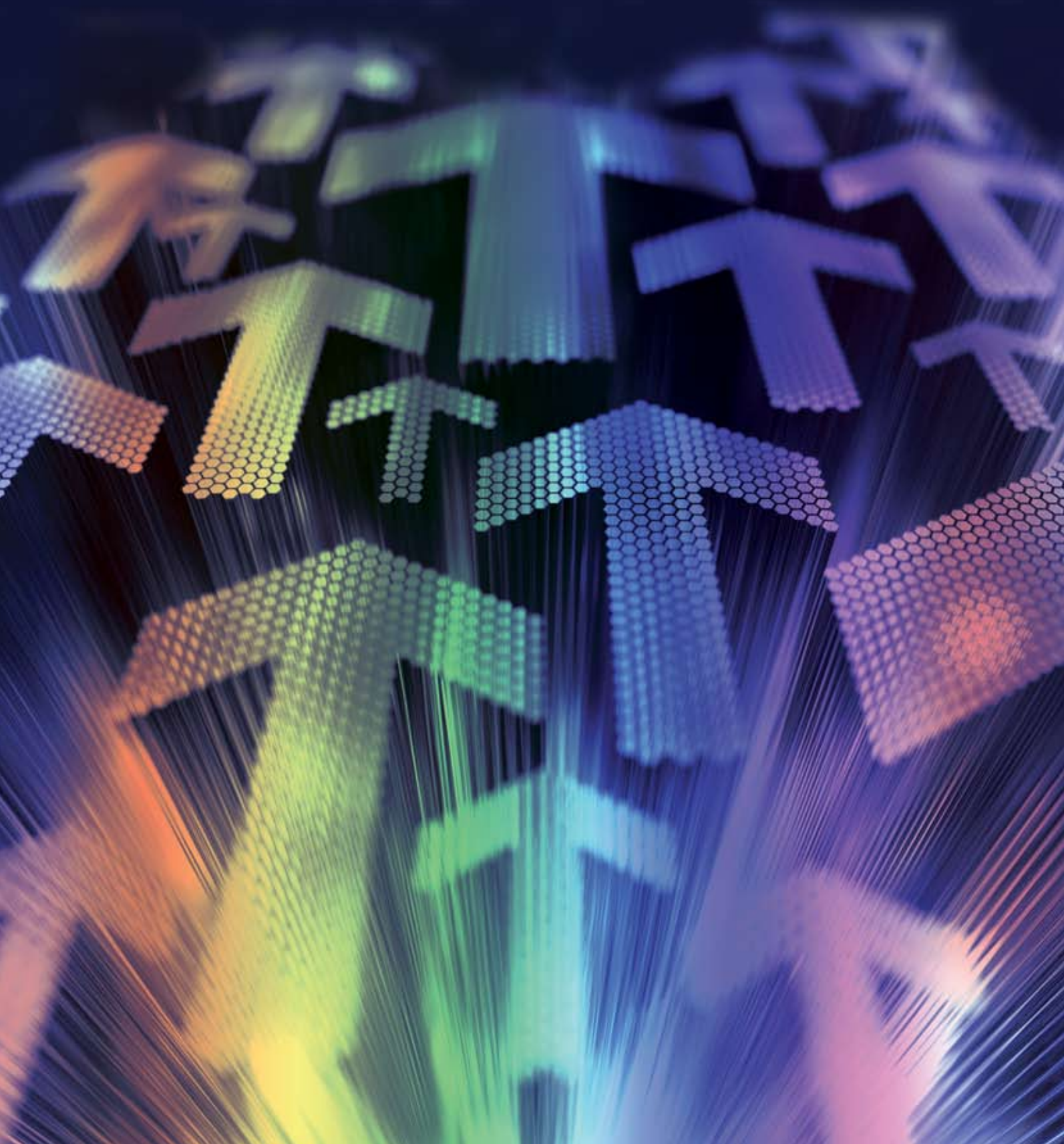


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Accelerated Patent Examination For Nanotechnology and Emerging Technologies





Executives of nanotechnology companies and other emerging technology companies (e.g., clean technologies, such as alternative energies and alternative fuels) know very well the value that investors and others place on a company's patent portfolio. The importance of a patent portfolio can hardly be overstated, particularly in the early stages of a startup company's development, when it can mean the difference between success and failure at the investment table.



