**3D Printing in the Protection of Industrial Designs**

The presented document contains information provided by CNIPA, JPO, KIPO and USPTO about their practices under their respective laws on industrial designs. The analysis and comparison of the rules and legal framework among the above-indicated four partner offices that are presented in the document is just limited to the specified area of industrial design protection for 3D Printing. Please note that the document is for educational and informational purposes only. The ID5 partners are not responsible for any use that may be made of the information contained in the catalogue.

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**Introduction**

A 3D printer, a digital device to print out 3D objects, can manufacture a variety of products including toys, drugs, clothes and foods. The increasingly pervasive spread of low-cost and high-performance 3D printers allows general consumers to access transformative digital manufacturing technologies. As a result, anyone can readily duplicate any type of items by using a 3D CAD file, which can lead to design infringement. Nevertheless, neither 3D printer users nor design right owners fully understand 3D printing issues such as whether 3D printing constitutes infringement or what kind of infringements concerning 3D printing can take place.

Against this backdrop, it is necessary to understand how the Partners protect industrial design rights concerning 3D printing under their current systems in order to enhance the predictability of registration.

This project looks into the protected process under the current law applicable to the respective jurisdictions of the Partners, namely CNIPA, JPO, KIPO, and USPTO. The project is expected to produce a catalog summarizing information such as whether 3D printable files are included in the definition of an industrial design and whether creating and transmitting 3D printable files constitute industrial design infringement.

1. **Whether the acts as below could correspond to infringement (including indirect/secondary infringement) in the Partners’ jurisdiction**
   1. **Please state your opinion on whether the acts as below could correspond to infringement (including indirect/secondary infringement) in your jurisdiction? Please describe it if related cases have been reported.**
2. Acts creating in 3D graphic file[[1]](#footnote-1) the three-dimensional article of registered-design without holder’s permission
3. Acts downloading from the Internet the 3D graphic file of three-dimensional article of registered-design without holder’s permission
4. Acts selling or distributing on Internet the 3D graphic file of three-dimensional article of registered-design without holder’s permission

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| **CNIPA** |  |
| As regard to the acts(1)(2)(3),according to the current Patent Law in China, creating, downloading, selling or distributing the 3D graphic file of three-dimensional article of registered-design without holder’s permission do not fall within the category of infringement stipulated in the Article 11 of the Patent Law, so these acts don’t constitute infringement.  From a legal perspective, there might be a possibility that these acts might constitute assisting or abetting infringement according to *Tort Law of the People’s Republic of China*, which needs to be decided by judicial organs according to judicial practice and further interpretation of Judicial Interpretation, based on the practical situation.  *Patent Law of the People’s Republic of China Article 11.2*  After the grant of the patent for a design, no entity or individual may, without the authorization of the patentee, exploit the patent, that is, make, offer to sell, sell or import the product incorporating its or his patented design, for production or business purposes.  *Interpretation(II) of the Supreme People’s Court on several Issues Concerning the Application of Law in the Trial of Patent Infringement Dispute Cases Article 21*  Where any party fully aware that the relevant product is exclusively used for the materials, equipment, parts and components or intermediates, among others, that exploits the patent provides such product for any other party for the purpose of production or business operation to implement the act infringing upon the patent right without the approval of the patentee, the patentee's claim that the act of the provider falls within the scope of “assisting others in committing a tort” as prescribed in Article 9 of the Tort Law shall be supported by the people's court.  Where any party fully aware that the relevant product or method is granted with the patent right actively induces any other party to conduct an act infringing upon the patent right for the purpose of production or business operation without the licensing of the patentee, the patentee's claim that the act of the inducer falls within the scope of “abetting others to implement an infringement act” as prescribed in Article 9 of the Tort Law shall be supported by the people's court. | |
| **JPO** |  |
| No judicial precedent has been found regarding infringement of design rights related to 3D printing in Japan. The following answers are provided within the current knowledge of the JPO in relation to this questionnaire.  Since 3D graphic file is not recognized as an article, the acts of manufacturing or assigning such 3D graphic file would not constitute an infringement of a design right (direct infringement) established on a three-dimensional article. | |
| **KIPO** |  |
| Under the law applied in our jurisdiction, doing all the acts above commercially do not constitute to infringement or secondary infringement, given that 3D graphic file is not recognized as an article and the acts creating in, or transmitting 3D graphic file deemed not to be working the registered design: provided, however, that infringement is established only where the acts printing (producing) from 3D graphic file and selling (transferring) those are found. | |
| **USPTO** |  |
| Currently, there is no legal precedent in the United States where the described acts in examples 1-3 constitute infringement of a design patent either directly or indirectly.  A United States design patent is infringed when someone without authorization makes, uses, offers to sell, sells any patented design within the United States or imports it into the United States during the term of patent. 35 U.S.C. 271(a). The patent may also be indirectly infringed by active inducement under section 271(b) or by contributory infringement under section 271 (c). 35 U.S.C. 271(b)-(c). For design patents, the Gorham Co. v. White analysis applies such that there is infringement if “in the eye of an ordinary observer, such attention as a purchaser usually gives, two designs are substantially the same.” 81 U.S. 511 (1871).  While creating, downloading, selling or distributing could, depending on the specific circumstances, be considered infringing acts (e.g., making, using, selling or distributing), the conventional view has been that the 3D graphic file of a product would probably not be considered protected by a design patent. As such, making, using, or selling the 3D graphic file alone would not be considered direct infringement. However, were a product made using the 3D graphic file in question through 3D printing or otherwise that would be considered to directly infringe the design patent, the creating, selling or distributing of the 3D graphic file used in making the object embodied with the protected design may constitute indirect (inducement or contributory) infringement.  Additionally, in an instance where the design patent is directed to a design for a graphical user interface (GUI), creating, selling or distributing of the 3D graphic file may also constitute indirect infringement if the GUI is displayed on an electronic display in a manner that directly infringes the design patent. | |

