

## **Ideas on patent pools as a new model of development.**

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He is an independent professional and the author of various scientific publications and essays on matters of penal procedures and the relationship between competition, criminal law and industrial property, as in the “Handbook on Competition”(“Manuale della concorrenza”, UTET Torino”), and “Civil Action and Criminal Proceedings” (“Azione civile e processo penale” in Digesto delle Scienze penalistiche).

He has also researched themes such as the phenomenon of conflict of interest and information asymmetry. He is the author of two books: “Il governo dei conflitti” (“The Government of Conflicts”, Longanesi Milan, second edition in TEA Libri), and “I soldi dei partiti” (“The money of the parties”, Marsilio, Venice), on the dynamics of political systems, which were both reviewed and presented widely all over Italy.

With regard to the specific topics to be covered by the public consultation by the Commission, in 2012 he promoted within the IPR Group of DVB a “Study Mission” of scholars researching on systems of cooperation on industrial “Patent Pools” on the matter of digital communications and beyond.

Francesco was Chairman of the “Study Mission” for 2 years.

He believes that these dynamics are a new model of development made necessary by the very nature of many market segments and from the rapid incremental developments to which they are subjected.

## Acknowledgments

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### Ideas on patent pools as a new model of development.

#### PRELIMINARY AND INCOMPLETE

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1. The variety of evolutions and changes in fields characterized by a high level of interdependence of ICT, mobile, web, smart grid as well as pharmaceuticals, biotechnologies, agro-technologies; the number of patents and standards increasing exponentially and the spontaneous development of myriad of entities created with the purpose of regulating those **aspects** (for example, the so-called “Umbrella standards group”), should call to mind the analysis of Benedict de Spinoza, underlining that freedom is not provided by the total absence of constraints, but from the adequate awareness of them (“scire per causas”). If we are part of a causal chain “it is also true that we are in turn a cause; therefore we are in position to modify our own condition”.

It is also noteworthy to consider that ETSI alone has set 6.505 standards. There are thousands of SEPs reading on the technologies implemented in various standards set by SSOs. For example, the total number of SEPs declared to ETSI is 155.474. More than 23.500 patents have been declared essential to the GSM and the “3G” or UMTS standards developed by ETSI (as set out in

“Competition Policy Brief – European Commission, June 2014). A similar situation occurs in the United States as well. For example, a laptop computer implements around 251 interoperability standards (see: <http://www.standardslaw.org>).

It is important to consider that the sometimes frantic pursuit that takes place for fast and continuous incremental mutations of these sectors do not offer any guarantee of success and any dominant position becomes by definition precarious given the abruptness of these changes.

It would therefore be necessary to carefully examine in such situations which systems could assure a risk reduction.

Since all parameters have radically changed, the traditional classification keys are now in a sort of “strait-jacket” that curb or impede innovation and creates widespread malfunctions: the anomalous proliferation of patents to which companies are obliged for defensive purposes (“patent trolls”); labyrinths of patentable rights often close and overlapping (“patent ticket”); inevitable infringement and widespread “royalty stacking”. All this undermine the trust of markets and of consumers.

Those evolutions should be understood to spread with a volatility without limits or having as the only limit the sky (as written by Nassim Nicholas Taleb in *Antifragile: Things that arise from disorder*), were it not for the fact that, citing Spinoza, it is a manifest contradiction that human nature may “exceed itself” or, in other words, do more than it can (“plus posset quam posset”)” (Ethics, proposition 61). This is the reason why the excess may have no place in the world, and when it seems to have, everything will finish in a failure.

Far from an orderly development of the treatment of intellectual property, our starting point for analysis should be to review the unsettled, apparent disorder and the accompanying proliferation of statistics and data, and from there try to understand the available opportunities that these may offer.

2. Antitrust Authorities have for a long time now highlighted the close interconnection between standardization processes, patent pools and the general forms of technological cooperation (“standardization and patent pool are interconnected because standard is based on complementary technology developed by different firms”, in WIPO, Patent pools and antitrust a comparative analysis, March 2014).

Due to the fact that the standards are in turn in quick development and that they taking advantages from previous evolutions, it is necessary to imagine some form of cooperation able to

effectively promote translation of scientific and technological insight into new products and economic growth (1).

It is not required to create an entity whose purpose is to forecast the future perfectly, nor to go near the dynamics of immortality. Rather it is surely more useful to study and to understand the dynamic morphing that lies high in priority in the research agenda (2).

Therefore, in the present situation a patent pool has the objective to rule on those evolutions in the best way possible.

