, Section 4.

### 4.4.3. EU Accounting Directive "Management Report"

On 16th April 2013 the EC proposed a new Directive aimed to prescribe disclosure of non-financial and diversity information by medium and large European companies. This proposal requires a non-financial statement containing information relating to at least environmental, social and employment matters, respect for human rights, anti-corruption and bribery matters. The same proposal also requires a description of the diversity policy and its results. The proposed Directive is now at the attention of the European Parliament for approval.

Many detailed disclosure requirements must appear in the Management Report (MR) such as a Corporate Governance Statement and a Risk Report. In particular, an MR shall – amongst other things – also include an indication of the *"activities in the field of research and development"*.

It is to be noted, however, that small companies (small in terms of the EU Accounting Directive) are not required to publish an MR.

It may therefore be inferred that it is already common practice in Europe to require many different sorts of financial and non-financial information in the Annual Reports and in particular in a separate Management Report, and it may also be concluded that it would perhaps still be possible to get an amendment containing the requirement to disclose information in the MR as to company IP and IPR.

### 4.4.4. Integrated reporting

In very recent years there has been a movement towards creating a new reporting framework for companies named "Integrated Reporting". While the concept is in its infancy, it is strongly supported especially in the UK. The newly established International Integrated Reporting Council (IIRC) has created a draft framework with some supporting technical papers. The "consultation draft" was issued for comment in 2013.

The main principles of integrated reporting are the following:

- An organization's business model is the vehicle through which it creates value;
- Value is embodied in the capitals that it uses and affects (financial, manufactured, intellectual, human, social and relationship, and natural);
- The assessment of an organization's ability to create value in the short, medium and long term depends on an understanding of the connectivity between its business model and a wide range of internal and external factors.

The framework proposes to have a fuller representation of company value creation, including a description of the inputs and how these inputs, amongst other things, "provide a source of differentiation", and "the discussion provides a concise yet meaningful account of how these key inputs link to the capitals, opportunities and risk, strategy and financial performance (e.g. cost

[32] paragraph 10, ibid.

base)." It will also require a description of the business activities and the output/outcomes provided and the value created.

### 4.4.5. Models and approaches to represent IP using non-financial measures and indicators

Over the years many models and approaches to represent and value intangibles and IP/IPR using non-financial measures and indicators, have been proposed. Some of the most well-known are the *Intangible Asset Monitor*, the *Skandia Navigator*, and the *Balanced Scorecard*, are highlighted in this report as they represent ways of reporting IP and IPRs using non-financial information. The *Areopa method* is an example of an Intellectual Capital (IC) reporting approach available to companies. A common feature of these methods is that they concern the identification and measurement of IC.

The approaches utilise so-called "lead indicators", i.e. indicators measuring today's facts and phenomena that are likely to reveal the information user something about the future economic trends of the company. One typical example of lead indicator is the customer satisfaction, which is able to enlighten stakeholders about the development of the firm relationship with clients.

In the field of non-financial information aimed at representing core company value creation, a relevant work is currently being done by the World Intellectual Capital Initiative (WICI). WICI is a private/public sector collaborative network aimed at improving corporate information – with a focus on non-financial information on company value drivers – for more effective decision making. WICI's primary goal is to facilitate the development of a global business reporting framework for measuring and reporting overall corporate performance to shareholders and other stakeholders.

One of WICI's main activities in pursuing this goal is the development of industry-specific *Key-Performance Indicators* (KPIs). KPIs may be financially derived or non-financial in nature, and their aim is essentially to measure and visualise the value drivers – such as IP/IPRs – which are typical of a given industry and that largely deal with key intangibles for sustainable value creation.

Thus far, the KPIs developed by WICI regard a number of sectors including electronic devices, pharmaceutical, automotive and telecommunications equipment.

It has to be pointed out that the WICI-KPI approach is consistent with both the above mentioned indications by the IASB in its IFRS Practice Statement on "Management Commentary", and the information needs posed by the IIRC with regards to the preparation of Integrated Reporting.

For more detail about the *Intangible Asset Monitor*, the *Skandia Navigator*, the *Balanced Scorecard*, the *4-Leaf Model* and the WICI *Key Performance Indicators* (KPIs) see Appendix 6, section 5.

## 4.5. Conclusions – IP valuation in Accounting and Reporting

Overall the increasing importance of IP in today's economy raises some major problems for accounting and reporting. First, IP is not well represented in companies' financial reports. The complex and uncertain nature of IP leads to their being either imperfectly valued (for instance, innovation is usually measured by the amount of R&D expenditure, although not all R&D activities lead to innovation and not all innovation is created by R&D activities; innovation is also measured by the number of patents, although a large proportion of innovation is not patented, other forms of protection of the innovation being used) or not measured at all (e.g. the creativity or innate abilities of a person). Such measurement problems may result in vulnerability of firms or countries which base most of their performance on IP and IPRs.

### 4.5.1. Accounting frameworks

It is interesting and illogical that in the accounting framework there are different recognition criteria for similar situations, and this fact has been controversial for the specialists. Indeed, when a business combination is accounted for by the acquisition method, this can give rise to the recognition of the internally generated identifiable IP of the acquired company on the consolidated balance sheet of the acquirer. As said, such IP are to be measured at fair value (which can be assimilated to current value). Therefore, in the balance sheet of the acquiring company, IP valued at historical cost and fair value can frequently co-exist after a business combination. This is an important and *general* measurement issue we are currently facing.

Moreover, there appears to be a lack of conceptual or theoretical framework on IPR that would guide policy definition and recommendations. One particular feature of such a framework should be to consider complementarities: growth and competitiveness are generated not by adding or putting together individual assets, but by combining various assets in appropriate ways. The interactions between tangible and intangible assets are therefore important to take into account, and understand – amid other things – the proliferation of networks in modern economies.

### 4.5.2. Uncertainty regarding IP value within company value

The increased importance of IP reflects the fact that today added value is determined by the additional knowledge (of technologies, of the market, etc.) that is introduced. The imperfect assessment of such knowledge implies that a firm's value may not be well assessed not only by accounting, by the market, possibly contribute to generate a growing divergence between market value and “true value”. This results in uncertainty and speculation on firms' value, with sometimes dramatic consequences, as shown by the case of the dot-com companies at the beginning of this millennium.

However we should recognize that the more the “system” is based on intangibles, the more vulnerable it is, because its value is uncertain. In other words, an economic system based increasingly on IP and other intangibles may be more robust in the long term and more relevant in the modern society. Yet, the issues associated with the measurement and valuation of such assets entail that the system becomes more unstable, volatile, and ultimately vulnerable.

### 4.5.3. Policy recommendations on IP in Accounting and Reporting

In consideration of the current poor situation as to the recognition, measurement and disclosure of IP, it can be concluded that the present reporting and information frameworks are in urgent need of updating. As already pointed out in previous EC-related studies, new explanatory models and metrics are necessary to enable society to understand the workings of the modern knowledge-based economy and firms especially with regard to intangible resources, and in particular IP, and their 'contents' that are currently hidden from public view.

At company level, a new generation of analytical tools is asked for to enable company boards, shareholders, analysts and investors to evaluate management performance and identify and differentiate good, bad and delinquent corporate stewardship.

However the timing to ask for regulatory change of the accounting rules seems to be unfortunate for several reasons, particular if we ask for a change in recognition and measurement. Firstly the EU institutions has as late as 26$^{th}$ June 2013 approved a revised accounting directive to be implemented over the coming two years, and secondly to ask for anything but a conservative value of assets such as IP is difficult at this stage.

But there may be other ways to get information about IP.

There is a need for promoting by companies and professions a more advanced form of narrative reporting dealing with intangibles as crucial long-term sources of competitiveness and value creation. Intellectual Property Reporting can be a useful vehicle to improve publicly available information and measures on intangibles..

The EU Accounting Directive has a requirement for a Management Report, which would be a useful tool for small enterprises as well as large ones. In our view, mandatory disclosure of this type of information might be seen at some point in the future as a way to strike the balance between providing further disclosure that is relevant to users of financial reports without placing an undue burden on the companies preparing their statutory returns.

The recommendation for the filing of a "management IP report", detailing IP and IP value in addition to financial statements is elaborated in the recommendations section of the is report.

# 5. Special issues section – IP valuation in litigation

## 5.1. Background

Establishing the amount of damage and loss is undoubtedly of key importance in all proceedings on infringement of intellectual property rights (IPRs). Massive damages easily spring to mind, such as the award issued in the United States in the patent infringement proceeding between Apple and Samsung, which established payment of over a billion US dollars.

The media impact of these sizable awards has drawn the attention of businessmen, investors and society in general to these IP assets and their potential impact on the life of a company.

Understanding how these indemnifications are quantified is essential when making a decision as to whether it is advisable to start or continue a lawsuit or if, on the contrary, it is more advisable to negotiate a license or cross-license agreement, in addition to boosting strategic decisions such as the purchase of patent portfolios for defensive purposes.

One of the factors that will without doubt have a decisive influence on a company's decision regarding whether or not to protect the results of its innovation, making its inventions public through the relevant patent, will be to what extent it can easily exercise those rights against third parties, and how far this is economically reasonable as regards cost, time and results.

To this end, an adequate valuation of the reasonably expectable indemnification in case of an infringement of an IPR is necessary. Insofar, it is, however, also necessary to bear in mind that such valuation does not coincide with the value of the infringed IPR as such. The criteria followed to establish the value of IP are often used to calculate damages, but this is not a matter of quantifying the value of the infringed IPR, but rather the indemnification due for unauthorized use of such right over the period in which the infringement was committed.[33]

An appropriate assessment of the damage and loss resulting from the infringement of these rights requires an economic analysis that is not easy to perform since it involves assessing the market, the existence of competing or equivalent products and should also take other factors into account such as the period of time that the infringed right has been in force, whether and, if applicable, to what extent the right holder has made use of his right in the market, or the marketing ability of the right-holder and the infringer.

Indemnification should endeavour to compensate the right-holder for the loss sustained, in addition to dissuading infringing conduct, but it is essential that it be in line with the economic reality of the market. A system that enables significantly more indemnification to be obtained than the right-holder would have obtained through the grant of the relevant licenses may result in an abuse of litigation and would to that extent have a negative impact on innovation, as it would be more profitable to litigate rather than to license. *"A provision allowing for damages equal to the profit that the innovator would have made absent infringement maintains the financial incentive to innovate"*[34]

Conversely, insufficient indemnification will serve to encourage copies, and discourage innovation by those who invest human and economic resources in innovative progress.

[33] Murphy, W.J. et. al., 2012
[34] O'Brien, V.E., Intellectual Property Law Journal Vol. 9

There are other issues that also need to be borne in mind such as the cost of a legal proceeding itself, its sometimes excessive duration, the possibility of adopting measures in addition to indemnification, such as ordering the infringer to provide all the necessary information on third parties that have taken part in the infringing activity in any way, or the possibility of adopting measures and decisions with respect to third parties that do not form part of the legal proceeding.

However, it is also necessary to ascertain that IP rights and the enforcement system cannot be misused purely for offensive purposes, e. g. solely to block competition.

Finally, not only larger companies, but also SMEs need to be assured an accessible justice system in case of infringements of their intellectual property rights as regards both duration and costs, which may involve the institution of fast-track proceedings in small claims cases and for lawsuits that are not legally complex, or which enable measures to be adopted with trans-border effects.

The quality of the enforcement system has a clear impact in investment in research and development activity.

## 5.2. Survey on valuation of IPRs in litigation

Before analyzing the summary of the responses given to the survey launched by the Expert Group, we must take into consideration Directive 2004/48/CE, which entailed an important approximation of the legislation of the EU Member States in respect of the enforcement of IP rights:

> *"With a view to compensating for the prejudice suffered as a result of an infringement committed by an infringer who engaged in an activity in the knowledge, or with reasonable grounds for knowing, that it would give rise to such an infringement, the amount of damages awarded to the right holder should take account of all appropriate aspects, such as loss of earnings incurred by the right holder, or unfair profits made by the infringer and, where appropriate, any moral prejudice caused to the right holder. As an alternative, for example where it would be difficult to determine the amount of the actual prejudice suffered, the amount of the damages might be derived from elements such as the royalties or fees which would have been due if the infringer had requested authorization to use the intellectual property right in question. The aim is not to introduce an obligation to provide for punitive damages but to allow for compensation based on an objective criterion while taking account of the expenses incurred by the right holder, such as the costs of identification and research"*

In line with the above, art. 13 of said Directive states that:

> *"1.Member States shall ensure that the competent judicial authorities, on application of the injured party, order the infringer who knowingly, or with reasonable grounds to know, engaged in an infringing activity, to pay the right holder damages appropriate to the actual prejudice suffered by him/her as a result of the infringement.*
>
> *When the judicial authorities set the damages:*
>
> *(a) they shall take into account all appropriate aspects, such as the negative economic consequences, including lost profits, which the injured party has suffered, any unfair profits made by the infringer and, in appropriate cases, elements other than economic factors, such as the moral prejudice caused to the right holder by the infringement;*
>
> *Or*

*(b) as an alternative to (a), they may, in appropriate cases, set the damages as a lump sum on the basis of elements such as at least the amount of royalties or fees which would have been due if the infringer had requested authorization to use the IP right in question.*

*2. Where the infringer did not knowingly, or with reasonable grounds know, engage in infringing activity, Member States may lay down that the judicial authorities may order the recovery of profits or the payment of damages, which may be pre-established"*

Therefore, the main criteria to evaluate the indemnification payable due to infringement are established at a European level. Consequently, the question that needs to be addressed is how to apply each of these criteria in practice and the problems associated with such valuations.

A survey has been conducted by the group in order to identify the main challenges surrounding IP valuation in litigation. The survey was completed by practitioners in the field of IP litigation from different jurisdictions, i.e. Germany, England and Wales, Portugal, Spain, Greece, Romania, Poland and the Netherlands. Respondents were asked to answer each question separately in relation to certain types of IPR, i.e. patents, know-how, trademarks, designs and copyright. However, in almost every case, respondents gave the same answer in relation to all types of IPR due to the lack of any significant differences in their respective legislations.

### 5.2.1. General overview of the answers obtained in the survey

Below we present the most relevant questions which were asked in the survey and a summary of the answers.

What are the specific criteria to determine indemnification for damage – be it in the form of the claimant's actual loss, the defendant's profits and/or compensation based on a license analogy – in cases of infringement of the following rights?

