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Impact of perceived high invalidity rates in business and innovation

Claudia Tapia¹, Ericsson, analyses the misconception that many patents are invalid and its impact for businesses and the development of Europe.

Small and Medium-Sized Enterprises (SMEs) represent 99% of all businesses in the EU and are considered “the backbone of Europe’s economy”.² Being an SME competing against companies with thousands of employees seems to be ‘mission impossible’. However, for technology companies, the patent system allows start-ups to grow into successful SMEs (or even become large companies). Patents fulfil a number of functions, such as access to capital, and the patent system

enables a number of business models. For example, companies may decide to exploit patented inventions themselves by manufacturing and selling their patented product, and exclude others from using the protected technology.³ They may also allow others the use of patented inventions (through licensing) for compensation (monetary and other types of consideration). In both cases, the patent holder can obtain a “return on investment” within a reasonable timeframe, thus being encouraged to continue to innovate.

Fractus⁴, a Spanish SME that invents and sells antenna technology, is such a case. The company started in 1999 with one single idea: it created a technology which allowed the antenna of the mobile device to be put ‘inside’ that device. Fractus was smart enough to patent this idea. However, having introduced the technology into the market and having found international customers, Fractus faced a typical SME challenge: when contacting infringers with an offer to license, many stakeholders are unwilling to

Résumé

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With over 39,000 granted patents, Ericsson has emerged as the company holding the strongest radio communication patent portfolio in the industry covering 2G, 3G and 4G cellular standards. Claudia’s main responsibility is to engage in the global debate on FRAND and other IPR topics. She is also responsible of other areas related to Ericsson’s IPR strategies and policies in Standards Development Organizations.

Prior to joining Ericsson, Claudia was Director IP Policy in the department Patent & Standards Strategy at BlackBerry. While at BlackBerry, she focused on various aspects of intellectual property, including intellectual property rights policies in standards, global patent policies, as well as licensing and litigation.

Claudia holds a law degree from the University of Valencia, an LLM degree specialising in International Patent Law from the Ludwig-Maximilian University in Munich and a PhD degree (with a scholarship of the Max Planck Institute) from the Faculty of Law in Augsburg. She is president of 4iP Council, Spokesperson of IP Europe, vice chair of the IPR WG at DigitalEurope, vice chair of the IP Policy Group in TechUK and a member of several organisations such as AIPPI, ETSI, ITU, LES, and VPP.

Originally from Argentina, but brought up in Spain and residing in Germany, she is truly a global citizen, and speaks English, Spanish and German.

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² See “Entrepreneurship and SMEs”, European Commission, at <http://ec.europa.eu/growth/smes/>; See SME definition at http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/index_en.htm

³ To know more about different uses of a patent see 4iP Council, Understanding the multiple functions of the patent system, 1 December 2015, available at <http://www.4ipcouncil.com/news/understanding-multiple-functions-patent-system>

⁴ Fractus designs, manufactures and licenses optimised antennas for mobile handsets, short-range wireless devices and telecommunications infrastructure by applying the science of fractal mathematics to antenna development. See more at <http://www.fractus.com/index.php/fractus/corporate/>

negotiate rates with the SME or only offer very low compensations, knowing that SMEs usually do not have the financial resources to sue in order to enforce their patents nor can they wait indefinitely the outcome of protracted negotiations.⁵ Fractus managed to convince investors of the merit of its technology and of its patents, and obtained the means to afford a licensing initiative that included litigation (if needed). This led to reasonable settlements with large companies such as LG, Motorola, Blackberry and HTC, and a favourable court decision with Samsung that then led to a settlement agreement.

Only a few years later, in 2006, Fractus was amongst the top 100 private companies in Europe and the Middle East named by the Red Herring Insider's Guide.⁶ This success story was possible only because investors trusted the strength of a technology based on its recognition by a patent office and the enforceability of the granted patents. As the SMEs of IP Europe, an alliance of R&D-intensive European companies and research institutes, explains: companies will not share results of their R&D investments if they do not "obtain a fair remuneration for their contribution to innovation".⁷ Such (timely) remuneration⁸ is inviable if the industry and/or the investors cannot trust patent quality. Not only SMEs but also large companies depend highly on investors. But what if investors nowadays thought that "most patents are invalid"?⁹

From perception to reality

The alarming message that "most patents are invalid" has been widely discussed amongst academia, industry, courts, and indeed antitrust authorities in the last two years, as a result of a strong lobbying campaign to devaluate patents. This campaign mainly based its arguments on

two recent papers produced by Henkel/Zischka¹⁰ and Hess/Müller-Story/Wintermeier.¹¹ Henkel/Zischka analysed first instance cases (2000-2012) in Germany. Germany is one of the top jurisdictions for patent enforcement because of the speed and low cost of the proceedings, the size of the German market, the expertise of the judges, and the fact that revocation proceedings are dealt with separately from infringement suits. They concluded that almost 80% of the [electrical engineering] patents in suit were held to be fully (44%) or partially (32%) invalid.¹² Based on their allegation that "many patents

⁵ When the SME chooses to develop its idea and not to offer any license, the enforcement of its exclusionary right is equally challenging due to the lack of financial resources.

