operators. Indeed, by allocating his exclusive rights, the patent owner can cash in his own IP by granting licenses on convenient terms.

A smart licensing strategy represents in fact a sustainable way to extract value from patents and is often a more profitable alternative than exploiting the invention alone, since by way of licensing a much wider public can be targeted; besides, that may well facilitate the technology's effective implementation also outside the patentor's main area of activity, where the latter would otherwise not be able to invest relying on his own resources alone.

Therefore, by granting each other licenses, the right holders are likely to speed up technology adoption both by effectively reducing uncertainties regarding respective rights allocation and by avoiding the costly and time-consuming way of litigation thereby preventing even more costly damages to business relationships and reputation often arising from asserting one's patent directly. Indeed, these considerations constitute the basis for the establishment of patent pools, on which, due to the compelling relevance assumed by this phenomenon, we will mainly concentrate our analysis in the first place.

B. Patent Pools as Business Models and Comparison with Alternative Sharing Solutions

Patent pools could be placed at halfway, quite as a "hybrid", between arm's length contracting and full integration, i.e. joint ventures, which have been at the centre of antitrust censorship and calls for a more extensive overall regulation, beyond otherwise fragmental and non-exhaustive approaches, for the benefit of legal certainty and eventually economic efficiency.[22] In fact, patent pools might well represent a viable solution to redress the problem, generally outlined above, of overlapping intellectual property rights, i.e. the so-called "patent thickets", where inventors find it difficult to commercialise new innovations without stepping into each others' feet.

Indeed, the choice of adopting a patent pool model has not only proven to be a viable one, but also to constitute an extremely successful business: a quite recent estimate suggests that in the year 2001 in the United States the revenues generated from sales of devices based in whole or in part on patent pool technologies amounted at least to 100 billion US Dollars.[23]

22 See, in this respect, Lerner J., Strojwas M., Tirole J., "The Design of Patent Pools: The Determinants of Licensing Rules", November 2005, p. 1 *et seq.*, available at: http://www.people.hbs.edu/jlerner/PatPoolEmpiricalPaper.pdf

23 Clarkson G., "Objective Identification of Patent Thickets: A Network Analytic Approach", 2003, p. 7 *et seq.*, available at: http://stiet.si.umich.edu/researchseminar/Fall%202004/Patent%20Thickets%20v3.9.pdf

I. Process Leading to the Establishment of a Patent Pool

While prospective benefits of entering into a technology pooling strategy are very significant, the initial costs of setting up and negotiating a technology pooling agreement may be quite high and must not be underestimated. In fact, all steps in the process of establishing a patent pool, which may be briefly reproduced as follows, involve non-negligible costs:[24]

- A so-called initiator shall monitor the marketplace, possibly with an eye to the new filings at the patent office, in order to signal the upcoming emergence of a "patent thicket" in a given sector. This initiative represents the first necessary step to put the whole mechanism of establishing a patent pool into run.
- Once a particular "patent thicket" has been delimited, the patent and scientific experts shall identify all "essential technologies" within that determined technology field. For the purpose of a patent pool, we call into mind that a technology or a patent is deemed to be "essential" if there are no substitutes for that technology, inside or outside the pool, and the technology in question constitutes a necessary part of the package of technologies for the production of the product or the carrying out of the process to which the pool pertains. This process allows to screen, among all the available technologies, those that will be needed to ensure the pool operational freedom in its activity field, i.e. under the elected technology.
- The next step will be to couple each technology that is identified as "essential" with the corresponding patent holder, who will need to be involved in the pool. This task will be normally carried out by patent experts, who will typically look up at the patent files and database of the relevant granting authority.
- Legal experts will then come into play in setting up an IP working group. They will be responsible, in a first instance, for sending so called "invitation letters" to the identified patent holders to be involved in the pool and, in a second instance, for the setting up of the necessary legal framework to gain a preliminary agreement among the right owners, which will normally be expressed by signing a "letter of intent". This step constitutes the supporting platform on which further negotiations will be carried on and, eventually, a more mature arrangement will accordingly be finalized.
- At this point the targeted patents have not been contributed to the pool yet, since the latter is still to be formally constituted, as the conditions for the accession of the identified right holders have still to be agreed upon by the interested parties. To this purpose, the evaluation of the patents at issue - i.e. the determination of the value to be attached to a given patent, as an "intangible asset" resulting from a combination of financial, business as well as legal factors - plays a fundamen-

24 A pictorial overview of the successive steps in the process of setting up a patent pool, can be found at: Van Overwalle G. *et al.*, "Patent Pools and Diagnostic Testing", TRENDS in Biotechnology, vol. 24, no. 3, 2006, p. 117.

tal role in assessing the "right price" to be paid to the right holder as a consideration for his contribution to the pool, also in terms of subsequent allocation of the corresponding portion of the royalty stream deriving from the third parties' licensing of the pooled technologies. Thus, a well-calibrated patent evaluation will provide the basis for negotiations for the terms and conditions to be agreed on with the interested right holders in view of entering into a technology pool.

- Once a preliminary agreement on the general features of participation into a pool has been reached, a legal expert will be primarily in charge of promoting negotiations to their subsequent stage, which is the eventual establishment of the patent pool consortium itself, for which all terms and conditions have to be finally agreed on by all parties involved, i.e. the patent pool members. The multiparty licensing agreement establishing the consortium is frequently referred to as the "Magna Charta" of the pool, as containing all the essential terms defining the internal collaboration mechanisms and functioning of the newly created entity.
- When the pool is finally established, it may act as a legal person towards third parties and thereby conclude valid licensing contracts through legal representatives. The execution of the patent pooling agreement, over the life of the consortium, will typically involve not only the expertise of numerous licensing attorneys, but also the management and supervision of independent experts in charge of the administration of the pool. The latter provides, as has already been outlined on other occasions, a good recommended guarantee of impartiality and fairness in the operation of the consortium which is mostly well received by competition authorities, thus pending decisively in favour of the pool, in case an antitrust scrutiny occurs.

In order to better understand this relatively new trend in the licensing methods, it may be useful to compare it with more traditional licensing techniques, namely bilateral negotiations.[25]

II. A Step Forward from:

1. Bilateral Negotiations

The key character of bilateral negotiations is their individuality. There is no formal framework and, at the outset, each party shall conduct their patent evaluations independently. Consequently, the two contractual parties directly involved may freely determine, outside any pre-defined scheme, their applicable licensing terms, most importantly those concerning their respectively due royalties and the specific rights

25 Goldstein L., Kearsey B., "Technology Patent Licensing: An International Reference on 21st Century Patent Licensing, Patent Pools and Patent Platforms", ed. Aspatore Books, "A comparison of Licensing Methods", p. 67 *et seq.*