In all of the countries which took part in the survey, the criteria to determine the damages set forth in Directive 2004/48 are applicable. However, in most cases there are no concrete or fixed elements to implement each of these criteria.

According to the responses received, practitioners find it difficult to valuate the exact amount of lost profits and/or damage caused by infringement as there is no clear definition of the elements that need to be borne in mind when applying each valuation criterion.

Respondents only gave some examples of elements which are taken into account when calculating damages, such as:

*Indemnification based on the right-holder's actual loss*

To value the indemnification based on this criterion, issues such as the right-holder's selling price and costs of production, the number of infringing items sold, and an estimate of how many of these items would have been purchased from the right-holder or its licensees if the infringement had not occurred are considered.

The amount payable as indemnification is often calculated as the difference between the actual state of the assets of the party that holds the rights and the state of those assets had the infringement not occurred.

*Lump sum based on a "hypothetical license"*

According to the respondents, in this case, the main problems arise when the IP owner has not granted any license in the infringed right and thus no comparison is possible with a real and freely negotiated licence agreement in relation to the same IPRs.

The amount of the fictitious royalty due needs to be estimated according to the respective IPR's market value. Most respondents concur in that it is necessary to consider facts such as the existence of economically reasonable alternatives for the defendant or the monopoly of the claimant, the use of other intellectual property rights by the infringing product or the amount of freely-negotiated license fees in parallel or comparable cases.

*Indemnification based on the infringer's profits*

According to the survey, in order to calculate the indemnification based on this criterion, the elements to be borne in mind are mainly the infringer's selling price and production costs and the number of infringing items sold.

The main problem reported by some jurisdictions is the discussion regarding which costs incurred by the infringer are to be deducted in order to calculate the profit obtained as a result of the infringement, and which cannot be taken into account (direct/indirect costs).

In order to assess the indemnification due, are criteria such as how long the registration has been in existence, the effective marketing of the product or use of the procedure, closeness of the product to the market, borne in mind, or any other?

The majority of the respondents indicated that such elements do not significantly influence the level of damages awarded. They are, however, taken into account in some jurisdictions. Other facts which are taken into consideration are the following: decrease in sales resulting from the IP infringement and the expenses incurred as a result of the infringement, number and types of licenses granted at the time the infringement began. In the event of damage to the reputation of trademarks and designs, attention is also paid to the circumstances of the infringement, seriousness of the injury and degree of dissemination on the market.

Are IPRs, especially cease-and-desist and annex claims based on IPRs, valued, i.e. attributed a certain value, in order to determine court and lawyers' fees in IP litigation and pre-suit proceedings in your jurisdiction and, if so, how – in application of which criteria – do such valuations take place?

In some countries (e.g. Germany, Poland or Greece), in order to determine court and lawyers' fees, the court has to establish the amount in dispute (value in dispute). It is therefore necessary to assign a certain value to each claim.

With regard to cease-and-desist claims, issues such as the future disadvantages the claimant would have to accept if the infringement continued and the advantages he would gain by the infringement being stopped are taken into consideration. Generally, the economic interest is determined by the market value of the IPRs and the extent and severity of the infringement. The market value is estimated based on past use, the turnover obtained under the IPR, and in the case of trademarks, for example, the degree of recognition and the reputation of the trademark and the relevance of trademarks to the type of product in question.

Some respondents indicated that other elements are also considered, such as the duration and territorial scope of the infringement, the likelihood of the continuation of the infringement, the

remaining term of the IPR, the economic relevance of the claimant, its turnover and its chances of success on the market and the relevance of the infringing actions.

On which party does the burden of proof fall and what type of evidence do the courts require?

According to the answers received, in the entire field of IPR litigation and with just a few exceptions (process patents, proof of use or proof of fault) the burden of proof falls on the claimant (i.e. the right-holder) and all types of evidence are admitted.

Most respondents coincide in saying that proof of the damages sustained is probably one of the most important obstacles they come up against.

*Most relevant problems associated with such assessment*

The problems indicated by the respondents are the following:

- Costs involved in assessing damages, as this often requires collecting substantial documentary evidence and opinions by expert accountants.
- Difficulties in providing proof of the value of the indemnification due.
- In applying the criterion of actual loss, the problem lies in giving an exact estimate of how much the IPR owner would have sold and at what margin, if the infringing products had not been on the market.
- In applying the criterion of the infringer's profit, the costs to be deducted in the calculation of such profits are not regulated by law.
- No strict elements are legally established to assess the indemnification due.

In the event of infringement, is the owner of the infringed IPR entitled to minimum indemnification that is exempt from proof?

There is no minimum indemnification that is exempt from proof in the majority of jurisdictions. Generally speaking the claimant cannot claim compensation if it cannot prove damages. If the claimant is able to prove damages but not the exact amount, it is always entitled to a reasonable sum. Spain is the only jurisdiction in which the owner of the trademark and design declared to have been infringed by a court is entitled, without the need for proof, to receive, as indemnification for the damages sustained, one per cent of the turnover obtained by the infringing party under the goods or services bearing the IPR unlawfully.

In addition to the cases of infringement of intellectual property rights, in what other cases are those rights valued by the courts? What criteria are applied for the assessment in such cases?

According to the answers received to the survey, courts may assess the value of IPRs in the following cases:

- disputes concerning the sale, transfer or licensing of IPRs (litigation concerning mandatory license or contractual license),
- proceedings that involve determining the value of a company (such as mergers and acquisitions), in which its intangible assets have to be evaluated,
- court proceedings where IPRs are pledged as security against any obligation,
- where IPRs are put forward as assets for security purposes,
- distributions following insolvency, bankruptcy or death,

- disputes concerning the tax treatment of IPRs,
- disputes concerning compensation for employees responsible for generating IPRs,
- actions for the invalidation of IPRs,
- divorce cases,
- unfair competition disputes.

The criteria for assessing value may involve expert accountant opinions, contemporaneous evidence, looking at the market value for equivalent IPRs and considering what the IPRs would be worth if they were sold.

In Germany, for example, in cases of invalidation of IPRs, in contrast to cases of infringement, the amount in dispute is not determined by the economic interest of the parties but by the objective value of the patent which represents the public economic interest in destroying the IPR. The objective value is also determined by the expected profits resulting from the use of the patent during its term and the claims for damages which have resulted from the infringement of the patent in the past. The economic interest of the claimant in the invalidation proceedings serves at least as a reference point in order to estimate the public interest.

Furthermore, relevant criteria are the scope of use of the trademark, the category of goods and the scope of protection determined by the trademark.

### 5.2.2. Conclusions of the survey

Generally speaking, according to practitioners' answers received to the survey, all the jurisdictions that have replied apply the criteria proposed by Directive 2004/48 to establish the amount of the damages resulting from the infringement of IP rights.

The problems that arise mainly stem from the fact that the aspects that should be borne in mind to establish the indemnification following each of the above-mentioned criteria are not clearly defined.

In addition, difficulties also arise due to the need to prove the damages or their amount and the costs associated with obtaining the necessary evidence to carry out the assessment (expert and economic reports, etc.).

All the above obstacles have a negative effect on the quality of the enforcement system for IPRs and potentially hinder investment in research, development and innovation.

## 5.3. Difficulties related to valuation of the claims

As mentioned above, one of the issues which causes the greatest problems in IPR litigation is the need to assess the indemnification due as a result of the infringement of the IPR. Furthermore, in some legal systems the determination of the value of all the claims under dispute is necessary as court and attorney fees are dependent on it.

Therefore, problems arise due to the valuation of both pecuniary and non-pecuniary claims related to IPR.

### 5.3.1. Pecuniary claims

As we have already explained IP owners are entitled to claim compensation in the event of infringement according to different criteria:

*Defendant's profit*

To a large extent this is a question of fact, though it can require some detailed analysis to calculate the profits accurately.

There are two more complex issues that sometimes arise when trying to give a proper estimate of the profits obtained by an infringer as a result of its unlawful acts.

*Convoyed sales*

Convoyed sales are sales of other products or services that do not themselves infringe any IP rights, but would not have been made if the infringing sales had not occurred. This can relate to downstream sales, such as a maintenance agreement in relation to a piece of infringing capital equipment, or an ancillary product, such as razor blades for a patented razor.

In order to properly assess the appropriate level of convoyed sales, it is necessary to perform an analysis of the market as one would do in a lost profits calculation or a normal IP valuation. It is necessary to understand why customers buy ancillary products or services, the basis for competition in the downstream market and the routes through which these products or services are marketed, for example, if insurance cover is generally bundled with the initial sale it is far more likely to be taken into consideration in the account of profits calculation than in a market where there is a vibrant competitive market for product insurance and it is not generally bundled with the initial product sale.

*Costs to be included in calculating infringing products*

Another specific issue in relation to the calculation of profits from the infringing act is which costs ought to be included.

In a lost profits calculation it is generally recognised that only incremental costs should be included in the calculation. However, in an account of profits calculation, in certain jurisdictions, courts have held that other, fixed costs should also be included. The Expert Group considers that in economic terms, this approach does not make sense. A more appropriate basis would be to consider the cost structure on a similar basis to that used in competition investigations into predatory pricing. Namely that the costs to be taken into consideration should be the average avoidable costs per unit (AAC), or the long-run avoidable incremental costs (LRAIC), depending on the time period being considered. In most infringements, it is likely it would be a shorter time period and the former basis (that is AAC) that would be appropriate.

Aside from which costs ought to be included, there is also a question as to how certain costs ought to be allocated as between the infringing products and other parts of the business. Cost allocation is not a precise science and there are likely to be a variety of different bases for allocating costs that would be acceptable. In the first instance, it is likely that the basis on which the infringer actually allocates costs will be the most appropriate approach to use, as this is less likely to have any bias in the selection criteria.

*Claimant's actual loss*

A calculation of lost profits requires an assessment of how the business has been affected by the infringement of its intellectual property rights. In most cases this is expressed as the difference, in net profit terms, between the actual performance of the business and the estimated performance of the business in a "counter-factual scenario" (that is, one that would have existed in a world where the wrongful act had not taken place). This often requires an assessment of sales that have been lost and / or a reduction in the price at which existing sales have been made.

In essence, this is a forecasting exercise and the analysis that is required to perform it is, to a large extent, similar to the analysis performed when performing a standard valuation of IP. It requires an examination of the market for the IP, including: a definition of the market itself (products, substitutes, and competitors) and an analysis of the competitors in the market, the different marketing channels used in the market, and the competitive advantages that the IP provides in the market (as discussed under general valuation methods).

A key difference between the forecasting required for a lost profits calculation and a general valuation of IP is that in a lost profits calculation the forecast is for a hypothetical scenario that "would have occurred" in the past. Although the forecasting relies on many of the similar techniques as general forecasting for valuation purposes, in many cases the exercise is slightly easier if that data exists on sales volumes that actually occurred in the market – although an analysis is required to assess whether these would have been at the same level in the counter-factual scenario.

The difficulty often lies in calculating the exact amount of profits that have been lost due to the infringing activity.

In light of the above, in order to calculate the indemnification due, the courts should be able to establish the decrease in value of the IPR as a result of the infringing activity.

Due to difficulties related to the application of the valuation methods, it seems that the decrease in value of the infringed IPR is often not taken into consideration when calculating the indemnification. In experts' opinions the solution to such a situation involves setting up a valuation method which should be used in the infringement proceedings in order to assess the appropriate value.

Therefore, IPR valuation methods should indicate which facts reduce the value of the IPR and should therefore be taken into account by the courts in calculating the lost profits and valuating the amount of the indemnification due.

The IPR valuation methods are based on a quantitative approach which requires the use of correct data. On the other hand, the availability of the different valuation methods raises the question of which method is appropriate. However, the evaluation of a decrease in the value of an IPR as a result of an infringement is a somewhat challenging task. In our opinion the value of the IPR and its decrease should be calculated based on the so-called "qualitative approach". However, statutory regulations should give judges some scope to decide which of the conditions specified in law have the biggest or smallest influence on the decrease in value of the IPR in a given case, especially taking into account the duration of the infringing activity and its scope. It would be advisable to propose that the market standard for such type of valuation be part of the indemnification calculation process.

*Lump sum based on a hypothetical license fee*

Stipulating the valuation methods for IPRs would certainly be useful if indemnification for damage is calculated based on a license analogy. In IPR litigation parties very often dispute the determination of the license fee, which functions as a basis for determining the amount of the indemnification due.

Doubts exist over whether, in order to claim indemnification based on a fictitious license fee or on the defendant's profits, the right holder is also obliged to prove that he suffered damage as a result of the infringing activity or can do so absent the existence of actual damage. It should be clearly regulated at a European level that there is no need to prove the existence of the damage.

The determination of the license fee based on the actual value of the IPR is also crucial in disputes concerning the obligation to execute a license agreement.

The valuation of the indemnification based on a license fee is relatively easy when the right holder has granted a license in the infringed IPRs, and there is therefore real data on the license fee paid and freely negotiated in the market.

Calculation of the reasonable royalty should be assessed considering the economic advantage conferred by the IP and an appropriate charge based on those economics. In general, the royalty rate is based on the level of royalty that would have been agreed between a willing licensee and a willing licensor, despite the fact that, in many cases, the IP owner would never have licensed the intellectual property to the infringer. This basis of "valuation" is not dissimilar to the market value basis of valuation used in fiscal valuations.

Problems arise when there is no license agreement in the infringed IPR. A possible solution would be to refer to license agreements granted by other entities in "similar IPRs", but such comparison is often impossible due to the confidentiality that usually protects such agreements.

It would therefore be advisable to implement a mechanism enabling the judge and the parties to the court proceedings to establish the value of the fictitious license fee for a given right, e. g. by creating a database of license agreements in which the confidential information is not disclosed but which provides information on royalties paid in different technological fields, or for different kinds of trademarks, etc.

The question as to which conditions should be taken into account in the valuation of IPRs should be the subject of further discussion. Certainly criteria such as the turnover obtained under the IPR, the territorial scope of use of the IPR and in the case of trademarks, for example, the degree of recognition and the reputation of the trademark need to be taken into consideration.

### 5.3.2. Non-pecuniary claims

Another significant problem in IPR litigation is the valuation of non-pecuniary claims in connection with the infringement of IPRs, such as cease-and-desist and publication claims. In legal systems in which the valuation of such claims is necessary because court and attorney fees depend on it, there are no strict criteria to value such rights.