However, there is a backlog of more than 2,700 published nanotechnology patent applications at the United States Patent and Trademark Office ("USPTO"), translating to an average of about four years until issuance. According to one commentator, the current patent backlog means the "volume of nanotech applications will push the USPTO to the breaking point," to the extent that startup companies "will be forced to consider alternative IP protection such as that for trade secrets." (See "Nanotech Report Cites Progress, But Warns of Patent Filing Backlog in PTO," 72 Pat. Trademark & Copyright J. (BNA) 347.) Other technological arts share similar backlog problems at the USPTO. How can nanotechnology startups and other emerging technology startups deal with the dilemma? One possibility is to pursue the new accelerated examination procedures in place at the USPTO. While this path provides potential rewards, it is not without risks.

THE ACCELERATED EXAMINATION PROGRAM

On August 25, 2006, the USPTO introduced a new accelerated examination program for patent applications, which substantially modifies the prior rules for most petitions to make special. The goal is to complete examination within 12 months of the filing date of the patent application. (See "Proposed Rule Changes to Focus the Patent Process in the 21st Century," at <http://www.uspto.gov/web/offices/pac/dapp/opla/presentation/focuspp.html>, and 71 *Fed. Reg.* 36323 (June 26, 2006); 1308 OG 106 (July 18, 2006).) The 12-month time frame is not a guarantee, and any failure to meet it or other issues relating to the goal is neither petitionable nor appealable. Not all patent applications are eligible for the new accelerated examination program. Only non-reissue utility or design applications filed under 35 U.S.C. Section 111(a) on or after August 25, 2006, are eligible.

To be granted a petition to make special under the accelerated examination program, a new application must be in compliance with a number of procedural and substantive requirements. The conditions are extensive, and an applicant should expect them to be enforced rigorously. The following



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is not a comprehensive discussion regarding the multitude of requirements, but merely highlights main and potentially problematic requirements.

An application for accelerated examination must contain a Statement of Preexamination Search and an Examination Support Document (“ESD”). In the former, the applicant must state that a search was performed for all of the features of the claimed invention, giving the claims the broadest reasonable interpretation. The applicant must be very specific about what was searched and how. The search must involve United States patents and patent application publications, foreign patent documents, and nonpatent literature, unless the applicant includes a statement that justifies with reasonable certainty that no references more pertinent than those already identified are likely to be found in the eliminated source.

In the ESD, the applicant must include an Information Disclosure Statement (“IDS”) in compliance with 37 C.F.R. Section 1.98, citing each reference most closely related to the claimed subject matter. For each reference cited, the applicant must identify all limitations in the claims disclosed by the reference and specify where each limitation is disclosed. The applicant must explain how each claim is patentable over the cited references with the particularity required by 37 C.F.R. Section 1.111(b) and (c). The applicant must include a concise statement of the utility of the invention as defined in each of the independent claims. Further, the applicant must include a showing of where each claim limitation finds support in the written description pursuant

to the first paragraph of 35 U.S.C. Section 112. For means-plus-function or step-plus-function limitations falling under the sixth paragraph of 35 U.S.C. Section 112, the applicant must disclose the structure, material, or acts in the specification that correspond to each respective limitation. If a priority claim is made, the applicant must show where each limitation finds support under the first paragraph of 35 U.S.C. Section 112 in each priority application in which such support exists. Finally, the applicant must identify any cited references that may be disqualified as prior art under 35 U.S.C. Section 103(c), as amended by the Cooperative Research and Technology Enhancement Act.

