V. Industrial Applicability

Industrial applicability of the invention is a further requisite included in EPC to grant a patent.[136] According to this requirement, "an invention shall be considered susceptible of industrial application if it can be made or used in any kind of industry […]".[137] A first evaluation shows that, due to the flexible criteria in the application of the condition by the EPO, the requirement should be one of the easiest to comply with for a nanotechnological invention. However we will see that because of the same difficulties we found in differentiating among scientific discoveries and inventions in the field of nanomaterials and nanostructures, the requirement may be an obstacle to patent the technology at an early stage of development.

To avoid confusion, a differentiation needs to be made between the requirement of a technology to have a technical character in order to be considered an invention and the industrial applicability requirement.[138] Whereas the first condition is defined in article 52 of the EPC and requires the subject matter to have technicality, i.e. a technical character, the industrial applicability requirement, defined in article 57 of EPC, require the invention to be susceptible of industrial application in the sense of being useful for some purpose and subject of a potential commercial gain from the exploitation of such invention.[139] In this way, the words *technical* and *industrial* should not be constructed as synonymous for a patentability analysis, under which an invention may have a technical character but lack industrial applicability.[140] The industrial applicability requirement has been cited by the TBA as a condition related, in cases where the complexity of the invention is high and the practical use can not be considered as implicitly disclosed, to the disclosure requirement.[141] For this reason, it has been indicated that the disclosure requirement may be higher for nanotechnological inventions when compared to other technical fields, including the need to make explicit the industrial applicability of the invention, a practice that does not apply, for example, to inventions in the mechanical field. In other complex technical fields the TBA confirmed the general need to disclose the use of the technology in order to comply with the requirement and at the same time clarified that the mere indication that a product can be produced doesn't necessarily mean

136 EPC, Article 57, Industrial Application.
137 *Id.*
138 T 953/94.
139 *Id.*
140 *Id.*
141 T 718/96.

that the industrial applicability is fulfilled, and stressed the need of disclosure of a profitable use for which the product can be exploited.[142]

The practice at the EPC in connection with the industrial applicability requirement forces the disclosure of one possible application, in any industrial field, to fulfill the requirement. Thus, the disclosure of one example of how the invention can be used at industrial level with useful results is enough to get a valid patent, even if other uses where known by the applicant but not disclosed. Notwithstanding that the applicant needs to identify only or at least one use for the invention, the patent will provide protection for the product itself independently of the disclosed use of such product and a third party may infringe the patent if she makes any use of the invention, in most of cases even if the use was not described or foreseeable by the patent owner. The way in which this requirement is applied to nanotechnology may have a big impact on the patenting strategies followed by applicants (mostly for scientists working in research in basic science). For these kinds of inventions, the requirement of industrial applicability may be even higher than for other nanotechnological inventions, and the applicant may be obliged to develop a detailed and extensive description of one of the uses if the invention presents properties not previously shown by other products. Failing to disclose the use may cause the invention not to fulfill the requirements of industrial applicability and disclosure, a disclosure that needs to be more than pure speculation but supported by real experimentation and tangible results.[143] These testing results that may be necessary to demonstrate the industrial applicability of the invention are usually available only in later stages of the development. This may force the delay in the filing of the patent application thus putting at risk the possibility to generate an early priority and the consequent anticipation of the invention by third parties. While from the applicant perspective such strict applicability of the requirement generates risks for the early patenting of the technology, in the nanotechnological field this may also impact on the rate at which patents for nanotechnological inventions are filed.[144] If this is true, patents would be filed only after the development of a concrete use of

142 T 870/04.

143 T 541/96.

144 Note that particular provisions on the disclosure of industrial applicability have been developed in other fields of technology. An example of this is Rule 29 of EPC "The human body and its elements", according to which the industrial application of a sequence of gene must be disclosed in the patent application. The requirement doesn't request to limit the patent claims to the use of such gene, but only to disclose in the description one possible use. This mandatory requirement for specific inventions in the biotechnological field has not correlation in other fields of technology. The concern on the patenting of nanotechnological inventions at an early stage of development and the coverage of broad zones of basic technology may be an indication of the need of development of specific requirements also in the field of nanotechnology.

the invention, and early patenting of general basic knowledge would be more if the applicant has not yet developed a practical industrial use of the invention.

While the industrial applicability requirement has been referred to as an historical evolution of the early patent systems designed to protect objects of manufacture, there is still a disconnection between the requirement and the scope of protection granted by patents.

It was noted that the owner of a patent, for which the claims are directed to the product, is able to stop others from commercializing such product during the patent life. Once the patent is lapsed the product is in the public domain and anybody can make use of the invention. Nevertheless, after the patent expiration there is no guaranty that all uses of the product are free to be exploited or in the public domain. This is because other applicants, or the same patent owner, may file a further patent application to obtain protection of specific new and inventive uses of such product, even when the first patentee already got protection for all possible uses of such product. In this way, some overlapping exists among the first exclusivity right granted for the product and any use of it and the second one granted for one specific use, already included in the universe of protection of the original product patent.

If the patent system requires the applicant to disclose the use and application of industrial level of the product, why is the patent is granted to the product in general and not only to the use or uses disclosed in the patent document? The scope of protection —general use of the product— is wider than the invention developed by the inventor —limited number of uses—and the scope of the exclusivity right goes further to what is requested by the applicant. In the same way as there is no limit for the inventor to include all the developed and foreseeable uses of the technology in the patent claims, protection should be granted only to those uses described in the patent.

Some commentators may argue that a change in the scope of patents, from product to use claims, may be considered as detrimental for the incentives to invent. From this perspective, it should be noted that the inventor or the company financing the development of the invention, make the economical assessment on the convenience of investing and the possibility of recovering on such invention based only on the uses they foresee for the technology during the development of the invention. Any other use that is found in the future extends the value of the patent further from the value the company assigned at the moment of deciding on the investment. In this way, the incentive on research and development on new inventions would not be jeopardized if the scope of the patent is limited to the uses the patentee discloses in order to pass the industrial applicability requirement. In the extreme, since the inventor can get a patent to cover all the uses she developed for the invention and there seems to be no detrimental effects on the incentive for her to invent, there is no need for product patents and only patents covering the use of a product should be granted. Even though this approach may be reasonable to support

the idea of limiting the scope of patents in the nanotechnological field, the incentive to innovate is only one of the arguments behind the theory of the patent system. Under other theories this limitation on the scope of patents may have a different impact and would need to be assessed.