As a rule, it is the claimant who determines the value, based on his own assessment of the monetary interests protected by the exclusive rights and the negative consequences of the alleged unlawful actions of the defendant. The economic interest is determined by the market value of the IPRs and the extent and severity of the infringement. This sometimes results in the manipulation of the value of claims in order to establish lower or higher court and attorneys' fees.

In our opinion, in the case of non-pecuniary claims in relation to IPRs, the court fee should be fixed. However, the gradation of the court fee according to certain criteria is necessary in order not to discriminate against small and medium-sized enterprises by establishing a court fee which is too high for them to initiate litigation.

The criteria upon which the court fee is dependent should be the subject of further discussion, however, its amount could be dependent, for example, on the value of the IPR which is being infringed and the type of IPR. The court fee can be established as a percentage of the value of the right. The value of the IPR reflects the importance in the market of the right. Therefore, such a mechanism should avoid discrimination amongst small and medium-sized enterprises.

In this scenario, the possibility of filing extraordinary remedies at law must also be independent from the value of the claim—or dependent on the value of the IPR in question which would be determined at the beginning of the proceedings.

As already indicated in this report, we recommend the introduction of certain criteria i.e. standards which should be taken into consideration by the courts or court-appointed experts in order to establish or verify the value of the IPR. This would help to avoid manipulation in determining the value of claims, the value of the IPR, and the valuation of the claimant's monetary interests which were infringed by the actions of defendant.

## 5.4. Conclusions and policy recommendations for IP valuation in litigation

In line with the wording of the Directive, it should be clearly established that valuation of the indemnification in the case of an IPR infringement should include an amount which reflects the decrease in value of the IPR as a result of the infringement

This calculation should take into consideration the following factors:

- Territorial scope of the infringement,
- Duration of the infringing activity,
- Proportion of products manufactured lawfully and products introduced on the market by the infringer,
- Loss of interest by consumers in the products,
- Loss of the licensing option by potential contractual partners.

The costs that should be borne in mind to valuate the indemnification based on the criterion of the profit obtained by the infringer should be clearly established.

The group recommends that a database of license agreements be created in which the confidential information is not disclosed, but which provides information on the royalties paid in different technological fields, or for different kinds of trademarks, giving information on the territory and any other data of interest that is not confidential.

The calculation of the indemnification based on the license fee or on the infringer's profit should be admissible in all infringement cases, without the need to prove the actual existence of damage.

The valuation of non-pecuniary claims should be related to the respective IPR's value, e.g. a certain percentage—dependent on the type of non-pecuniary claim—of the IPR's value.

When considering the harmonization of fee systems in IP litigation at a European level, it could be feasible to apply the following declaration by the contracting Member States to the Agreement on a Unified Patent Court which contained in the annex to the minutes of the signature of the Agreement on a Unified Patent Court dated 02/19/2013, to other types of IP litigation and before national IP courts:

> *"The Signatory States consider that the fee system of the Unified Patent Court should be straightforward and predictable for the users. Accordingly, the Unified Patent Court should apply a mixed system of fixed and value-based fees. The Court should be accessible for parties with limited resources. Thus the court fees should be set at an appropriate level. Whilst all users of the Unified Patent Court should contribute to its financing, users having more significant economic interests should provide a reasonable*

*and proportionate contribution to the functioning of the Court, on the basis of an additional value-based fee, proportionate to the economic value of the case at stake in the specific procedure, applicable above a pre-defined ceiling. The fee system should provide adequate and specific tools to ensure proper access for small and medium-sized enterprises, micro entities, natural persons, non-profit organisations, universities and public research organisations to the Unified Patent Court, especially in relation to cases of high economic value."*

# 6. Recommendations for possible policy actions

In view of the problems and bottlenecks identified, the Expert Group recommends a number of possible (policy) actions which may be taken up at EU and/or national level. The opinion of the Expert Group is that the following policy actions could have a significant impact on reducing the above-identified barriers to the efficient use of IP valuation as a process by stakeholders.

This Expert Group thus proposes the following four (policy) actions:

- Establishment of a data source containing anonymous information on IP transactions;
- Creation of an organization to oversee the IP valuation practice (incl. education and training);
- Introduction of a risk sharing loan guarantee scheme for banks to facilitate IP secured lending;
- Introduction of an additional reporting section for IA and IP in financial reports.

## 6.1. The establishment of a data-source containing anonymous information on IP transactions

As has already been mentioned in this report, the availability and reliability of input data required for valuation is a significant barrier. Data sources used by valuers and their interpretation are left to the expertise of the practitioner, which can lead to differences in results.

Therefore, the credibility of IP valuations can be enhanced by improving valuation information, especially by collecting information and data on actual and real IP transactions in a suitable form so that it can be used, for example, to support IP asset-based lending decisions and the settlement of litigation damages. If this information is made available, lenders, courts and IP valuation experts will be able to base their estimations on more widely accepted and verified assumptions, and consequently, their valuation results and hence their valuation reports, may gain greater acceptance and reliability from the market at large.

One quote from the services industry to the Group's online survey sums up the matter:

> *"The access to data and comparable transactions would greatly enhance the IP valuation process and lead to more accurate analyses"*

The aim of establishing such a data-source is to collect and provide information on market conditions. As already mentioned, the information available at present provides little evidence on pricing structures and factors that determine value in effective IP transactions, as these are often deliberately kept behind the scenes and/or confidential. The uncertainty surrounding the real driving forces in this market means that potential market participants are discouraged from pursuing their own activity.

It is therefore proposed to create an authorised data-source in which data is gathered and edited in a non-attributable manner, that discribe the circumstances under which effective deals were closed and the parameters that had a bearing when setting the price. In this way potential market participants gain access to quality information, which will help boost confidence in valuations.

### 6.1.1. What kind of data should the data-source contain?

As practical experience shows, the details of effective IP transactions are hardly ever disclosed. The parties to the transaction instead execute mutual nondisclosure agreements for the transaction. Additionally, it should be noted that such details on effective transactions are the result of negotiations in very specific situations, and so a mere number does not provide adequate

information to evaluate a specific case. Therefore, it would appear to be more useful to collect information on the factors that influenced the deal.

Current assumptions by IP valuation experts indicate that there is a limited set of influential factors that have a bearing on the results of negotiations involving IP transactions, although these influential factors and their impact can be expected to vary across industries and over time. This hypothesis could be tested by means of a data-source. The data-source could also provide evidence on the size of the effect that each influential factor has in practical negotiations, what would be valuable information and lead to more valid and reliable valuations.

It transpires from the above that the data-source should answer questions, while observing confidentiality obligations, where applicable, such as: What was the motivation behind entering negotiations? How can the specific circumstances be described? What does the competitive situation in the industry look like? How can the protected IPR and the IP itself be described? Or what are the specific factors that influenced the pricing?

A possible measure to deal with confidentiality could be not to disclose any names but rather the descriptive attributes of the parties to the transaction (e.g. industry, firm size, own patent strength) and as much information on the details of the transaction as possible, in order to provide an independent valuation acceptable for regulatory purposes, which at all times respects confidential or sensitive information (e.g., the identity of the parties, the specific identity of the IPR under the transaction, etc.).

### 6.1.2. Where will the data originate from?

A key question is what are the incentives for those companies publishing their data? This requires carefulconsideration. The kind of data required for the proposed data-source can only be gained from active market participants who are willing to contribute to setting up an elaborate information database on the IP market. These market participants have to be convinced that such a database has a positive effect on their own business by stimulating market activity and by enhancing their own decisions.

Though this is something that is to be analysed in depth, some possibilities to obtain such data could be to define its publication as mandatory for those companies willing to take advantage of a tax incentive related to innovation or IP licensing. A suitable fiscal relief / tax incentive may well trigger an initial willingness to give data in order to benefit from these reductions, combined with the hope that once the data source is in place and stocked with useful data, market players would also give data because it is in their own interest (as they also make use of the data therein).

The publication of the anonymised data could also be established as mandatory for those contracts in which a public entity or a listed company takes part.

### 6.1.3. Who should have access to such a data-source?

As indicated, a core aim of the data-source is to lower the transaction risks for potential market participants and boost their confidence in their own decisions on pricing IP. For this reason, it would appear to be contradictory to limit access to this data-source to “chartered IP valuer”.

However, the creation of an open platform for all operators carries with it significant risks as regards the proper interpretation and use of the information available. The importance of and need to bear in mind all the factors that have to be considered to make a proper assessment justifies the need to restrict access to this research tool, at least at an early stage.

Once the necessary period of time has passed for the professionals to validate the data-source, a decision will then have to be taken as to whether or not to grant access on an open basis to all interested parties.

In addition, a control over the data or some limits on the use of the data-source should be applied to avoid the misuse or manipulation of the information (for example by non-practicing entities).

This Expert Group considers that the accessibility of complete, quality information which is based on real negotiations and transactions, would help to boost confidence in the validity and accuracy of the valuations, which would no doubt have a very positive effect on transactions involving IPRs.

## 6.2. Creation of an organization to oversee the IP valuation practice (incl. education and training)

The Expert Group proposes the creation of a professional organisation for the IP valuation profession in order to increase transparency of IP valuations and increase trust towards valuation professionals and between stakeholders.

### 6.2.1. Non transparency in IP valuations as a barrier

The Expert Group position relating to major barriers to the widespread use of IP valuation is that creating trust means bringing high quality valuation onto the market.

Outside the relatively niche cohort of IP valuation experts, IP valuation is seen as a complex and unclear technique. In addition, the industry considers that valuation methodologies may not be appropriately tailored to their particular sector.

Currently, accountants, IP lawyers, IP attorneys and technology transfer professionals offer IP valuation services. They certainly all have their competencies, but there is some confusion as to who has the competency to conduct IP valuations. This can lead to mistrust between the professions and a negative image for IP valuation in general.

A range of different service providers can give, based on different valuation methods, a range of different indicators of what the value of IP could be. Because these service providers are by and large not accredited, their findings may not be considered as trustworthy and their insights do not stand up to scrutiny as compared to others.

> *"Valuation has developed as a secondary specialisation by experts and there is not always a lot of uniformity about how valuations should be approached, and what skills and expertise the people performing them should have."*[35]

Also, as has been described at length in this report, IP is valued according to a number of differing valuation methods, all of them valid, that are applied by different players, leading to sometimes diverging viewpoints.

All these factors result in adverse effects on buyers' and investors' confidence in the certainty of the valuation of an asset.[36]

### 6.2.2. Building trust for the IP valuation profession

Every profession has its way of establishing trust. Academic work gains recognition through peer review. The work of lawyers or accountants gains trust because of a rigorous accreditation process

[35] Sir David Tweedie, Chairman of the International Valuation Standards Council, speaking about valuations for all types of assets, 2013.
[36] "Creating a financial market for IPR", final report, EC funded study, 2011.

that the individual needs to undergo before being allowed to exercise the profession. Each approach has its advantages and disadvantages.

It is important to establish a system that will strengthen the confidence of the markets in the quality of the valuation and ensure that it is in line with both generally accepted principles and the circumstances of the case in question.

> *"One potential solution to consider is whether there should be, similar to other professions, a single set of qualifications with respect to education level and work experience, a continuing education curriculum, standards of practice and ethics, and a code of conduct.[37]"*

### 6.2.3. An organisation for valuers of IP

As we have seen, there are highly qualified professionals, —lawyers, patent attorneys, accountants, economists, etc. —with the capacity and knowledge necessary to carry out excellent IPR valuations. This Expert Group therefore considers that there is no need to create a new professional category for the valuation of IP.

Sustained development of the valuation profession is best achieved by the creation of a valuation professional organisation with key objectives that will protect the public interest in all matters that pertain to the profession, establish professional standards (especially standards of professional conduct), and represent professional valuers[38].

### 6.2.4. Education and training

The dissemination of IP valuation and the quality of IP valuations performed can be enhanced by education and training. Therefore the creation of informative material (e.g. brochures) and the development of IP valuation training programmes could be of great value. There are various IP valuation training programmes that respond to initiatives by Chambers of Commerce or European Universities, but what is missing is a central organisation that services as a vehicle to guarantee the high quality valuation of IP and IPRs as a way of boosting confidence.

### 6.2.5. Register of expert IP valuers

In order to build trust, this Expert Group proposes the creation of a register of expert IP valuers, whose ability must first be certified by passing the relevant knowledge tests. Inclusion on that list or register would be voluntary, whereby it would not be a prior requirement to pursue the activity of IP valuations.

As indicated, inclusion on the list would involve having to pass certain aptitude tests and to remain on it, it would be necessary to maintain a standard of quality in the valuations carried out, whereby the body that manages this registry would be authorised to expel members whose reports are not up to standard. This is essential in order to maintain confidence in the quality and skill of the valuers included on the register.

With this aim in mind, the entity that manages this body of valuers would have the power to review the valuations conducted by the valuers certified by this institution as a "second instance". The body would need to have the power to re-examine the assessments made by these professionals

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[37] Paul Beswick, Chief Accounting Officer, United States Securities and Exchange Commission's (SEC) speaking about valuations for all assets, 2013.

[38] adapted from International Valuation Standards Council, *Establishing and Developing a Valuation Professional Organisation*, 2013.

(inspection programme), and even eliminate them if it is considered that the assessment is overtly incorrect (fair disciplinary mechanism).

Regarding the body in charge of defining the content of the tests and managing the list of accredited valuers, the group of experts recommend further investigation to ascertain respective benefits. Two options considered by the Expert Group at this stage were:

- a centralized organization dependent on the EU government bodies, and
- an umbrella of universities across the EU.

The body in charge should add support to the idea that it is an independent, neutral organisation, which would back up the credibility sought and the trust in the quality and reliability of IP assessments made by accredited experts. The solution for the candidate body should be cost effective, allow tapping into existing infrastructure of well-established institutions, assure quality of education and assure that the education reflects the latest stage of research in the field.

Finally, as regards the funding of such an institution, to keep costs as low as possible, it would be necessary to explore the extent to which it is possible to tap into existing training e.g. academic and/or professional organisation infrastructures.

Another option would be the introduction of a membership fee-system, common in a number of professional organisations. Valuers that want to become and remain accredited pay fees, as they will also be the ones benefitting from the enhanced trust conferred by such an accreditation. The other entities mentioned (banks, VC and other IP market players) may well have their own IP valuers in their organisations and pay the respective fees to ascertain their continued reliability.

## 6.3. Introduction of a risk sharing loan guarantee scheme for banks to facilitate IP secured lending

A proposal of the Expert Group is a dedicated loan guarantee scheme to facilitate IP secured lending to innovative and creative SMEs.