The application must contain three or fewer independent claims and 20 or fewer total claims. The application must not contain any multiple dependent claims. The claims have to be directed to a single invention and the applicant must agree to make an election without traverse in a telephonic interview should all the claims presented not be directed to a single invention. The applicant must also agree to have an interview when requested by the examiner prior to the first Office action. Finally, the applicant must agree not to argue separately the patentability of any dependent claim during any appeal.

If these requirements sound considerable, they are. The USPTO has a tremendous backlog of patent applications generally and refers to the applicant’s labor in this regard as “sharing the burden.” Some of the provisions described above are similar to requirements of other proposed patent rules regarding continuation applications, claims practice, and Information Disclosure Statements. These proposed rules have not yet been implemented and have raised much

concern in the patent bar. Among other things, these proposed rules limit: (1) the number of claims, (2) the number of continuations, and (3) the amount of material submitted in an IDS. (See 71 Fed. Reg. 61 (Jan. 3, 2006); 1302 OG 1329 (Jan. 24, 2006); 71 Fed. Reg. 48 (Jan. 3, 2006); 1302 OG 1318 (Jan. 24, 2006); 71 Fed. Reg. 38808 (July 10, 2006); 1309 OG 25 (Aug. 1, 2006).) With regard to the first limitation, the applicant must identify 10 representative claims for initial examination. Beyond 10 claims, the applicant must supply an ESD, like that required under the accelerated examination program. Only one continuation application as a matter of right is permitted, with special rules for divisionals and continuations-in-part. The amount of material to be considered in an IDS is limited to 20 references, with no reference exceeding 25 pages in length. If either limitation is exceeded, the applicant must submit, at a minimum, an “explanation” in the IDS, similar to the ESD of the optional accelerated examination program. The similarity between the ESD requirements of the proposed rules and the ESD requirements of the accelerated examination program makes one wonder whether the accelerated examination program foreshadows what may ultimately become conventional required practice.

POTENTIAL PITFALLS OF ACCELERATED EXAMINATION

Nanotechnology is unlike many practice areas: it is multidisciplinary in nature and represents a collection of technologies. The common thread among such “nanotechnologies” is that the presence of nanometer-scale features is responsible for special properties, functions, or effects. (See, e.g., the USPTO’s class definition for Class 977, Nanotechnology, which requires a “nanostructure” to (a) have at least one physical dimension of approximately 1–100 nanometers, and (b) possess a special property, provide a special function, or produce a special effect that is uniquely attributable to the structure’s nanoscale physical size, <http://www.uspto.gov/go/classification/uspc977/defs977.htm>.) Thus, a single “nanotechnology” patent might cover multiple downstream products involving completely distinct markets. For example, U.S. Patent No. 5,424,054 held by IBM directed to a “hollow carbon fiber having a wall consisting essentially of a single layer of carbon atoms” could have market applications involving electrical circuits, coatings, structural materials, or even clothing.

Nanotechnology or similar emerging technologies, because of their multidisciplinary nature, give rise to important implications for accelerated examination. First, consider the

effect of the preexamination search in a multidisciplinary context. As noted above, the preexamination search must cover all features of the claimed invention in view of the broadest interpretation of the claims. Thus, the scope of the search can limit the scope of the issued claims. Suppose the claims are directed to a nanostructured composition, and the applicant searches the technological art of electrical device structures, since that is the company’s intended product area. But suppose the applicant fails to search the area of catalysis, for which the composition would have substantial applicability. Are the issued claims applicable to catalysis if the written description makes only cursory mention of catalysis or contains no mention of catalysis at all, considering that this area was not searched?

The example above reveals that neither the drafting of the patent application nor the decision to pursue accelerated examination should be undertaken in haste, particularly for inventions in nanotechnology or other emerging technologies of a multidisciplinary nature. Rather, the application should be drafted with full consideration of the various technology areas of desired applicability, and the preexamination search should cover all of those areas. For multidisciplinary technologies, this task may require thinking well outside the borders of one’s typical business. This is not to say that nanotechnology patent applications should be drafted to an unreasonable breadth, since doing so could raise other problematic issues, such as nonenabled claims. The point is simply that patent applicants need to give due consideration to the scope of what they want to cover now and what they might want to cover in the future, and this exercise will require more thought and effort for inventions in nanotechnology and other emerging technologies of a multidisciplinary nature.