⁶ Fractus was also nominated in 2014 for the European Inventor Award organised by the European Patent Office (EPO) and has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement n° 674491.

⁷ See IP Europe, Making enforcement rules fit for innovative SMEs, available at <http://www.iptalks.eu/>

⁸ Timely remuneration is critical for SMEs as delay in payments may lead to bankruptcy.

⁹ See Henkel/Zischka, Why most patents are invalid, 16 December 2015, available at http://www.tim.wi.tum.de/fileadmin/w00bcy/www/Research/Publications/Henkel/Henkel_Zischka_2015-12_Patent_Validity.pdf

¹⁰ Henkel/Zischka, Why most patents are invalid, 16 December 2015.

¹¹ See Hess/Müller-Story/Wintermeier, Mitt. 2014, 439.

¹² Henkel/Zischka, Why most patents are invalid, 16 December 2015, p. 37. Regarding European patents leading to a court decision 39% were held fully invalid whereas 36% were held partially invalid.





are latently invalid”, Henkel/Zischka encouraged patent offices to increase their requirements for inventive step.¹³ Hess/Müller-Story/Wintermeier, also analysing German cases (2010-2013) at all Senates of the German Federal Patent Court, came up with almost identical figures for European patents (44.75% fully and 34.58% partially invalid patents in first instance).¹⁴

Right after these papers were published, the notion of “bad patent quality” became a favourite topic for conferences. The issues of patent invalidity rates and quality were particularly raised in the context of patented technologies, included in technology standards. Representatives from industries using but not (or not significantly) contributing to standardisation¹⁵ started to advocate implementing drastic changes to the patent system. Such changes would have made it practically impossible for holders of standard essential patents to obtain injunctive relief, even against unwilling licensees, and consequently to obtain their return on investment in a timely manner. Some stakeholders even justified offering very low payments, in exchange for the technology they were unlawfully using, based on the wrong premise that most patents were worthless anyway. Based on these figures, the quality of European patents was also questioned,¹⁶ even though the European Patent Office had only recently been quoted as the office delivering the highest patent quality worldwide.¹⁷

These are not merely academic discussions! As explained above, start-ups, SMEs, as well as large companies all rely on their ability to attract investors, and the latter will only invest if they trust the system, including the quality of the patents that protect the inventions of those companies they are considering supporting financially.

Issues to be considered before questioning the quality of patents:

1. *Fully* invalidated patents are patents that should not have been granted in the first place and whose value is reduced to zero after its invalidation. Whether a *partially invalidated patent* indicates a change in the value, and whether such change corresponds to an increase or decrease in value is debated. However, one must be careful at drawing overbroad conclusions about partial invalidity rates because, as Hüttermann explains, every case is different and would need to be checked on a case-by-case basis.¹⁸ While “*partially invalid*” has, at first glance, a negative implication, it actually means that the *validity of the patent was confirmed for the amended scope by the court*.

In simple words, a patent specification includes a description, claims, and any drawings (the latter is optional). The patent claims define the matter for which protection is sought, i.e. the patent scope.¹⁹ The claims are drafted in terms of the “technical features of the invention”, i.e. they define the technical characteristics of the invention. When the patent is partially invalidated, its scope is narrowed. But, as the Federal Patent Court clarifies;

“frequently, only minor restrictions to one or more patent claims are necessary (in order to provide effective demarcation from the prior art or exclude other grounds for nullity) and thereby maintain the patent.”²⁰

As a result, once the scope is narrowed – e.g. when choosing a combination of several claims instead of keeping all the original claims – the *patent is still valid, may be infringed, and often still reads onto the standard*. In addition, it is now also targeted to the infringing product. Due to the fact that the patent has been confirmed twice (by a patent office and a court), and it is more difficult to find prior art (as the scope is narrower), contesting validity another time becomes more difficult and *it will, for example, be easier to obtain preliminary injunction*. In conclusion, *the partially (in)validated patent is, within the amended scope often stronger than it was before!*