### 6.3.1. Raising finance environment

Innovative and creative SMEs require (low cost) capital to invest into the development and provision of products and services. Debt financing (loans) is one source of capital. For the vast majority of SMEs loans are likely to remain their main form of finance.

Innovative and creative SMEs often have a valuable IP asset portfolio, including IP protected by patents, trademarks and designs. Some of this IP will be significant in generating income for the SME. On the other hand such SMEs have few if any tangible assets.

A secured loan is a loan in which the borrower pledges some asset as collateral. Secured loans are generally lower cost to the borrower, but the borrower must provide security (collateral). In the case of default the bank takes possession of the collateral. The bank will usually dispose of assets to recover sums owing.

For banks, collateral for loans provides reduction of lending risk as there is the possibility of sale of the collateral in the event that the debt is not properly repaid. As a result banks' secured lending decisions tend to be based on the type and value of collateral available.

### 6.3.2. IP valuation as a tool

As we have concluded in the Raising Finance section of this report, one of the reasons why the use of IP as collateral in debt finance has been limited is that lenders consider it difficult to come up

with an objective value for such assets. As a result, the availability of information about the IP in the possession of the lender and borrower is incomplete and asymmetric. This lack of information could make it hard to communicate the value of IP to the financier[39].

The proposed risk sharing loan guarantee places emphasis on efficient /proper IP valuation to value IP used as security for loans. The results of a valuation provide value information to lenders, making it easier for IP to be used as collateral IP valuation is therefore a process which addresses the information asymmetry.

### 6.3.3. What is the proposed risk sharing loan guarantee scheme?

Loan guarantees can increase lender confidence in making investments by sharing the risks related to the investment. A guarantor assumes a debt obligation if the borrower defaults. Most loan guarantee schemes are established to correct perceived market failures by which small borrowers, regardless of creditworthiness, lack access to the credit resources available to large borrowers[40].

The proposed risk sharing loan guarantee scheme set up by the European Commission (possibly through European Investment Fund) or by a national government fund would be specifically targeted at commercial banks in order to stimulate IP secured lending to innovative SMEs. The guarantor would fully or partly guarantee the IP secured loan and share the risk of lending to SMEs with the commercial bank.

### 6.3.4. What is the purpose of the proposed risk sharing loan guarantee scheme?

Firstly, the proposed loan guarantee scheme would reduce banks' risk of lending to innovative and creative SMEs. The scheme would address the market failure in the provision of low cost debt finance by providing a guarantee to banks in cases where a business with a viable business plan is unable to raise finance because they cannot offer (tangible) security for their debt and/ or lack a track record[41]. The purpose is to increase the borrower base – more innovative and creative SMEs would become eligible for loans. The scheme aims to decrease cost of raising finance for SMEs by providing cheaper loans through the use of secured lending instead of unsecured lending.

Secondly, the aim of the loan guarantee scheme is to build IP valuation knowledge and capacity at lending institutions. Any shift towards IP backed financing would necessitate that loan officers and risk assessment professionals in banks have IP valuation skills and possibly accreditation. The scheme would encourage lending institutions to build and maintain IP valuation functions.

After the period in which the loan guarantee operates, it is expected that that banks continue to us their capacities and continue to provide loans with IP as collateral.

### 6.3.5. The actors in the proposed risk sharing loan guarantee scheme

*Guarantor (e.g. the European Investment Fund, or national government fund)*

The guarantor sets up the loan guarantee fund. Commercial banks who wish to take part in the scheme apply to the guarantor. If accepted into the scheme the commercial bank is given a loan guarantee for a certain amount, and/or for a certain percentage of each loan (e.g. 50% of each IP secured loan given by the commercial bank up to a total amount). In case of borrower default, the guarantor pays the bank the required amount from the fund.

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[39] Adapted from Harhoff, D., 2009

[40] European Commission DG Education and Culture, Creative Europe Programme the Cultural and Creative Sectors Loan, Guarantee facility, Frequently Asked Questions, July 2012.

[41] Cowling M., February 2010.

*Qualified lending institutions (such as commercial banks)*

The commercial bank provides the money which is lent to SMEs. Commercial banks would develop new loan "products" aimed at innovative SMEs. The interest rate charged and any other fees and charges applied to the facility are a commercial matter for the bank.

They would use their existing loan application and risk assessment protocol to administer the application and provide secured loans to innovative SMEs. However, the collateral for the loan would be an IP asset and not a tangible asset. The bank qualifies applications for loans in the usual way, however it assess the loan risk using a valuation of the IP offered as collateral. Their decision is based on their own assessment of the risks (this level of risk will take the loan guarantee into consideration).

IP valuation may be done by the banks in house if IP valuation expertise exists or through the use of an IP valuation service provider. The valuation would be performed according to agreed and accepted methods/standards.

*Innovative SMEs (as borrowers)*

SME with suitable IP assets (protected by IP rights) are the applicants for the IP backed loan under the risk sharing loan guarantee scheme. The SME uses the loan to invest into the development and provision of products and services.

*IP valuation service providers (as appraiser of collateral/security rights)*

The IP valuation service provider serves an important purpose in the proposed loan guarantee scheme. The IP valuation service provider fills a knowledge gap related to IP assets and IP value in the bank's loan procedure. If required, the IP service provider provides IP valuation expertise and technology transfer expertise to the bank until the bank has built the relevant capacity to perform IP valuations. The IP valuation service provider values IP assets on behalf of bank according to agreed and accepted methods/standards and implements a standardized IP valuation methodology.

*IP transfer service providers (as monetisers of defaulted IP assets)*

In case of loan default by the SME, the IP service provider is mandated with monetising the IP asset on behalf of the commercial bank. This may be IP leaseback, entering into joint ventures, creating spinouts, divesting assets, license etc. It would be the best use of the IP asset.

### 6.3.6. Loan repayment scenarios

In case of successful payback of loan the SME pays instalments and principal of the loan as planned in the loan agreement. For the bank and the SME it is business as usual.

In case the SME defaults on the loan agreement, the ownership of the IP asset is transferred to the bank. The bank is reimbursed by the guarantor up to a percentage of the value of the IP as agreed in the loan guarantee scheme. The IP is monetised by the IP transfer service provider (IP leaseback, entering into joint ventures, creating spinouts, divesting assets, license etc.) and loss recoveries realised by the IP transfer service provider, of amounts over and above reimbursement to the bank (the sum paid as part of the loan guarantee) are shared *parri passu* between the bank and the guarantor

### 6.3.7. Valuation of IP assets for security purposes

The valuation of IP assets used as collateral will be performed by an IP valuation practitioner within the bank or by an IP valuation service provider according to agreed and accepted valuation methods.

The determined value will reflect the amount that the IP transfer service provider will be able to recover by monetising the asset in case of default. The value determined for the IP asset will likely be somewhere in between market and liquidation value and will likely decrease over time according to a curve.

The high risk regarding the liquidation value of the collateralized IP also reduces the extent to which it can be used. It is not uncommon that the collateral value of IP in such debt finance transactions is below ten percent of its value to the proprietor.[42]

### 6.3.8. What barriers will such an action address?

This capacity building is intended to reduce some of the barriers hampering the efficient and transparent valuation and as a result facilitate the increased use of IP as collateral.

The loan guarantee scheme is aimed at reducing barriers identified by the Expert Group, as detailed in the Raising Finance section of this report. Firstly, it will help reduce barriers related to the acceptance of IP as collateral. Secondly, it will increase banks' and Insolvency Practitioners understanding of IP value and IP valuation as a process.

### 6.3.9. How will the action address barriers?

IP valuation as a tool and as a process is generally not used to support IP based financing. The proposed scheme would motivate banks to build capacity in the area of IP and specifically the valuation of IP. It would build trust in IP valuation methods and the work of the valuation professionals and create an IP valuation function within banks.

The guarantee scheme involves the temporary reduction of lending risk for the lending institutions during which time they are motivated to increase their knowledge and use of IP valuation processes and incorporate an IP function within their loan risk assessment teams.

### 6.3.10. Overall benefits of the proposed Risk Sharing Scheme

For innovative SME providing collateral allows access to debt financing and cheaper debt financing compared to unsecured loans. Debtors may receive loans on more favourable terms than that available for unsecured debt, or to be extended credit under circumstances when credit under terms of unsecured debt would not be extended at all.

For banks there would be the opportunity to build capacity and skills in the area of IP valuation which in turn would increase the confidence of banks in allowing IP as security for securitised loans by using IP valuation to reduce information asymmetry. This would lead post guarantee scheme to the development and offer of IP secured loan products. With greater openness towards innovative financing instruments on behalf of banks, a significant financing branch could emerge[43].

[42] Harhoff, D., 2009.
[43] Harhoff, D., 2009.

### 6.3.11. Key challenges of the proposed Risk Sharing Scheme

The participation of lending institutions in the scheme could be a key challenge. The extent to which each party should share in the risk is a delicate balancing act. The guarantor should accept enough risk to be able to persuade banks to participate in the scheme[44].

### 6.3.12. Costs of the proposed Risk Sharing Scheme

Costs to the guarantor of the scheme will include setting up and operating the loan guarantee fund. The operational costs of the proposed Scheme would be in line with other credit guarantee schemes.

The money paid to banks to cover the defaults would also be a considerable cost. However, if IP valuations are correct and IP transfer agents are effective, then there should be minimal losses due to the scheme. Similar loan guarantee schemes are expected to work with a default rate of around 20% (20% of the money lent is not paid back)[45].

Costs to banks involved in the scheme would include building IP valuation capacity. External IP valuation practitioners could be used to value IP assets and this would also have cost. Once skills and knowledge have been gained and IP valuation is integrated into the loan assessment process, then the cost of performing IP valuations could fall to the level of valuations for tangible assets.

There would also be the cost of monetising IP assets used as security in defaulted loans. This would be in line with the disposal of tangible assets used as collateral.

### 6.3.13. Possible areas for action

Further elaboration on this proposal would be required with the inclusion of stakeholders in the banking sector and possible guarantors. This could include looking at the characteristics of IP owning SMEs who have taken loans in the recent past, possibly through the incorporation of data from IPR databases and lending institutions. Further elaboration of such a scheme would involve stakeholder consultations, impact assessments and pilot actions Any costs to the taxpayer of operating such a scheme must be identified and justified at this stage.

The inclusion of such as scheme in the new phase of risk sharing schemes initiated by the European Investment Fund, or the initiation of standalone Europe wide or national loan guarantee schemes are possibilities. The loan guarantee may be part of a larger package of incentives targeted at commercial banks to stimulate IP secured lending.

The valuation professionals in the Expert Group are of the opinion that the profession is able to provide the necessary knowledge in developing suitable and cost effective processes for the valuation of IP for banks for use in IP secured lending.

## 6.4. Introduction of an additional reporting section for IA and IP

The Expert Group proposes the introduction of an additional IP reporting section incorporating information and data about IP and IPRs as a section of a company's financial statements. The enrichment of the management report by more information about IP and /or a separate statement about IP are other possible actions. Additional disclosure requirements that might facilitate these are discussed in this section.

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[44] Organisation for Economic Co-operation and Development (OECD), Discussion Paper on Credit Guarantee Schemes, accessed November 2013.

[45] From consultations with European Investment Fund, September 2013.

As pointed out in the Accounting and Reporting chapter of this report, the EU institutions very recently approved the new Accounting Directive which has maintained very conservative rules for recognition and measurement of IP/IPR, while preserving the mandatory publication of a Management Report containing many different types of information, including also that on company research and development activities.

Yet, we need to consider the fact that small companies (small in terms of Article 3 paragraph 2 of the the EU Accounting Directive[46]) are not required to publish a Management Report. However it could still be seen as a first move in the right direction for collecting more and better information about IP/IPR in Europe.

### 6.4.1. Links with other issues related to IP valuation

It is also envisaged that communicating value information through such a channel will increase the transparency of IP value within company accounts. An additional reporting section would provide much needed structured and relevant information about companies wishing to raise finance. The information collected for and presented in the additional reporting section will overlap with information required and collected by a potential IP transaction data source.

### 6.4.2. What barriers will such an action address?

It is unquestionable that IP creates value to enterprises, both big companies and SMEs, and therefore IP is an important aspect to report to investors and lenders. However IP and other intangible assets are difficult and complicated to recognize and measure in financial statements, because reporting, measurement and disclosure frameworks are very conservative.

The tension between the desire of many companies to provide information about their most valuable assets, which are in many cases intangible assets, and the need to regulate the information provided so as not to provide misleading reassurance about financial security is something that has existed for decades as IP assets have become increasingly important.

One potential solution is to seek to have companies provide information that will allow informed investors to understand more about the business, and so reach their own informed rational conclusions on the value of IP assets, without leading uninformed users of accounts to form misleading conclusions.

In our view, mandatory disclosure of this type of information would strike the balance between providing further disclosure that is relevant to users of financial reports without placing an undue burden on the companies preparing their statutory returns.

### 6.4.3. How will the action address barriers?

Providing this type of information to readers of financial reports would allow stakeholders to form their view on value more easily, without the business itself providing a single point estimate of value, which could be wrongly relied on by users or else subject to inappropriate manipulation by asset owners.

In addition or in alternative, it could be proposed to request the above information about IP/IPR to be disclosed in a separate report published by the entity and not integrated into the Management Report or financial statements, in a similar way as the recently approved Accounting Directive that has required a special report on a country-by-country basis, describing certain payments made by

[46] European Union Directive 2013/34/EU (June 2013).

specific industries to foreign authorities/governments. Such a separate report on IP/IPR would not necessarily be downloaded together with the Management Report or financial statements when the users are searching for financial information about the company.

### 6.4.4. Potential further disclosure requirements in relation to IP assets

We propose to ask companies to provide a relevant description – if material - of the most value-creating IP/IPRs utilized in the reporting year, how the IP/IPR have created such a value, and the risks associated with this utilization. In addition, the activities the entity performed to maintain this value capacity should also be disclosed. It might be considered also to have an internally estimated value of the IP/IPRs included in the IP reporting (i.e. the results of an IP valuation).

### 6.4.5. Key types of information to be included in the additional reporting section

The key types of information that could be relevant include:

- information about the assets: what types of assets, the level of protection of the assets, where the assets are in either the R&D process or product lifecycle;
- information about the potential uses of the assets: information about the markets in which the products might be used and what competing assets / products exist; and
- objective (and verifiable) financial information about the business and the assets, such as any licence agreements (or distribution agreements) relating to the assets, costs incurred in developing the assets (and potentially estimated costs to complete), and where appropriate sales information relating to the assets.