And what of the ESD? Considerations and pitfalls similar to those just discussed apply here as well. Among other things, the ESD must include a concise statement of the utility of the invention as defined in each of the independent claims, must include a showing of where each claim limitation finds support in the written description, must explain how each claim is patentable over the references identified from the search, and must specify, for each claim limitation found in the references, where those limitations are found. These requirements provide a minefield regarding claim scope and can significantly hinder an applicant’s ability to

continued on page 36

Accelerated Patent Examination

continued from page 13

argue the patentability of the invention. A challenger will try to limit the applicability of the claims as much as possible to the areas of utility identified by the applicant, limit the scope of the claims as much as possible to the sections identified by the applicant for written description support, align the claims at issue as closely as possible to the art identified from the search, and highlight the applicant's admissions regarding those claim limitations acknowledged to exist in the prior art. In contrast to this wide range of position-taking, conventional prosecution before the USPTO is mild—it merely requires applicants to make statements on the record in response to those of the examiner. (For more discussion generally of how statements made during prosecution may affect the scope of protection, see Todd R. Miller, "The 'Doctrine of Prosecution Disclaimer' in Construing Patent Claims," 86 J. PAT & TRADEMARK OFF. SOC'Y 931 (2004).)

The ESD also provides fertile ground for charges of inequitable conduct. The requirement to explain how each claim is patentable over the references identified from the search, and where various claim limitations are found in those references, necessarily requires characterizing that art on the record. Those characterizations will be scrutinized with the utmost attention during litigation by a challenger with an eye toward identifying any inaccuracies. Accordingly, patent applicants will need to craft those statements with a great deal of care.

Another potential pitfall is the lack of a provision for withdrawal from special status once granted. Thus, if an applicant decides to forgo accelerated examination once granted, the applicant must file a continuation application and then abandon the parent that was "made special." This rule could be particularly important to an applicant in view of the proposed USPTO rule limiting the number of continuation patent applications that may be filed from a given parent.

SO WHY SEEK ACCELERATED EXAMINATION?

The short answer is to obtain a patent more quickly, notwithstanding the risks. For some, obtaining a patent quickly could mean the difference between success and failure. From another perspective, some view the requirements of accelerated examination as the probable future of conventional practice before the USPTO. Thus, one might as well

begin building familiarity with the framework now rather than later. In fact, a representative from the USPTO stated that more than 100 petitions for accelerated examination have been filed, many of them by large, well-established companies, and the first such patent was recently issued as U.S. Patent No. 7,188,939 on March 13, 2007. Those interested in the accelerated examination program may wish to review the publicly available file history for this patent from the USPTO's web site.

CONCLUSION

In summary, the accelerated examination program has the potential to provide patents quickly for companies working in nanotechnology and other emerging technologies, and it may be particularly attractive to startups where a patent portfolio is needed as quickly as possible to lure and maintain investors. The program is not without its risks. Navigating those risks will require thought and care and will require those engaged in nanotechnology or other multidisciplinary emerging technologies to think beyond the bounds of their immediate business. The written description and claims should be drafted with sufficient consideration of the multidisciplinary nature of the technology. Claims should be drafted neither too broadly nor too narrowly, and the written description should include enabling discussion for all areas of technological applicability. The preexamination search should cover the intended areas of technological applicability and should be commensurate with the broadest interpretation of the claims. The search should also cover any areas of likely amendments to the claims and any potential new claims, as an amendment to the claims or a new claim will not be entered if the search is not broad enough to cover it. All statements in the ESD must be accurate and made with requisite care to minimize problems during litigation. ►►

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