One could argue, and indeed it is true, that some patents may no longer read onto the standard (and are therefore no longer standard essential) after adding features, and that some limitations may devalue the patent fully, or at least partially. However, as Ann points out,²¹ in light of their maintenance costs, worthless patents would certainly be dropped (after all, who would pay for high fees to renew a worthless patent?). But patents are not being dropped in the

¹³ In order to become a patent an invention needs to be new, industrially applicable and involve an inventive step. The latter means that, having regard to the state of the art, the invention must not be obvious to an expert (i.e. a person skilled in the art). For more information about the topic of patents and standards please see Lopez-Tarruella Martinez/Garcia Martinez, Derecho TIC, Chapter 5 Tapia (in English), Patents and Standards in the Telecommunications Industry, available at <http://www.tirant.com/libreria/libro/9788491197447>

¹⁴ See Hess/Müller-Story/Wintermeier, Mitt. 2014, -441.

¹⁵ To understand the relevance of standards and standard essential patents in general and for the future Europe in particular (i.e. the Digital Single Market) see Tapia, Securing a competitive future in Europe, The Patent Lawyer, January/February 2016, pp.31 et seqq. at <http://www.patentlawyermagazine.com/>

¹⁶ See e.g. “Verfrühtes Feiern? EU-Patent zwischen Hoffnung und Realität” <http://us6.campaign-archive1.com/?u=a082d5c6d5bdd413f75541f20&id=e4dbbf426c&e=d6603f2f94>; See Henkel/Zischka, Why most patents are invalid, 16 December 2015, p.26 suggesting “increasing the required inventive step in the examination procedure significantly”.

¹⁷ See IAM survey available at <https://www.epo.org/news-issues/news/2016/20160602a.html>

¹⁸ Hüttermann, Mitt. 2016, 101. English version at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2773628

¹⁹ The claims in a patent (or patent application) define, in technical terms, the extent, i.e. the scope, of the protection conferred by a patent, or the protection sought in a patent application.

²⁰ See annual report of the Federal Patent Court, p. 128 (English part after p. 73) available at https://www.bundespapentgericht.de/cms/media/Oeffentlichkeitsarbeit/Veroeffentlichungen/Jahresberichte/jahresbericht_2014.pdf (English part after p. 73).

²¹ See Ann, Mitt. 2016, 249.



majority of cases!²² This shows that in the majority of the cases the patent remains valuable after being partially (in)validated or is even stronger within the amended scope than it was before.

2. The fact that the patent holder chooses which patent/s to assert does **not** necessarily mean, as Hess/Müller-Story/Wintermeier and Henkel/Zischka allege, that asserted patents are stronger than average. For example, stakeholders only owning a handful of patents may choose an aggressive strategy while being aware that the patents are not necessarily strong (especially in countries with very high litigation costs, as in the US, and/or time-consuming processes).

3. Also, the 44% fully invalidated patents need to be put into perspective:

3.1. There are over 1200 infringement proceedings per year in Germany²³, i.e. cases where one party sues another for infringement of its patented technology. However, as a defence to infringement, invalidity claims are usually raised around 50% of the time. Fully invalidated are only 0.02% (250 patents) of over 1.25 million granted patents.²⁴ The German Federal Patent Court is right when pointing out that one cannot derive viable conclusions on patent quality from such low (non-representative) figures.

3.2. From analysing the infringement proceedings, in *around half of the cases validity is not contested!*²⁵ This means that the alleged infringer does not think it even has a chance to succeed in invalidating the patent.

3.3. *In over half of the cases where validity is contested, there is no decision;* the parties just settle.²⁶ This means, according to the Federal Patent Court, that *only in 21% (not 44%) of the cases where validity was contested were patents fully invalidated.* This can be because neither the patent holder nor the alleged infringer thinks they have a clear case. It can also be based on other grounds, such as when the alleged infringer has used litigation to put the patent holder under pressure in the licensing negotiation by creating costs and investment of resources, and withdraws the case once the agreement is signed.²⁷

3.4. Of the fully invalidated patents, *only around half are maintained*

invalid in the second and final instance (i.e. the German Supreme Court).²⁸ Of the rest, the courts decided in favour of the patent holder in almost 2/3 of the cases.²⁹ This means that considerably fewer than 21% of the patents are fully invalidated!