Such list of information could be considered as a reasonable list for potential disclosure as part of the regular financial reporting process sometime in the future. These packets of information are very similar to financial information disclosed in prospectus documents for Initial Public Offerings (IPOs).

### 6.4.6. Analysis of IP value information provided in IPO prospectus

One potential source of information relating to the types of information that may be relevant in an additional reporting section is prospectus documents for Initial Public Offerings (IPOs). These documents are more than regulatory documents, in the way that financial accounts are often regarded: rather, they are also sales documents that are used to encourager potential investors to subscribe for shares in the IPO. As such, the information provided is likely to be considered useful to investors or it would not be included (subject to certain regulatory guidelines in relation to both what can be and what cannot be included).

The Expert Group has conducted a review of some recent IPOs both in Europe and the US and has observed that there is certain data that is often provided in IPO prospectuses.

A detailed breakdown by company of the information provided in IPO prospectuses is set out in Appendix 7, Section 1.

A summary of the types of information included in IPOs is listed below:

- Trademark names / patent details – e.g. list of domestic patents owned (granted or pending depending on the company's circumstances), lists of trademarks and lists of patents (including expiry dates) in relation to their key products.
- Overseas patent details – e.g. overseas patents included at least the number of overseas patents held (granted or pending depending on the company's circumstances).

- IP protection policy – information regarding their IP protection policy, e.g. statement that the company relies upon patent (and other relevant) law in the relevant jurisdictions.
- Development stage of IP –information on the development cycle for their product(s), detailed breakdowns per product, high level statements regarding development phases of product, further development projects.
- Estimated costs to bring the IP to market – eg financial indication of estimated R&D costs, estimates of phases of particular products.
- Competition details – e.g. information regarding the competitive landscape, generic information about the industry, detailed analyses of who/what can compete with each product being developed by the company.
- Potential market size – e.g. discussion of potential market size, detailed breakdown of existing and expected future markets.
- Potential market share – e.g. details of expected market share, estimation of take-up of their yet-to-be completed product.
- Financial status of IP – statement of whether IP is and/or was already used as security against debt.
- Collaboration/Licensing agreements – e.g. reference to collaboration partners or licensing agreements that could potentially impact ownership/financial benefits of IP owned or being developed.
- Full audited financial statements

IPO documents already appear to contain good information, which is relevant to users interested in understanding the potential value of IP within a business. This information is similar to that which would be required by any valuer, without being too onerous to collect, or providing information that is too confidential, or commercially sensitive.

### 6.4.7. The potential enabling role of XBRL

XBRL (eXtensible Business Reporting Language) technology is a language for the electronic communication of business information, providing major benefits in the preparation, analysis and communication of business information[47]. It offers cost savings, greater efficiency and improved accuracy and reliability to all those involved in supplying or using business information. XBRL could be used to collect information on intangibles and create a pan-European data base.

If the above proposal about a statement on IP and IPRs were to be introduced, the development of XBRL might help collecting more comparable information from the EU member states, provided this could be an EU-wide requirement without member state options.

Currently, there seems to be a positive attitude to collecting information via XBRL in many countries inside and outside Europe, and this process appears to be supported by the EC and the other European institutions.

Information is collected via establishing XBRL taxonomies, where the filer has to provide required information using specific and well defined tags.

[47] e**X**tensible **B**usiness **R**eporting **L**anguage (XBRL) website, 10 November 2013.

Today, there is no common pan-European taxonomy, but we propose to have a requirement in Europe according to which, if a country establishes or requires XBRL filings or allows XBRL information, then the national taxonomy should have specific tags on IP and IPR to be employed in order to cover the disclosures as proposed above.

If this could be established, it would be possible to collect the information about IPR disclosed in IP Reporting from many different EU/EEA countries in a comparable format ready for processing and analysis. Even though such information is not disclosed or measured in exactly the same way, and even though the individual disclosures might be dissimilar, nonetheless it would still be a simple way to gather data with the aim of setting up a common database on IP/IPR and intangibles-related information from many different companies in Europe of small, medium and large size as well as from listed ones.

# 7. Report Conclusions

To assess the feasibility and need for an EU level action in the field of IP valuation, the Expert Group was asked to review existing IP and IPR valuation methods (state of play across the EU), the existing practice of IP valuation in different environments and professions, and consider what the bottlenecks are in having clear and transparent, generally accepted valuation methods. Where applicable, the Group was also asked to recommend improvements in order to remove or reduce any barriers and increase the demand for and the practice of IP valuation.

The work of the Expert Group has been undertaken in the context of previous studies in the field, specifically on the significance of IP and intangibles in general and provides support to the EC in implementing the Innovation Union by looking at a very specific issue; namely the valuation of IP.

Firstly, the Expert Group laid foundations for the further analyses by compiling the reasons why IP may be valued. This was followed by a brief review of IP valuation methods used in practice by IP valuation experts, together with a review of input data required and possible sources of input data. An analysis of existing IP valuation standards is also included in the report.

Secondly, the Expert Group has investigated the possibilities for and the practice of IP valuation within specific environments, including a review of the actual state of play across the EU. The investigation was focussed on three specific interlinked environments (Raising finance, Accounting and Reporting and Litigation). In order to collect a suitably wide base of up-to-date information about IP valuation practice a number of surveys were also conducted. The results of these surveys are also analysed in the report.

The raising finance section of this report summarises existing practice of raising finance using IP assets, the use of IP valuation as a tool to support IP based financing, and existing bottlenecks for raising finance using IP assets.

The accounting and reporting section summarises the situation on IPR/IP valuation from an accounting/auditing and reporting standpoint, existing treatment of intangible assets within accounting and reporting and the existing bottlenecks for valuing IP and incorporating IP value in financial statements.

The litigation section summarises the existing practice of valuing IPR in cases of infringement and the approach of courts to the issue of IP value. Existing bottlenecks in the valuation of IP are also identified.

All three special issues sections conclude with recommendations or proposals, ranging from broad concepts in need of further study to specific changes. The recommendations made are grounded on findings and the present situation surrounding the use of IP valuation as a process and as a tool.

Four specific recommendations for possible policy actions are elaborated in Part 6 of this report. The opinion of the Expert Group is that these actions could have a significant impact on reducing the identified barriers to the efficient use of IP valuation by stakeholders.

Establishment of a data source containing anonymous information on IP transactions would address the barrier of availability and reliability of input data for IP valuations. The access to better quality data on comparable transactions would greatly enhance the IP valuation process and lead to more accurate analyses. This would no doubt have a very positive effect on transactions involving IP.

The creation of an organization to oversee the IP valuation practice (incl. education and training) would address a lack of trust towards valuation practitioners and between stakeholders. The resulting increase in the transparency of IP valuations would go a significant way towards alleviating the confusion about the role and competency of IP valuation practitioners and the significance of IP valuation as a process.

Through the introduction of a risk sharing loan guarantee scheme for banks, the barrier of using IP valuation methods to value IP as collateral is addressed. Through reducing banks' risk of lending to innovative and creative SMEs in the short term, the aim of the loan guarantee scheme is to build IP valuation knowledge and capacity at lending institutions.

The present situation related to and the challenges facing IP valuation are investigated within this report in relation to three special issues. These special issues are ultimately linked. Raising finance is a key process for many business organisations in order to function. The availability and cost of financing will be determined by the organisations' ability to convince financiers of the significance of their operations, which increasingly is IP driven. The organisation will need to provide information in a way that is accepted and is transparent. Linking the IP value with existing ways of company communication, such as including IP value in company financial reports as accounting assets, could be one way to achieve this. Finally, the value of IPRs lies in their ability to exclude others from using the IP. IP valuation in a litigation environment is fundamental to confirming and upholding the value of IP.

# 8. Appendices

## Appendix 1: About the members of the Expert Group on IP valuation

**Arne Führer – Chair**

Vice-Chairman of the Patent, Competition, Trade Mark and Private International Law Civil Division of the Regional Court (Landgericht) of Hamburg

Member of the Legal Working Group of the EU Observatory on Infringements of Intellectual Property Rights

Former expert at the Office for Harmonization in the Internal Market (Trade Marks and Designs)

**Peter Kaldos – Rapporteur**

Manager at Hipavilon, a Hungarian non-profit organisation supporting businesses and research centres with IP related issues.

Has a background in economics and has worked in the field of Intellectual Property management since 2005.

His experience covers providing analytical and valuation support to innovative companies and technology transfer offices. His specific area of expertise is in the valuation of technology.

**Dulce Miranda – Rapporteur**

A partner in Garrigues' Industrial and Intellectual Property Department; a renowned expert in the field of patents

Advice on the drafting of patent license agreements, joint research agreements, etc

An expert on the advertising and labelling of all manner of products, above all in relation to food products and supplements

**Stig Enevoldsen – Member**

Partner at Deloitte in Denmark

ex-Chairman of the EFRAG (European Financial Reporting Advisory Group) and IASC (International Accounting Standards Committee)

IASC board member representing the Nordic Federation of Accountants

Member of the Danish Committee for Corporate Governance issuing the Danish Guidelines

Chairman of the Disclosure Framework Advisory Panel and Vice-Chair of the SME Working Group within EFRAG

**Kristina Fahl – Member**

Worked with financial and corporate issues as president, bank manager, and board member. Appointed "nominated advisor" to the London Stock Exchange

Business angel and professional member of company boards. Ms Fahl runs her own company to support new businesses to grow and raise funding. She has also been involved in several start-ups as a co-founder

Works with the company's entire journey from the creation of a legal entity to introduction on the stock market

A member of a dozen boards of listed and unlisted companies, she lectures, is an advisor and mentor to a number of executives and directors

**Roya Ghafele – co-Rapporteur**

Runs 'Oxfirst Ltd.' a boutique consulting firm specialized in the economics of innovation

Research Fellow at the Centre for Professional Services at the Oxford University

Worked as an Economist with the U.N.'s World Intellectual Property Organization

Author of publications on IP monetization methods; technology transfer; copyrights

**Jackie Maguire – Member**

A physicist and chartered engineer by background with hands-on experience of R&D and R&D management, technology transfer, and commercialisation

Chief Executive of Coller IP with director level experience in operations, marketing and business development

A globally recognised IP Strategist and a founder of the International IP Strategists Association, INTIPSA

**Krystyna Szczepanowska-Kozłowska – Member**

Head of the Intellectual Property and Technology department at DLA Piper a global law firm in Poland

Head of the intellectual property and intangible property department at the Law Faculty of the University of Warsaw

Experience in representing clients in cases before the Supreme Court, the Supreme Administrative Court and the Arbitration Court

**Ludo Pyis – Member**

Founder of AREOPA, a management consulting group specialising in intellectual capital accounting

Experience in Intellectual Capital calculation and management

Member of the Commission Expert Group on the Valuation of Intangible Assets, which produced the Ricardis Report in 2006

**Daniel Ryan- Member**

20 years' experience in valuing businesses, shares and intellectual property assets, including sale and purchase transactions, intellectual property licensing, infringement of intellectual property rights and fiscal valuation

Senior managing director in the FTI Economic Consulting practice

Knowledge of reporting requirements on intangibles, member of the Institute of Chartered Accountants

Experience with valuation across a range of services e.g. media business, telecoms, pharmaceuticals, aviation, etc.

**Alexander J. Wurzer – Member**

Professeur Associé at the Centre for International Intellectual Property Studies, CEIPI, at the University Strasbourg

Chairman of the working committee of the German standardisation body (DIN) for the standardization of patent valuation

Lecturer on patent valuation; IP-backed financing,

Managing Director of a leading consulting firm in the field of strategic Intellectual Property Management

**Stefano Zambon – Member**

Full Professor and Chair of Accounting and Business Economics at the Faculty of Economics, University of Ferrara, Italy

Convenor of the 1st OECD-University of Ferrara joint International Policy Conference on "Intellectual Assets and Innovation: Value Creation in the Knowledge Economy"

A founding member of the global network "World Intellectual Capital Initiative" (WICI) as well as of the network "WICI Europe". He is the Chairman of WICI Europe.

## Appendix 2: Supplementary information on IP valuation methodology

### Section 1: Relief from royalty methods

The primary income-based approach used in the valuation of IP is the relief from royalty approach. The methodology is based on the economic theory of deprival value. Based on this theory, the value of the IP is equal to the capitalised amount of the royalties that would be payable if the IP was not owned but had to be licensed at arm's length from a third party.

In other words, the Relief from Royalty approach posits intangible value based on a royalty savings hypothesis, essentially asking: "over the useful life of the intellectual property, what would a person or business save by owning, rather than licensing, the intellectual property under consideration?"

The primary steps involved in applying this method are:

- identifying the appropriate royalty rate;
- calculating royalty cash flows (by applying the royalty rate to an appropriate 'royalty base', often projections of revenues derived from use of the IP); and
- capitalizing periodic royalty payments, generally on a post-tax basis, by discounting at a suitable discount rate.

A number of assumptions have to be made, notably as to a reasonable royalty rate, the reasonable remaining useful life of the IP, and an appropriate discount rate (or weighted average cost of capital, taking risk into account) by which to obtain the present value of these future, hypothetical royalty savings.

The relief from royalty method is generally used to measure the overall value of an IP asset, and so the calculation is usually based on royalty cash flows projected into perpetuity. In some cases, IP assets are licensed for a period of time (often several years) in return for an upfront payment. One advantage of the relief from royalty method is that it can also be used to consider the value of such a licence (by capitalising projected cash flows over the licence period only).

There are two commonly used ways of establishing an appropriate royalty rate for use of a particular piece of IP, including:

- comparable royalties; and
- economic benefits analysis.

*Comparables approach to determining an appropriate royalty rate*

The comparable royalties approach is often regarded as the best approach to establishing a suitable royalty rate. Negotiations between willing licensors and willing licensees, in like circumstances, will, at least in theory, provide the best available information about the level of an appropriate royalty for the IP in question.

In practice, however, it may not be possible to identify perfect comparables. In this case, it may be necessary to adjust the comparables available to reflect important differences, taking into consideration factors such as the IP being licensed, specific rights of use granted to the licensee, specific terms of the license, etc.

In practice, with the exception of experienced IP valuation professionals who often have access to their own databases of licence agreements, it can be challenging to identify even imperfect comparables for many IP assets.

*Economic benefits approach to determining an appropriate royalty rate*

IP generally provides, or is intended to provide, an economic benefit to the user. One view of an appropriate royalty is that it provides a means to share that benefit between the user of the IP and its owner. This approach is most useful where it is possible to identify the specific economic benefits created through use of the IP. A royalty rate can then be derived by considering how these benefits should be shared between licensor and licensee.