People choosing to commit themselves to ensure the success of this idea shall necessarily imagine concepts similar to those nonconformist concepts developed by Galileo Galilei that considered the universe to be fluid, crossable and permeable from mutual influences of heavenly bodies.

The current state, made necessary by the drastic incremental evolution of strategic sectors, bring to mind several aspects of the period when Thomistic philosophy was overcome by philosophical conceptions on existing interdependence among factors and on the reciprocal influence among them. But even today some German law schools are influenced by Thomistic concepts, as when they distinguish something in the literary work (“corpus mysticum”) from another thing in the book (“corpus mechanicum”). It seems more than clear that these analytical tools are not sufficient to govern the actual processes.

The necessity of a pool to be by definition dynamic and not static will be fundamental when, for example, a patent having a long lasting impact on profitability must be included in a standard.

3. In other words, the time has come to consider new rules and a new and different philosophy of approach. For example, the establishment of key principles in EC regulations, such as interoperability, is a necessary result of these efforts. Our reflections are and will continue to be part of a delicate phase of transition and change, as we can see by the developments underway and upcoming expiration dates. For example, we are referring to the fact that the Technology Transfer Block Exemption Regulation that expired in 2014 and has now been replaced by Commission Regulation No. 316/2014 of 21 March 2014, to the process underway in the USA that led to the Intellectual Property Enforcement report of 2012, et alia. It is also clear, once again to foster market stability and thus business growth, that assistance should be provided in bringing European and American legislation into a gradual, mature alignment with each other. EU Reg. 772 of 2004, for example, which regulates agreements on the transfer of technology,

was already seen as a first step in this direction, the first stage of a "slow alignment" of US and EU legislation. Thus, SSOs could increasingly play a strategic and central role, acting as a bridge and connection between businesses (like DVB Project in the communications sectors), with the added goal of harmonizing different legal systems that are based on different legal assumptions and experiences, and with prospects for creating a single standard as well.

#### 4. Comparison of different historical trends concerning patent pools.

Patent pools have been generally considered as a pro-competitive factor, even in situations surely less problematic and less tied to continuous changes as it occurs in those actual situations.

The principles established by the Supreme Court of the United States of America in historical moments, where the need was great for models encouraging new dynamics, have clearly confirmed it.

In *Bement v. National Harrow Co.*, 186 U.S. 70 (1902), <https://supreme.justia.com/cases/federal/us/186/70/case.html>, the Supreme Court highlighted that the benefits originated by the preventive composition of conflicts for the validity of patents may even overcome the potential disadvantages derived by the agreed price fixing.

It is surprising to notice significant analogies with recent analysis (Merges, 2014), highlighting that the important reduction of transactive costs deriving from the simple adoption of a patent pool and that this factor alone is a sufficient argument for the formation of a patent pool, even if with disadvantages and competitive diseconomies (3).

The suggestion that the pool eliminated blocking positions and in that respect was potentially pro-competitive, has been explicitly stated through the Supreme Court's decision *Standard Sanitary Mfg. Co. v. United States*, 226 U.S. 20 (1912), <https://supreme.justia.com/cases/federal/us/226/20/>.

In *United States v. Line Material Co.*, 333 U.S. 287 (1948), <https://supreme.justia.com/cases/federal/us/333/287/>, the Court recognized that a cross licensing arrangement between Southern and Line Material would be necessary to either company **to exploit the technology** inherent in both patents ("only when both patents could be lawfully used by a single maker could the public or the patentees obtain full benefit of the efficiency and economy of the inventions"), highlighting thus the necessity of the cooperation form as a model of development ex se.

A short time earlier, the Court stated repeatedly (*Hartford-Empire Co. v. United States*, 323 U.S. 386 (1945), ) that the imposition of high royalties is not itself anti-competitive and that in substance (*United States v. National Lead Co.*, 332 U.S. 319 (1947), <https://supreme.justia.com/cases/federal/us/332/319/> ), if the patented technologies substituted the competitive consequences of combining substitute patents depend upon the structure of royalties; consequently from the structure ex se of the pool before the level of royalties that one would come to practice.

Patent pools are considered as anti-competitive when on the contrary they reject their own nature that is given by the **substantial absence of “territories”**: as it occurs when "each party would vigorously defend its patent rights to its relevant Territory. In addition the parties should not contest each other's patents", as happened in *United States v. Singer Mfg. Co.*, 374 U.S. 174 (1963), <https://supreme.justia.com/cases/federal/us/374/174/>.

It is interesting to compare the particular historical phases, which serve as the context of the analyses presented above, with those analyses that have become necessary by the present crisis, a crisis that is above all a transition phase determined by the particular nature of quick incremental evolution of these strategic fields.