Different standards applied by the EPO and the Federal Patent Court

Based on the analysis above, we can conclude there is no reason to believe that patent quality is poor; especially considering that *fully invalid patents in first instance are about 0.02% of 1.25 million granted patents*³⁰, and that the second instance only maintains a little more than half of the decisions on full invalidation.

However, the question remains: what is the reason for the percentage (although low, i.e. considerably less than 21%) of fully invalidated patents? As Ann points out, there is a mismatch between the standard

²² See Ann, Mitt. 2016, 249 and annual report of the Federal Patent Court, p. 128.

²³ See annual report of the Federal Patent Court, p. 128.

²⁴ See Ann, Mitt 2016, 251.

²⁵ See Kühnen/Claessen, GRUR 2013, 592, 594; Ann, Mitt 2016, 249.

²⁶ See Henkel/Zischka, Why most patents are invalid, 16 December 2015, p. 2 and 18.

²⁷ According to Hüttermann in most of the cases of settlement the patentability is never challenged. See Hüttermann, Mitt. 2016, 102. The fact that opposition is barely used also indicates that invalidity actions may be used as a commercial tactic.

²⁸ See Hess/Müller-Story/Wintermeier, Mitt. 2014, 447 stating that full invalidation was confirmed in only 55% of the cases concerning European patents.

²⁹ See Hess/Müller-Story/Wintermeier, Mitt. 2014, p. 447 stating that in 24.75% of the cases decided by the Federal Supreme Court were dismissed and in 19.80% of the cases the partial nullity was confirmed; Ann, Mitt. 2016, 252.

³⁰ See Ann, Mitt. 2016, 248.



of “inventive step” requested by the EPO and the standard required by the court of first instance (i.e. the Federal Patent Court).³¹ Since the Supreme Court is more ‘patentee friendly’ than the Federal Patent Court (see above), it could be argued that the Federal Patent Court applies the inventive step in a too strict way.³²

When analysing the European Patent Office’s work, evidence shows that it is still the world leader when it comes to patent quality. In 2014, the EPO put into place a Quality Management System to improve identification, correction and management of non-conforming products to ensure continuous improvement of product quality and processes. These processes are backed by a set of key performance indicators encompassing results of user surveys, internal audits and operational quality controls to monitor progress and set the right priorities. In 2015, the EPO introduced a new Performance Management system to introduce ‘quality objectives’ for the examiners. There is also a new internal priority scheme in 2014 known as ‘Early Certainty from Search’ to eliminate delays. As a result of these efforts, the EPO extended the scope of the ISO 9001 certification to cover the entire patent process, including patent information and post-grant activities.³³ This year again, users rated the EPO as top for quality (amongst the world’s five largest patent offices).³⁴

Conclusion

Start-ups, SMEs and large companies rely heavily on a strong and enforceable patent system.³⁵ This is because “patents act as a catalyst that sets start-ups on a growth path by facilitating their access to capital”.³⁶ The data provided in this paper has shown that investors can continue trusting the current patent system, in the knowledge that most of the granted patents are (fully or partially) valid. In addition, this shows that policy makers should be cautious before making any drastic changes to a well-functioning patent system, especially where based on sensationalist headlines that miss the ‘big picture’.

On the other hand, as improvements are always welcome, it would be highly desirable that the EPO and the Federal Patent Court reinstate regular discussions on the requirements of a patent, in particular on ‘inventive step’, so that their standards do not fall so far apart from one another as is the case nowadays. It would also be advisable to organise annual workshops on the topic “Patent Requirements” (one amongst themselves and another one inviting external experts).

Otherwise stories like the Fractus one may no longer have a happy ending, directly impacting the ability of Europe to innovate and compete with other markets!

³¹ See Ann, Mitt. 2016, 252.

³² See Ann, Mitt. 2016, p. 251. According to Hüttermann Mitt. 2016, 202, analyzing the cases related to the fields of chemistry, pharmacy and biotechnology, different approaches regarding ‘novelty’ are taken by the EPO and the Federal Patent Court.

³³ See The importance of high-quality patents at <http://www.epo.org/about-us/office/quality/foreword.html>

³⁴ See IAM survey available at <https://www.epo.org/news-issues/news/2016/20160602a.html>

³⁵ Boston Consulting Group has calculated that companies in the mobile industry will need to invest \$4 trillion in R&D and capital expenditure to meet the expected demand in connections by 2020. See Boston Consulting Group, The Mobile Revolution, January 2015.

³⁶ See Farre-Mensa/ Hegde/ Ljungqvist, The Bright Side of Patents, USPTO Economic Working Paper No. 2015-5, 26 January 2016, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2704028



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