The economic benefit created through use of the IP is the incremental benefit a business derives through using the IP, compared with using the next best alternative. In many cases, it is difficult to measure this incremental benefit. In such circumstances, it is possible instead to consider the overall profits a business derives from the operations that utilise the IP (the 'available profits'), and to consider how these are shared between licensor and licensee[48].

What split of incremental benefits, or overall profits, is appropriate between licensor and licensee will depend on the costs incurred, assets contributed, risks borne, and the functions performed by each party. It is particularly important when dividing overall available profits (as opposed to specific incremental benefits) to take into account the other assets that contribute to earning the profits of the business, and which party is providing these.

*Input data required*

In addition to the data sets required for income based approaches generally, the following valuation inputs may be required in the relief-from-royalty method[49]:

- an estimate of the hypothetical royalty rate that would be paid if the asset were licenced from a third party,
- projections for the royalty base, e.g. revenues that the royalty rate would be applied to over the life of the IP together with an estimate of the life of the IP,
- rate at which tax relief would be obtainable on hypothetical royalty payments,
- the cost of marketing and any other costs that would be borne by a licensee in utilising the asset and,
- an appropriate discount rate or capitalisation rate to convert the asset's hypothetical royalty payments to a present value.

*Potential sources of input data*

In addition to the sources of data required for income based approaches generally, the following sources of data may be used in the relief-from-royalty method:

- databases of licence agreements,
- IP valuation professionals,
- IP transfer professionals.

[48] Available profits are the profits the business makes before any charge for use of the IP. It is the 'expected' available profits that are usually relevant to such an analysis, since this is what would be available to a licensor and licensee at the time they were negotiating a licence agreement.

[49] Adapted from IVSC Professional Board Meeting documents, 3 November 2011.

**Section 2: Premium profits method**

The IVSC defines the premium profits (sometimes referred to as incremental income) method as:

> *"The premium profits, or incremental income, method indicates the value of an IP asset by comparing an estimate of the profits or cash flows that would be earned by a business using the asset with those that would be earned by a business that does not use the asset. The forecast incremental profits or cash flows achievable through use of the asset are then calculated. Forecast periodic amounts are brought to a present value through use of either a suitable discount factor or suitable capitalisation multiple."*

*Input data required*

In addition to the data sets required for income based approaches generally, the following valuation inputs may be required in the premium profits method[50]:

- forecast periodic profit, cost savings or cash flows expected to be generated by a market participant using the intangible asset,
- forecast periodic profit, cost savings or cash flows expected to be generated by a market participant not using the IP and
- an appropriate capitalisation multiple or discount rate to capitalise forecast periodic profit or cash flows.

*Potential sources of input data*

In addition to the sources of data required for income based approaches generally, the following sources of data may be used in the premium profits method:

- financial reports and data of the organisation utilising the IP,
- sales data, forecasted sales data of products and services with an IP component,
- market research data and documents,
- any entities using similar or identical intangible assets for which information is available publicly and,
- proprietary databases of the valuer.

**Section 3: Excess earnings method**

The excess earnings method determines the value of IP as the present value of the cash flows attributable to the subject IP after excluding the proportion of the cash flows that are attributable to other assets.

It is a method that is often used for valuations used in financial reporting when there is a requirement for the acquirer to allocate the overall price paid for a business between tangible assets, identifiable intangible assets and goodwill.

The excess earnings method can either be applied using several periods of forecast cash flows – the "multi-period excess earnings method" or using a single period of forecast cash flows – the "single-period excess earnings method". In practice, because an intangible asset will normally bring monetary benefits over an extended period, the multi-period excess earnings method is more commonly used.

[50] Adapted from IVSC Professional Board Meeting documents, 3 November 2011.

*Input data required*

In addition to the data sets required for income based approaches generally, the following valuation inputs may be required in the excess earnings method[51]:

- forecast cash flows obtainable from the business to which the subject intangible asset contributes to cash flows – this will involve allocating both income and expenses appropriately to the pertinent business or group of assets of the entity that includes all the income derivable from the subject intangible asset,
- contributory asset charges in respect of all other assets in such business(es), including other intangible assets,
- an appropriate discount rate to enable expected cash flows attributable to the subject IP alone to be brought to a present value and
- if appropriate and applicable, a calculation of tax amortisation benefits.

*Potential sources of input data*

In addition to the sources of data required for income based approaches generally, the following sources of data may be used in the excess earnings method:

- financial reports and data of the organisation utilising the IP.

**Section 4: Residual value methods**

The residual value method takes as its starting point the value of a business as a whole, and allocates this between the various assets employed in it, commensurate with their contribution to the overall value

Once part of the value of the business has been allocated to its tangible assets, the residual value is considered to relate to intangibles. This approach is easier to apply where all the intangibles of the business are being valued collectively. Where an individual IP is to be valued, it is necessary to allocate the residual value identified among the various intangible assets employed in the business. Although there are some methods that can be used to make such an allocation, the data and skills required to apply these methods reliably are often unavailable. The residual value method is therefore most suited to a valuation of all the intangible assets of a business.

The key steps in this method are to:

- value the business in which the IP is being used, arriving at an 'enterprise value';
- ascertain the market or fair value of tangible assets;
- deduct the value of tangible assets from enterprise value to obtain the value of intangible assets (the 'residual value'); and
- allocate this residual value amongst the various intangibles if required.

To obtain the residual value, it is the market value of tangible assets that should, in theory, be deducted from enterprise value. In practice, the value of tangible assets is usually recorded in accounting statements, which value most assets at historical cost, and are often the only source of

[51] Adapted from IVSC Professional Board Meeting documents, 3 November 2011.

data available[52]. In such circumstances, to the extent that book value is lower than market value, the residual value calculated will be overstated.

Once the residual value has been estimated, it can be allocated between intangibles in one of the following ways:

*Value chain analysis*

This requires an understanding of all the value-adding activities undertaken by the business. From this, the intangible assets that contribute to the business making profits can be identified, and their relative importance understood, using benchmark returns for comparable companies. Where it is possible to perform such an analysis, this method has the advantage of taking into account the specific circumstances in which the IP is being used. The difficulty, however, can be to perform this analysis in a quantitative rather than qualitative way; and

*Market reference points*

Where other, comparable, companies have performed a similar allocation exercise, this can provide a reference point that can be applied to the residual value calculated. One situation in which companies often perform such an analysis is when they acquire assets in a business combination. However, the allocation of assets in an acquisition can be affected by accounting practice, which can vary over time and from one jurisdiction to another, and so care must be taken when interpreting the results of such an analysis.

[52] In some instances accounting statements may allow a valuation of fixed assets at fair value, even though it is quite rare for intangible assets. See Accounting and Reporting section.

## Appendix 3: Supplementary information on IP valuation standards

### Section 1: Key differences between IP valuation standards

*Binding Force*

IP valuation standards differ significantly by their binding force. They range from the compelling application of the standard when performing a specific IP valuation to the voluntary adoption of the standard. The question on how binding a standard is mainly depends on the standard setting organization and its legitimation to professionals or certain applications. Standards can either be set by governmental institutions or private organizations.

Compliance with standards imposed by government regulations is obligatory. However there are only few regulations set by governmental institutions that are relevant for the valuation of IP. The existing regulations cover very specific valuation causes or purposes such as the German inventor remuneration (ArbErfVG).

As private organizations do not have any legislative power they cannot formulate standards which are mandatory, therefore, the compliance with IP valuation standards set by private organizations is basically voluntary. Such voluntary standards primarily provide the benefit that they establish a common language which defines quality criteria for valuation proceedings and the resulting valuation reports.

However, there are specific conditions where standards set by private organizations become mandatory (or quasi mandatory) regulations:

- "Delegated Regulation": in some cases mandatory government regulations refer to standards set by private organizations. In this way the governmental delegate the regulation of specific problem areas to dedicated privately organized expert groups. In this way the application of standards set by the private organization becomes mandatory. An example for such a proceeding is the International Financial Reporting Standards (IFRS / IAS) that was made mandatory EU law by a special endorsement set by the European Commission.
- "Rules of professional conduct": There are certain professional groups (particularly those who certify their members) that define rules of professional conduct. These standards are set by the standard setting bodies of the respective professional group (e.g. IDW - Institut der Deutschen Wirtschaftsprüfer or Brand Valuation Forum). The application of these standards is mandatory for each member of the professional group. Due to the fact that the members of the professional group are dedicated valuation experts (e.g. accountants, financial auditors or brand valuers) their standards provide profound regulations of the subject matter. The adoption of these standards guarantees for the high quality of the valuation result. Therefore the application of those standards is frequently required by the clients of the valuation. This means that these standards can develop a factual binding force for valuers who actually do not belong to the professional group.
- "Industry standard": The typical form of regulations imposed by private institutions is the so called "industry standard". Such standards are basically not binding. This means that there is no concrete industry, no concrete valuation cause or no concrete valuer for which the compliance with the standard is mandatory. Although such industry standards can gain significant impact from their factual usage in the market, in regulative acts, in court decisions, in tax regulations etc. The more the industry standard is adopted by the relevant parties the more likely it is that the incorporated guidelines will be accepted as principles for proper IP valuation.

*Geographical Scope*

The geographical scope of the respective standards is mainly resulting from the territorially limited legislative power of governmental institutions, from the political purposes of standard setting organizations and from the composition of the expert groups that are defining the regulations.

- International: There are standard setters who are acting on a global basis such as the International Organization for Standardization (ISO), the Organisation for Economic Co-operation and Development (OECD), the International Accounting Standards Board (IASB) or the International Valuation Standards Council (IVSC).
- Regional: There are further standard setters that are defining regulations for specific geographical regions. The most important European standard setters is for example the CEN (Comité Européen de Normalisation).
- National: Examples for national standard setters are the Deutsches Institut für Normung (DIN), the Association Française de Normalisation (AFNOR), the British Standards Institution (BSI) or the Institut der Deutschen Wirtschaftsprüfer (IDW).

*Scope and Regulatory Depth*

The existing standards on IP valuation are usually designed for a specific application in a specific situation and under specific circumstances. These situations and circumstances may require different solutions for particular valuation related questions. Therefore the respective standards are very heterogeneous in terms of their scope and regulatory depth. This means that these standards differ on the one hand by what they tend to standardize and on the other hand by to which extent the specific problem area is regulated. Hence the scope and regulatory depth of the existing standards on IP valuation is determined by one of the following basic parameters (or a combination of two or more of these basic parameters):

*Valuation Cause*

The concrete valuation cause (which means the concrete reason why the IP valuation is performed) predetermines the information to be considered in the valuation and the addressee of the value information. The valuation cause also defines the role of the valuer as a consultant, an arbitrator or a neutral expert. Hence the concrete arrangement of an IP valuation is determined by the cause for which the valuation is performed.

Due to the fact that valuation causes are signified by specific basic conditions most valuation standards are dedicated to specific valuation causes (e.g. transfer pricing, balance sheets, financial use and management purposes). The recommendations contained in these standards for different valuation causes can differ significantly. This does not mean that those standards are contradictory but that the specific needs of the valuation situation are reflected. For example the “caution principle” (which demands a very prudent valuation of assets) is quite common in accounting. However this “caution principle” may not be suitable for preparing management decisions on the investment into IP or setting transfer prices between entities of an international firm.

The standards usually reflect the importance of the addressee of the value information for the valuation proceedings. As a rule of thumb it can be stated that the more internal the valuation addressee is the lower are the requirements towards the validation and objectification of the information comprised in the valuation. Managers who are performing financial planning in different scenarios (internal information addressees) can rate the quality and probability of estimations. Therefore the requirements for validation and objectification of the data used are

lower than in cases where the information addressee is not provided with such information. This case usually arises when the valuation addressee is standing outside the entity that will use the IP right to be valuated in a specific business model (e.g. a credit grantor who may accept the IP asset as collateral for a loan). Here the valuation addressee will usually have inferior information on value relevant parameters. Hence the valuation professional will have to make higher efforts in determining valid information and will probably use objectified data from external sources.

*Qualification of the valuer*

IP valuation standards can define a minimum qualification for the valuer and his professional performance respectively. This means that IP valuations which comply with the specific standard can only be performed by experts who provide a certain level of experience in the fields predefined by the standard. Typical fields of experience are the valuation practice and theory, the respective IP law and/or the technical background to comprehend the technical content of patents. An example of such a standard is DIN 77100.

*Concrete Assets*

The particular IP assets are signified by specific value determining factors and typical asset specific risks. These value determining factors and asset specific risks differ between the asset classes. This means for example that a trademark / brand, that achieves its value mainly from its prominence and from the customer perception, has other value determining attributes than a patent has. Hence the details of valuing specific IP assets differ as well.

For this reason most IP valuation standards define the assets for which they are valid. They either refer to specific assets such as patents or trademarks or to asset classes such as intangible assets.

*Safeguarding quality standards*

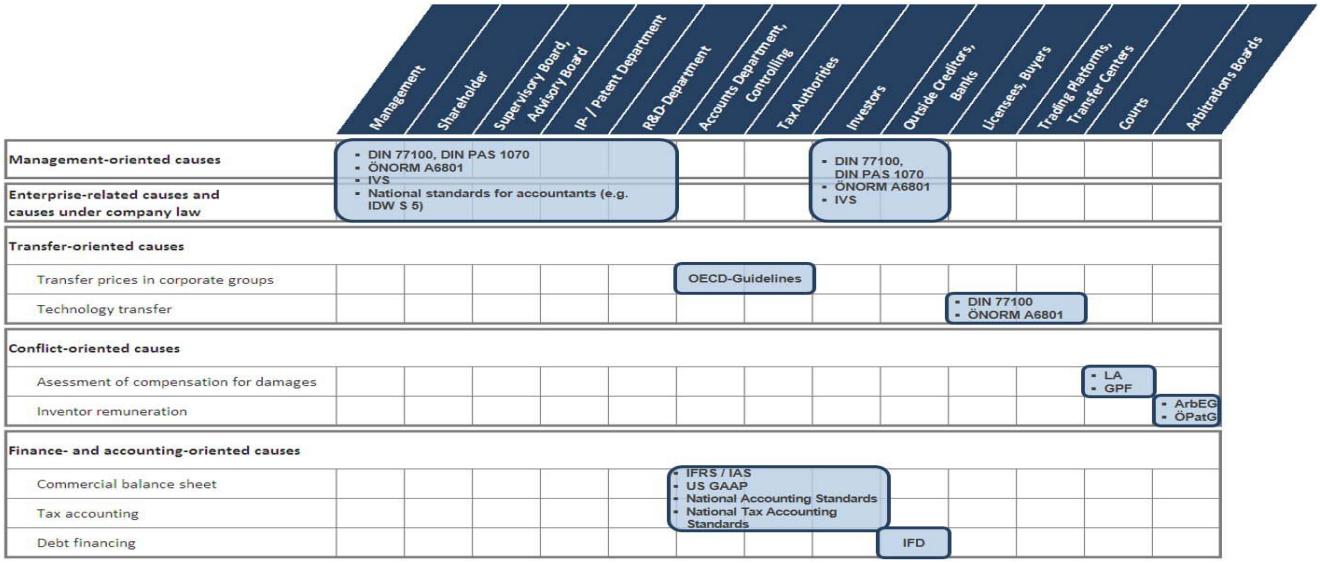
IP valuations are performed for specific reasons (see Valuation Causes section) and for specific information addressees. These information addressees usually need the value information to be established in the course of the IP valuation to make rational and well founded decisions (e.g. a financial institute's decision to accept IP as collateral for a loan or an IP buyer's decision to pay a certain price for the purchase of an IP asset). To make sure that these addressees receive the right and complete information minimum standards for the value- and risk related aspects to be assessed and the content of IP valuation reports can be defined.