5. Several surveys have been issued on ex ante pool and ex post pool scenarios.

FRAND criteria have been analyzed in different ways: Some contributions and analyses have been recently provided in this direction (4) and a complementary theoretical basis, not substituting for FRAND, has been developed as for example the theory defined : “structured price commitments” (Lerner and Tirole, *A Better Route to Tech Standards*, in *Science*, 2014, 972 s.) (5).

Also of singular importance are the principles established by Judge Richard Posner (*APPLE INC. V. MOTOROLA, INC.* , No. 12-1548 (Fed. Cir. 2012)), stating that "the proper method of computing a FRAND royalty starts with what the cost would have been of obtaining the license, **just before the patented invention was declared essential** in compliance with the industry standard, a license for the function performed by the patent”.

However, the first target is **the creation of only one standard; this creates the necessary assumption for interoperability**.

The establishment of patent pools is therefore a **complementary and likewise necessary** instrument to reach such objectives.

Such reflections are very relevant especially in the technology of information sector.

Those considerations are necessary according to all principles explained in the premises for example of the EC Directive No. 21/2002 – and following changes – and now confirmed by the EC Regulation no. 316/2014 (6).

It should be therefore noted that, whereas necessary requirement or condition subsist, **the establishment of patent pools is not subject to restriction** (for example article 101, of Treaty of European Union).

In this way, it should be then desirable that any EU rule provides and indicates in which conditions the exemption from restraint could be obtained, as follows:

aa- governance rules to prevent or sensibly reduce the occurrence of conflict of interest and information asymmetries internal to patent pools. For this purpose, pyramidal or hierarchical structures should be avoided or disheartened, favouring network model of organization, where knowledge interchange and platform access are determined. In this way, it could be possible to face in different and more favourable terms all traditional technology exploitation schemes. The prerequisite of those “sharing processes” consist in asserting that each single ring or part of the innovation chain is complementary and interdependent in the way that, to reach the last of those rings or point, it is required to pass through each information asset;

bb- determination and establishment of an “entity” (this subject or entity is an independent subject composed for example of auditors of a pool, who should ensure their impartiality and autonomy from the pool itself; external control could perhaps also be entrusted to bodies such as the Institutional Review Boards of the Universities that enter as project partners): which is external from the patent pool itself and which could be able to implement a prior patents pool assessment in order to certify its essentiality, in the perspective of encouraging the **unification** of different supervisory bodies whose proliferation is losing more and more sense in global contexts distinguished by interdependence. The *pool* itself provides for the general patent management, for information and relevant rights selection, for the definition of license and sublicense with fair, transparent and non-discriminatory conditions, for the collection and redistribution of royalties, as well as for promotional activities and to ensure the validity of granted rights;

cc- guarantee for the associate member’s right to access patents according to the provided knowledge contribution as previously estimated; encouragement to share *ex ante* all available

information envisaging a penalty for those failing to disclose, for example, imposing a royalty-free licence with the obligation to grant free of charge the hidden exclusive rights' license or with any other form to prevent possible opportunistic behaviour among the associates members (7). In the same context, the configuration of antitrust violation could also be considered for patent owners who mislead an SSO concerning licenses conditions' commitments, exactly as it occurs in case of non-compliance to *disclosures* obligation (for example, the case of a company that does not live up to its commitments, after engaging itself to provide in license the essential technology with FRAND conditions – which is an obligatory step to achieve the insertion of its patents into a specific standard);

dd- the right to access is not therefore indiscriminate, but can be carried out by every subject in relation to the value of the patents conferred in the pool as previously estimated by the third entity.

**The patent, in other words, would remain in the ownership of its holders, but made available to others, in the pool, for a limited time, which will eventually be renewable.**

At the end of the period of contribution to the pool, the patent could acquire a new and different value for the utility that it has acquired for the company or companies that have implemented it. The final value will not match the value of the patent implemented, but must obviously take into account the share of investments made on it, and deduct them. You might expect some sort of fee or consideration for the right to use the patent.

Outside of this circuit, whoever does not have the ability to develop a patent or lives with the uncertainty of its real value, is likely to sell it off or leave it unused or unusable or to not even make it visible to the market of potential users.

The inventor of a chemical polymer that has not yet reached appreciable technical specifications for the industry and who does not have the financial means to invest in the improvement of the patent or who is working in a market where the "state of the art" technology does not consider it necessary or convenient to invest in the product, thereby has the opportunity to increase the value of the patent, to make it known to a wider audience of potential users, to check its palatability on the market and the actual worth of the invention on the basis of the actual developments of the patent. The end result being the ability to assign an economic value to the patent which is more satisfying, and to be able to sell or license it with greater ease.