*Regulation Approach*

The existing standards for IP valuation differ significantly not only by the level of detail in which the standardized content is described but also by the approach that is chosen to define the proper valuation proceedings. These include:

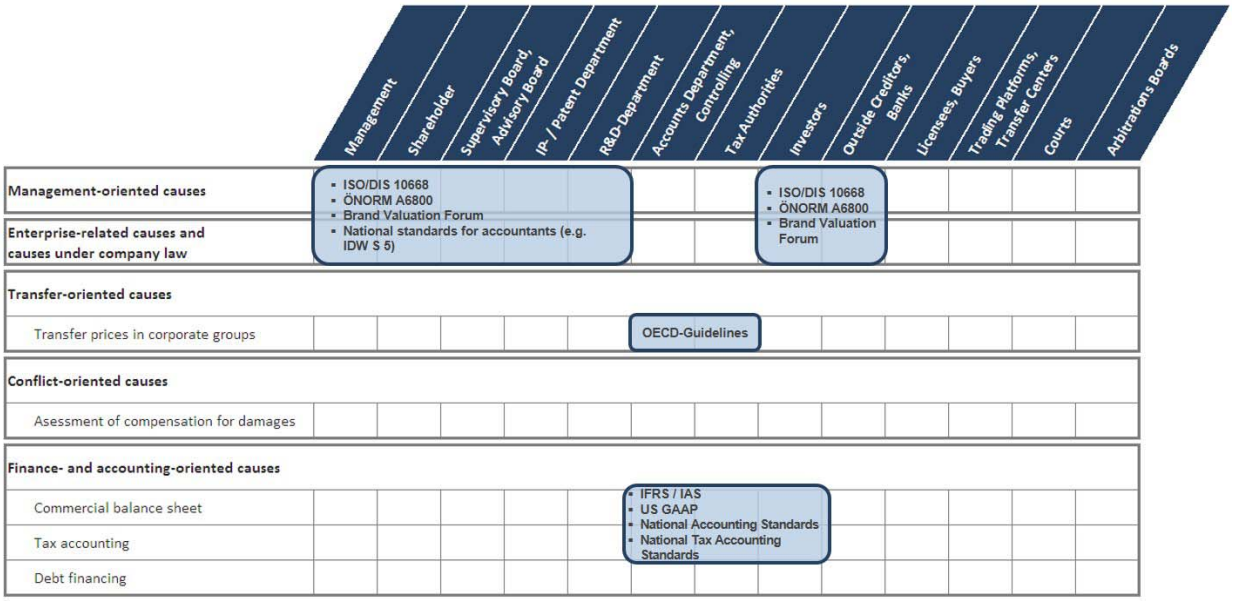
- Recommendations for applying certain valuation approaches and recommendations for certain information to be incorporated (e.g. ISO/DIS 10668, DIN 77100),
- Providing best practice examples for the conduction of a valuation (e.g. International Valuation Standards),
- Definition of valuation formulae (e.g. ÖNORM A6801).

## Section 2: Overview of patent related valuation standards / norms:




| Legend: | | |
|---|---|---|
| | ArbEG | Gesetz über Arbeitnehmererfindungen (German Employee Inventor Act) |
| | DIN 77100 | Monetäre Patentbewertung (Monetary Patent Valuation) |
| | DIN PAS 1070 | General principles of proper patent valuation |
| | GPF | Georgia Pacific Factors |
| | IDW S 5 | Grundsätze zur Bewertung immaterieller Vermögenswerte |
| | IFD | Grundsätze zur Bewertung von Patenten bei der Verwendung als Kreditsicherheiten |
| | IFRS/IAS | International Financial Reporting Standards/International Accounting Standards |
| | IVS | International Valuation Standards |
| | OECD- Guidelines | OECD Transfer Pricing Guidelines |
| | ÖNORM A6801 | Verfahren zur Patentbewertung |
| | US GAAP | United States Generally Accepted Accounting Principles |

## Section 3: Overview of trade mark related valuation standards / norms




| Legend: | | |
|---|---|---|
| | Brand Valuation Forum | 10 Grundsätze der monetären Markenbewertung |
| | ISO/DIS 10668 | Brand valuation -- Basic requirements for methods of monetary brand valuation |
| | IDW S 5 | Grundsätze zur Bewertung immaterieller Vermögenswerte |
| | IFRS/IAS | International Financial Reporting Standards/International Accounting Standards |
| | IVS | International Valuation Standards |
| | OECD- Guidelines | OECD Transfer Pricing Guidelines |
| | ÖNORM A6800 | Bewertung des immateriellen Vermögensgegenstands "Marke" |
| | US GAAP | United States Generally Accepted Accounting Principles |

## Appendix 4: Supplementary information on the online survey

### Section 1: Questions in the online survey conducted March-May 2013

The following open questions were sent as an e-mail to 498 contacts in 3 sectors: Industry, Financing and Service providers:

**Question 1:** Does your business have a dedicated IP management group? Do they have a systematic way on evaluating IP? If so, what methodology is utilized by the firm in evaluating IP or its other intangible assets?

**Question 2:** What valuation techniques are employed by the firm when valuing another firm's IP in the context of a merger? Would M&A be facilitated if IP valuation were better known and/or improved?

**Question 3:** Does the firm utilize IP valuation when in patent litigation? Does it value the opposition's IP portfolio? What methods are employed? If IP were evaluated more appropriately, would IP litigation disputes decrease in your opinion?

**Question 4:** Do firm accountants have knowledge over intangible assets (IA) in your company? Are intangibles expressly stated on the firm's balance sheet? How are intangibles reported to investors?

**Question 5:** If you are part of a financial institution, what methods are employed in evaluating a potential investment project's IP? Is there a systematic methodology in place to evaluate intangible assets of firms seeking loans? Do you find that more SMEs would have greater access to credit if their IP were evaluated in a systematic way?

## Appendix 5: Supplementary information on IP valuation and Raising Finance

### Section 1: Questions in survey of financing institutions

*Questions asked from financing institutions*

Question 5 A: What sort of finance do you offer/provide (eg loan/equity/debt) – [If they offer more than one stream then ask the following questions in relation to each stream]

Questions 5B: -Do companies approach you to raise finance using the IP itself as collatoral? Do they approach you to securitise the income stream from IP? Do they approach you for investment in which you take an equity share? Or for another reason?.

Questions 5C: - [For each category in 5B] Is the IP formally valued? Who does it?

Questions 5D: If the IP is formally valued, which methods are employed in evaluating the IP? Is there a systematic methodology in place to evaluate intangible assets of firms seeking finance? Do you find that more SMEs would have greater access to credit if their IP were evaluated in a systematic way? Please be as descriptive as possible.

Questions 5E any reasons why IP value cannot or is not considered in their financing decisions. This could be interesting because there may be rules in the financial sector preventing this type of lending or investment.

### Section 2: Examples of IP based lending and IP valuation at financial institutions

Answers were kindly provided by:

- United Kingdom: Silicon Valley Bank, Business Growth Fund, Wheb Venture Capital, Clifton Asset Management, Lloyds Bank, Westerby Trustees. Input was also received from Alago Ltd, Clydesdale (and Yorkshire Bank) Growth Finance, James Cowper, Fotech Ltd, Inngot and Metis Partners;
- Sweden: Nordea Bank AB, ALMI Företagspartner Väst, ChalmersInvest, Chalmers University of Technology, Investec Private Bank, Clydesdale Growth Finance, Swedbank;
- Hungary: Consultations were held with Hungarian Development Bank (MFB Zrt), Small Business Development Company Ltd. (KvfP Zrt.), Fokusztakarék, BNV Equity Ltd.;
- Germany: Commerzbank AG, DAL Deutsche Anlagen-Leasing, Landesbank Baden-Württemberg, Landeskreditbank Baden-Württemberg, Target Partners.

The Expert Group is grateful to those companies for their participation.

### Section 3: Selected examples highlighted from the enquires of the Raising Finance group

*Consultation with Clydesdale (and Yorkshire Bank) Growth Finance*

The process that the bank uses to assess the business in order to provide debt equity:

- Are VC's committed and main drivers – Yes

Then the bank asks:

- What is the purpose?

- How will this work for the business?
- How will business service debt?
- Base Model
- Flat line model

Then the bank will undertake an Exit Analysis – Which of the below applies?

- 1st Exit
- Free Cash Flow
- Refinancing
- 2nd Exit
- Equity Refinance and Support
- 3rd Exit
- Refinancing (unplanned)
- Asset sale (tangible and intangible assets)
- Realisation of security (least preferred option!!)

If business passes the above assessment to the bank's satisfaction then the bank will obtain an expert review on how the IP underpins the business. This is not a formal valuation.

Other information about the initiative:

- IRR to the customer is ~12%
- The bank has lent £25M in the past 2 years to IP rich companies.
- The founder director, Mark Taylor, has lent £140M to 46 IP rich companies in 10 countries since 1998, since he first set up Europe's first venture debt business (at Kleinwort Benson).

## Appendix 6: Supplementary information on IP valuation and Accounting and Reporting

### Section 1: Examples mentioned in paragraphs 14 to 16 of IAS 38

*14. Market and technical knowledge may give rise to future economic benefits. An entity controls those benefits if, for example, the knowledge is protected by legal rights such as copyrights, a restraint of trade agreement (where permitted) or by a legal duty on employees to maintain confidentiality.*

*15. An entity may have a team of skilled staff and may be able to identify incremental staff skills leading to future economic benefits from training. The entity may also expect that the staff will continue to make their skills available to the entity. However, an entity usually has insufficient control over the expected future economic benefits arising from a team of skilled staff and from training for these items to meet the definition of an intangible asset. For a similar reason, specific management or technical talent is unlikely to meet the definition of an intangible asset, unless it is protected by legal rights to use it and to obtain the future economic benefits expected from it, and it also meets the other parts of the definition.*

*16. An entity may have a portfolio of customers or a market share and expect that, because of its efforts in building customer relationships and loyalty, the customers will continue to trade with the entity. However, in the absence of legal rights to protect, or other ways to control, the relationships with customers or the loyalty of the customers to the entity, the entity usually has insufficient control over the expected economic benefits from customer relationships and loyalty for such items (e.g. portfolio of customers, market shares, customer relationships and customer loyalty) to meet the definition of intangible assets. In the absence of legal rights to protect customer relationships, exchange transactions for the same or similar non-contractual customer relationships (other than as part of a business combination) provide evidence that the entity is nonetheless able to control the expected future economic benefits flowing from the customer relationships. Because such exchange transactions also provide evidence that the customer relationships are separable, those customer relationships meet the definition of an intangible asset."*

### Section 2: EU Accounting Directive no. 2013/34

Article 9 defines intangible assets as follows:

*"B. Fixed assets*

*I. Intangible assets*

*1. Costs of development, in so far as national law permits their being shown as assets.*

*2. Concessions, patents, licenses, trademarks and similar rights and assets, if they were:*

*(a) acquired for valuable consideration and need not be shown under B (I) (3); or*

*(b) created by the undertaking itself, in so far as national law permits their being shown as assets.*

*3. Goodwill, to the extent that it was acquired for valuable consideration.*

*4. Payments on account."*

Article 12.11 of the new Accounting Directive clarifies that:

"Intangible assets shall be written off over the useful economic life of the intangible asset.

In exceptional cases where the useful life of goodwill *and development* costs cannot be reliably estimated, such assets *shall be written off within a maximum period* set by the Member State. That maximum period shall not be shorter than five years and shall not exceed 10 years. An explanation of the period over which goodwill is written off shall be provided within the notes to the financial statements.

Where national law authorises the inclusion of costs of development under 'Assets' and the costs of *development have not been completely written off,* Member States shall require that *no distribution of profits take place unless the amount of the reserves available for distribution and profits brought forward is at least equal to that of the costs not written off."*

**Section 3: Standard IFRS 13 - Main features of the measurement method**

*IN8. IFRS 13 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e. an exit price).*

*"IN9. That definition of fair value emphasizes that fair value is a market-based measurement, not an entity-specific measurement. When measuring fair value, an entity uses the assumptions that market participants would use when pricing the asset or liability under current market conditions, including assumptions about risk. As a result, an entity's intention to hold an asset or to settle or otherwise fulfill a liability is not relevant when measuring fair value.*

*IN10. The IFRS explains that a fair value measurement requires an entity to determine the following:*

*a. the particular asset or liability being measured;*

*b. for a non-financial asset, the highest and best use of the asset and whether the asset is used in combination with other assets or on a stand-alone basis;*

*c. the market in which an orderly transaction would take place for the asset or liability; and*

*d. the appropriate valuation technique(s) to use when measuring fair value. The valuation technique(s) used should maximize the use of relevant observable inputs and minimize unobservable inputs. Those inputs should be consistent with the inputs a market participant would use when pricing the asset or liability."*

**Section 4: Supplementary information about the Management Commentary**

This trend towards the release of company non-financial information is significantly supported by the 2010 IFRS Practice Statement no. 1 on "Management Commentary" issued by the International Accounting Standards Board (IASB), where there is an explicit request for non-financial information to be included in the Management Report which goes along with company accounts. This information is considered to be critical to investors and lenders in order to understand the future financial and non-financial performance of a company, and is substantiated by the disclosure of *Key Performance Indicators* (KPIs) relevant to the industry in which a firm operates (cf. www.ifrs.org).

Such integrated information may concern not only the present situation of the entity, but also the past and the future in a way that should help the users of financial statements to understand, among other things, how resources that are not presented in the financial statements could affect the entity's operations and the way in which non-financial factors may influence or have influenced the information included in the financial statements (paragraph. 14).

Among these *resources* which do not normally show in the financial statements prepared according to IAS/IFRS, there can also be the human and intellectual capital resources (including therefore the IP/IPR), even in cases when they are internally generated. Such resources are explicitly mentioned in the Practice Statement (paragraph 30). The performance measures and indicators, which can be a narrative evidence of the way the company is managed and its resources controlled and developed, should also be disclosed in the Management Commentary (paragraphs 37-40). Not necessarily shall these measures and indicators be directly derived by financial reporting data. The Management Commentary should also include a comparison of such measures and indicators in time (historical comparison) and in space (geographical and industry comparison).

**Section 5: Supplementary information on models and approaches to represent IP/IPR using non financial measures and indicators.**

*Intangible Asset Monitor*

The Intangible Assets Monitor (IAM) is based on the fundamental premise of people being an organisation's only profit generators. Accordingly, people are the only true agents in business; all assets and structures, whether tangible physical products or intangible relations, are the result of human action and depend ultimately on people for their continued existence. Therefore, according to the IAM, human actions are converted into both tangible and intangible knowledge "structures". Such structures are either directed outwards (external structures) or inwards (internal structures). These structures are assets, because they affect the organisation's revenue streams. According to the IAM, the profits generated from people's actions are signs of that success, but not the originators of it.

The IAM is a stock/flow theory. It assumes that some of the organisation's assets are intangible and the purpose of the IAM is to guide managers in how they utilise the intangible assets, identify the flows that are increasing and renewing them and guard against the risk of losing them. According to the IAM the intangible part of a company's balance sheet can be said to consist of three parts: individual competence, internal structure and external structure.

- *Individual competence.* This is one's ability to act in various situations. It includes skills (including social skills), education, experience, and values. A key determinant of a organisation's success is the competence of its staff. This competence is directed in two ways, externally and internally.
- *Internal structure.* These assets are organisational in nature, such as the IP/IPRs. In fact, they include patents, processes, systems, concepts, and computer and administrative systems. Such structures are generally created by the employees and are thus generally 'owned' by the organisation, and adhered to. A key feature of such structures, is that they largely remain intact even if people leave the organisation.
- *External structure.* This consists of relationships with customers and suppliers, brand names, trademarks and organisational reputation or "image".

Today, the IAM model has been slightly simplified and adopted by various companies around the world. The three groupings of intangible assets are generally called human capital, structural or organizational capital (which includes also the innovation and the IP/IPR capital), and relational capital. Basically, the idea is to employ different indicators expressed according to various measurement units to represent and visualize fundamental intangible assets of the organizations.

*The Skandia Navigator*

The world's first annual intellectual capital report was prepared by the Swedish financial services firm, Skandia. Skandia's 1994 IC report, *Visualising Intellectual Capital,* represented a coherent first attempt to report the value of intellectual capital in an organisation. The Skandia "Navigator" is perhaps the best known business model developed to identify the intangible assets that are key to company performance. A feature of the Skandia Navigator is its definition of the intellectual capital as not just the skills and expertise of its workforce, but also the systems and processes that it has put in place to capture and exploit all the knowledge it can. The Navigator is based upon the same broad conceptual framework as the IAM.

The Navigator is designed to provide a balanced picture of the financial and intellectual capital. Consequently, it incorporates measures in categories similar to those of the "balanced scorecard". The focus on financial results, capital, and monetary flows, is complemented by a description of intellectual capital and its development. The Navigator framework, as expected, has at its top end a series of measures relating to the *financial focus*. But it also has "below the line" measures of intellectual capital. These involve four areas and two dimensions. The four areas are:

- *Customer Focus*, which quantifies how the organisation is to look to its customer;
- *Process Focus*, which quantifies key aspects of the organisation's process performance;
- *Renewal and Development Focus*, which quantifies what is being done to renewal and develop the intellectual asset base; and
- *Human Focus*, the "virtual" binding force of customer, process, renewal and development and finance.

The Navigator incorporates a total of about 30 key indicators in the various areas, which are monitored internally on a yearly basis[53]. Almost more importantly, the Navigator includes two

[53] The key indicators for customer focus include the number of accounts, the number of brokers and the number of lost customers. The key indicators for process focus include the number of accounts per employee and administrative costs per employee. The key indicators for human focus include the personnel turnover, the proportion of managers, the proportion of female managers and the training and/or

dimensions. The measures in each focus are specified in terms of today's performance and tomorrow's performance; this is a clear view of articulating "targets" for the Navigator.

The Skandia Navigator is used to identify the important areas of know-how in the organisation which need to be developed and shared. Each of Skandia's strategic business units have used the Navigator framework to develop their own specific measures of intellectual capital. By identifying important assets like its customer and innovation capital more systematically, Skandia says the Navigator has improved its management of these assets, benefited overall performance and increased its share value. Skandia says that its ability to identify and draw upon the relevant know-how easily has enabled it to set up foreign offices much more quickly than in the past. The Skandia Navigator model has been applied by the Swedish Government and also developed by other companies.

*The Areopa method*

This Intellectual Capital (IC) reporting approach uses the same fundamentals of classical Accounting such as identification and analysis of Business Processes, Accountable events, Accounting transactions, assets and liabilities. However unlike classical accounting there is a second portion which expresses the Future Potential of the IC asset on hand.

The Areopa method uses formulas based on what they call "added value creating phenomena's" (AVCPs). Each of these can be presented in an "econometric formula", which derives a monetary value for each parameter and variable. Each result is combined to give a total monetary result representing the total IC value of the company.

The Future Potential is calculated based on the 77 added value calculation formulas of the Areopa 4 leaf model. Identification of the basic resources required in the business processes will identify what needs to be managed to create "added value ". This added value is calculated by using the 77 formulas.

If expressing IP value, the use of the know how in order to create revenue for a company than this would mean that we should not use all the AVCP formulas but only a subset of the AVCP's which reflect the real situation in which the company is using his legally protected knowhow and the tacit know-how/show-how which is used in the process of developing a product or a service.

The big difference between the financial accounting and the IC accounting is that the financial accounting is based on the past and the IC accounting is based on the present and the future. So the full value of a company should be presented in a consolidated Balance sheet between the financial one and the IC/IP one. So this balance sheets looks both at accounting and valuation.

The consolidated Balance Sheet shows the total value of the enterprise, combining financial with IC elements. The assets side gives a clear insight into the relative values of ALL assets. The liabilities side shows how assets are 'financed', i.e. 'who owns' the assets. Balance Sheet analytics can be developed in line with BS analysis concepts which already exist for the 'classical' BS .To calculate the book value, then we need to define which financial accounting principles we would use for the IC accounting principles.

*The KPIs by the World Intellectual Capital Initiative Network (WICI)*

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education costs per employee. The key indicators for development/renewal focus include the satisfied employee index, the marketing expense/customer and the share of training hours.

The “World Intellectual Capital Initiative” (WICI) Network is a private/public sector collaborative aimed at improving corporate information - with a focus on non/extra-financial information - for more effective decision making. WICI's primary goal is to facilitate the development of a global business reporting framework for measuring and reporting overall corporate performance to shareholders and other stakeholders.

One of WICI’s main activities in working toward this goal is facilitation of and collaboration on the development of common idea on key performance indicators (KPIs) as one of the important elements of reporting. KPIs may be financially derived and/or non-financial in nature, and may include a wide range of market-oriented, industry-specific, and company specific indicators. The purpose is to represent in a more effective and comprehensive way the various economic results of a firm, taking in consideration the “intangibles”.

In particular, WICI is working to provide a wide set of non-financial KPIs at the industrial level to offer a more perceptive indication of business’s value drivers and of the future financial and competitive performance of a firm (c.d. lead indicators), information which will be at the advantage of both shareholders and stakeholders.

The basic idea is simple, and it consists of the creation of a collaborative and open network, based on the open source and bottom-up Wikipedia logic, where all the qualified entities and parties can freely offer their own collaboration, support and contribute in accordance with the guidelines and the collectively shared goals.

## Appendix 7: Supplementary information on introduction of an additional reporting section for IA and IP

### Section 1: Results of survey on 29 recent UK prospectus documents for Initial Public Offerings (IPOs)

| | Trademark names / Patentdetails | Overseas patentdetails | Information on IP protection policy | Information regarding develop-ment stage of IP | Estimated costs to bring IP to market | Details of competing IP or companies | Potential market size | Potential Share of Market | Information on Financial status of IP (e.g. used as security) | Collaboration/ licensing arrangements with partners (R&D, Project, etc.) | FullyAudited FS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AmbitBiosciences Corporation | Yes | Yes | Yes | Yes | No | Yes | Sufferers | No | Yes | Yes | Yes |
| AppliedMedical Corporation | Number | Number | Yes | No | No | No | No | No | Yes | n/a | Yes |
| ArgosTherapeuticsInc | Yes | Number | Yes | Yes | No | Yes | No | No | Yes | Yes | Yes |
| Brightsource Energy Inc | Yes | Number | Yes | Yes | No | No | Yes | No | No | Yes | Yes |
| Cancer Genetics Inc | Yes | Yes | Yes | No | No | Yes | No | No | Yes | Yes | Yes |
| ConatusPharmaceuticalsInc | Yes | Number | Yes | Yes | No | No | Yes | No | Yes | Yes | Yes |
| ElevanceRenewableSciencesInc | Number | Number | Yes | No | No | No | Yes | No | Yes | Yes | Yes |
| EnantaPharmaceuticalsInc | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No | Yes | Yes |
| EnerkemInc | Yes | Yes | Yes | No | No | Generic | Yes | No | Yes | n/a | Yes |
| ForgivenBottling Group, Inc | Yes | n/a | Yes | No | No | No | No | No | No | n/a | No |
| GW Pharamceuticals PLC | Yes | Number | Yes | Yes | No | Yes | Sufferers | No | No | Yes | No |
| Harvard Apparatus Regenerative Technology Inc | Yes | Yes | Yes | Yes | No | No | Sufferers | No | No | Yes | Yes |
| HeatBiologiesInc | Yes | Yes | Yes | Yes | No | Yes | Sufferers | No | Yes | n/a | Yes |
| Integrity Applications Inc | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No | n/a | Yes |
| Iroko Pharmaceuticals | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | No | Yes | Yes |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KalobiosPharmaceuticalsInc | Yes | Yes | Yes | Yes | No | Yes | Yes | No | Yes | Yes | Yes |
| Luca Technologies Inc | Number | Number | Yes | n/a | n/a | Yes | Yes | No | Yes | n/a | Yes |
| Mascoma Corporation | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No | Yes | Yes |
| Norit N.V. | Number | Number | Yes | n/a | n/a | Yes | No | No | Yes | n/a | Yes |
| OncoMedPharmaceuticalsInc | Yes | Yes | Yes | Yes | No | Yes | No | No | No | Yes | No |
| PortolaPharmaceuticalsInc | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No | Yes | Yes |
| RadiusHealthInc | Number | Number | Yes | Yes | No | Yes | Yes | No | Yes | Yes | Yes |
| Revolymerplc | Yes | Yes | Yes | n/a | n/a | Yes | Yes | No | No | No | Yes |
| Rib-X PharmaceuticalsInc | Yes | Yes | Yes | Yes | No | Yes | Yes | No | Yes | Yes | Yes |
| SingulexInc | Number | Number | Yes | No | Yes | Generic | Yes | No | Yes | Yes | Yes |
| TargetedMedicalPharmaInc | Yes | Yes | Yes | No | No | Generic | No | No | No | n/a | No |
| TetraphasePharmaceuticalsInc | Yes | Yes | Yes | Yes | Yes | Yes | No | No | No | Yes | Yes |
| TVAX BiomedicalInc | Yes | Yes | Yes | Yes | No | Generic | Yes | No | Yes | Yes | Yes |
| WP PrismInc | Number | Number | Yes | Yes | No | Generic | Yes | Yes | No | n/a | Yes |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Information Given: | 100% | 97% | 100% | 66% | 7% | 79% | 72% | 7% | 52% | 66% | 86% |
| No Information Given: | 0% | 0% | 0% | 24% | 83% | 21% | 28% | 93% | 48% | 3% | 14% |
| NotApplicable: | 0% | 3% | 0% | 10% | 10% | 0% | 0% | 0% | 0% | 31% | 0% |

## Appendix 8: Abbreviations

| | |
|---|---|
| AAC | Average Avoidable Cost |
| DG | Directorate General of the European Commission |
| EBITDA | Earnings before interest, taxes, depreciation, and amortization |
| EC | European Commission |
| FS | Financial Statements |
| IA | Intangible Asset |
| IAS | International Accounting Standard |
| IABL | Intangible Asset–Backed Lending |
| IASB | International Accounting Standards Board |
| IC | Intellectual Capital |
| IFRS | International Financial Reporting Standards |
| IP | Intellectual Property |
| IPO | Initial Public Offering |
| IPR | Intellectual Property Rights |
| IVSC | International Valuation Standards Council |
| LRAIC | Long-run |
| M&A | Mergers and Acquisitions |
| MR | Management Report |
| PE | Private Equity |
| R&D | Research and Development |
| SME | Small and Medium sized Enterprise |
| VC | Venture Capital |
| WACC | Weighted Average Cost of Capital |
| WICI - KPI | World Intellectual Capital Initiative – Key Performance Indicators |
| WIPO | World Intellectual Property Organization |
| XBRL | eXtensible Business Reporting Language |

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World Intellectual Capital Initiative (WICI) Network (www.wici-global.com).

World Intellectual Property Organization (WIPO) website (www.wipo.org).

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The intangible assets created through the processes of innovation represent a major share of the value of today's businesses. When given a financial value, the IP rights associated with those assets allow for the leveraging of innovation investments through IP transactions and IP based finance. This report explores the scope for improvement of IP asset valuation in order to foster the development of a European Knowledge Market. The recommendations proposed by the report aim to increase data availability, trust in IP valuation, reporting of IP and the acceptance by financial institutions of IP assets as collateral for loans.

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