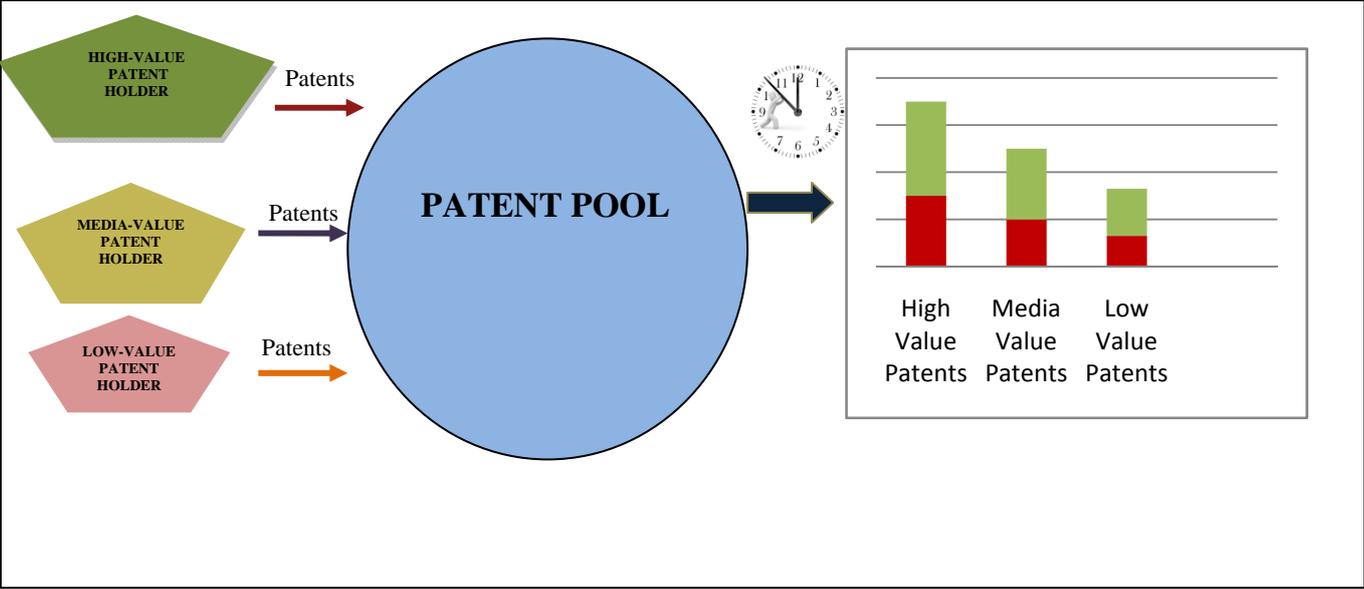
If patent holder "A" is afraid to share it with an interested person as they do not yet know what its actual potential is and what is the real interest that the invention may have on the market, and

is not able to develop it independently - thus leaving a potential creative resource untapped - on the basis of the patent pool may share inventions with its industrial and economic benefits, without fear of infringement or of economically unsatisfactory management, as would happen in the case of patents sold for a few dollars, which then earn millions for the purchaser.

Imagine a system of horizontal and vertical bands of sharing profits for small holders of patents and for large companies within a regulation that exceeds the current contractual arrangement, facilitates the movement of ideas, increases the capacity for collaboration, and increases in short, the intrinsic value of "good ideas."

This could solve many of the problems arising from information asymmetries, which are indeed superseded by this system of the emergence of the true value of industrial and commercial patents.

This could be a stimulus for the sharing and development, to be a boon for the market and a form of rebalancing of the contractual forces of the weaker party as a system of emergence of new ideas.



And all this in order to overcome the information asymmetry: that is the only form of real incentive for participation in the pool;

ee- guarantee for the right to access to a collection of patents upon related royalties' payment, without possibility to receive an access denial;

ff- establishment of adequate confidentiality rules outward, concerning the concept that the involvement of a specific patent is allowed exclusively in case of integrated or wider applications

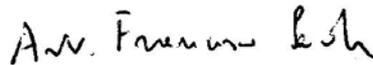
(for example: if Company “Y” manufactures television sets and would like to use a patent for mobile phones, this action will be allowed only if considered or involved in ordinary manufacturing process, not because Company “Y” would like to manufacture mobile phones too);

gg- including possibility of injunctions in case of breaching the rules of a specific pool, that could be considered as *pactum de non agendo*, allowing a patent pool with the previously mentioned characteristics, **to attest to the quality of products so that consumers could be able to recognize them as coming from pool-connected companies.**

The study of the interdependence between systems apparently different is in conclusion the only possible perspective even in these sectors specifically.

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Notes.

1 Josh Lerner and Jean Tirole, Standard essential patents, working paper, November 2013.

2 Josh Lerner and Jean Tirole, A better route to tech standards, 2014

3 “There is great concern about excess litigation and litigation costs. The central rationale for patent pools is that they reduce transaction costs. They save a lot of money on transaction cost. For example in MPEG 4 pool we have a net savings about \$465 million for this one pool ... The simple conclusion that follows is that patent pooling is an enormously efficient mechanism when compared to the next best set of transactional alternatives” (Merges, cit.). According to Commission Regulation (EU) No. 316/2014 of 21 march 2014, “(5) the likelihood that ... efficiency-enhancing and pro-competitive effects will outweigh any anti-competitive effects due to restrictions contained in technology transfer agreements depends on the degree of market power of the undertakings concerned and, therefore, on the extent to which those undertakings face competition from undertakings owning substitute technologies or undertakings producing substitute products”.

4 For example, Patent Challenges for Standard Setting in the Global Economy: Lessons from Information and Communications Technology (National Academy Press, Washington, DC, 2013) noted that: “patent pools exist for some standards, which reduce transaction costs and mitigate royalty stacking. Firms that own patents and sell products covered by those patents have incentives

to charge low or zero royalties to promote the commercialization of their products. In addition, firms have strategic incentives to refrain from charging high royalties. Indeed, product prices have been dropping for devices such as mobile phones and laptop computers that support multiple standards for which there are thousands of declared SEPs owned by hundreds of entities. Furthermore, not all standards, even in the ICT area, invoke large numbers of patents with widely distributed ownership” (p. 57). “Nonetheless the committee cautions that the costs from royalty stacking could increase in the future if more patent owners choose to monetize their patent rights. At some point the cumulative burden of making multiple royalty payments to distinct entities could become so large that adoption or utilization of standard-compliant products would be suppressed and the resulting higher costs of developing and producing these products may become a drag on future innovative efforts” (p. 58).

5 The authors suggest “that SSOs follow this sequence: 1. During a discovery phase, parties explore which technology combinations are technically viable (as is done now by SSOs). This “engineering” phase makes no reference to prices at which patents would be licensed. 2. Before the standard is finalized (and unlike today’s practice), there is a recess, during which firms commit to a price cap at which they will grant nondiscriminatory licenses to their patents. Firms make commitments to the maximum price (and most restrictive terms) that they would charge before the patent is included in the standard. 3. Participants choose the standard, without discussing prices, as is currently done. 4. Finally, some or all of the participants may form a patent pool after the standard is set, again following today’s practice. “

6 EC Directive No. 21/2002 states: “ (...) (4) (...) the importance for Europe’s businesses and citizens of access to an inexpensive world-class communications infrastructure and a wide range of services (...) (6) Audiovisual policy and content regulation are undertaken in pursuit of general interest objectives, such as freedom of expression, media pluralism, impartiality, cultural and linguistic diversity, social inclusion, consumer protection and the protection of minors (...) (20) Access to numbering resources on the basis of transparent, objective and non-discriminatory criteria is essential for undertakings to compete in the electronic communications sector. (...) (25) (...) The definition of significant market power in the Directive 97/33/EC of the European parliament and of the Council of 30 June 1997 on interconnection in telecommunications **with regard to ensuring universal service and interoperability through application of the principles of open network provision** (ONP) (..) (26) Two or more undertakings can be found to enjoy a joint dominant position not only where there exist structural or other links between them but also where the structure of the relevant market is conducive to coordinated effects, that is, it encourages parallel or aligned anti-competitive behavior in the market”. The Commission Regulation (EU) No. 316/2014

of 21 march 2014 highlights that “(4) technology transfer agreements ... will usually improve economic efficiency and be pro-competitive as they can reduce duplication of research and development, strengthen the incentive for the initial research and development, spur incremental innovation, facilitate diffusion and generate product market competition”.

7 for example the system of governance of the USA association, VITA, requires the disclosure of patents or patent applications that could be considered fundamental for the proper development of general standard. This disclosure is supposed to be carried out before the establishment of the workgroup and its violation will automatically entail the free of charge license for all involved patents. Each single participant is allowed to ask a maximum royalty for essential patents with the consequence that each patent's owner is allowed to negotiate patents conditions after which the standard has been developed, but being bound or restricted to previously fixed ceilings. At the same time, the VITA participants agree not to discuss, within a workgroup or with third parties, license terms or conditions.