* 1. **Please state your opinion on whether the acts as below could correspond to infringement (including indirect/secondary infringement) in your jurisdiction? Please describe it if related cases have been reported.**



[Figure 1] 3D cube clock widget that user can click (for more detailed information)  
 or drag or rotate the 3D object

1. Acts creating in 3D graphic file of the registered GUI design (Fig.1) without holder’s permission
2. Acts downloading from the Internet the 3D graphic file of the registered GUI design without holder’s permission
3. Acts selling or distributing on Internet the 3D graphic file of the registered GUI design without holder’s permission
4. Creating a tangible cube clock by 3D printing, by using and converting 3D graphic file of the registered GUI design without holder’s permission

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| **CNIPA** |  |
| As regard to the acts(1)(2)(3),according to the current Patent Law in China, creating, downloading, selling or distributing the 3D graphic file of three-dimensional article of registered-design without the registered GUI design holder’s permission do not fall within the category of infringement stipulated in the article 11 of the Patent Law，so these acts don’t constitute infringement.  From a legal perspective, there might be a possibility that these acts might constitute assisting or abetting infringement according to *Tort Law of the People’s Republic of China*, which needs to be decided by judicial organs according to judicial practice and further interpretation of Judicial Interpretation, based on the practical situation.  As regard to the acts (4), there is no possibility that creating a tangible article in 3D printer, by using and converting 3D graphic file of the registered GUI design without holder’s permission could constitute infringement, since the GUI is not incorporated in the printed article. | |
| **JPO** |  |
| Under the Revised Design Act, graphic images that are used for the operation of a device or those displayed as a result of the device performing its function will become the subject of protection. In the following questions, answers have been made on the assumption that the registered design of the widget is deemed as a GUI bearing a specific function such as time indication.  If the created 3D graphic file contains/produces a mere graphic image that does not entail any specific function such as time indication, the acts 1) and 3) would not be considered as a direct infringement of the design right conferred on the GUI.  On the other hand, if the act 1) or 3) has been done as a business, knowing that the 3D graphic file is used for the working of the registered design, such an act may possibly constitute an indirect infringement of the design right in compliance with the provision of Article 38(viii) of the Revised Design Act.  As regards the acts 2) and 4), such acts are generally considered not to constitute an infringement of the design right of the GUI. | |
| **KIPO** |  |
| In regards to 1)-3) mentioned above, it may deemed an infringing act of identical or similar articles to commercially make, sell or distribute on internet the 3D graphic file of the registered GUI design (e.g. as a part of display panel design). And concerning 4), it does not constitute infringement when he or she creates a tangible clock by using the 3D graphic file, in view of working the design to a dissimilar article. | |
| **USPTO** |  |
| In the United States, graphical user interface (GUI) designs are protectable by design patents. See e.g., Samsung Electronics Co., Ltd. v. Apple Inc., 137 S.Ct 429 (2016). Applying section 271 of Title 35, the acts (creating, downloading, selling or distributing) identified in examples 1-3 may be considered infringing acts depending on the facts and circumstances. Id.  Computer-generated icons, such as full screen displays and individual icons, are 2-dimensional images which alone are considered surface ornamentation. See, e.g., Ex parte Strijland, 26 USPQ2d 1259 (Bd. Pat. App. & Int. 1992) (stating that a computer-generated icon alone is merely surface ornamentation). However, the USPTO considers designs for computer-generated icons embodied in articles of manufacture to be statutory subject matter eligible for design patent protection under 35 U.S.C. 171. Thus, if an application claims a computer-generated icon shown on a computer screen, monitor, other display panel, or a portion thereof, the claim complies with the “article of manufacture” requirement of 35 U.S.C. 171. MPEP 1504.01(a).  As such, depending on the circumstances of the case, the actions listed in examples 1-3 could be considered indirect design patent infringement, assuming direct infringement exists. Again here, however, there is currently very little case law precedent.  Example #4, namely the creating of a tangible/physical clock with the appearance of one protected by a design patent to a GUI, requires consideration of a further factor to the analysis. The scope of the protection provided by a design patent is important to note in this scenario. In example 4, whether infringement would exist may depend on whether the design patent directed to the GUI clock is of sufficient scope to also protect a physical clock with the same design or whether it would be limited to only electronic screen display designs of the clock.  A design patent on a GUI clock may not be considered to also protect a physical version of the product as the design patent would frequently contain reference (e.g., title) to and/or specifically claim the design as a design for an electronic screen interface or related article in order to ensure it meets the section 171 article of manufacture threshold of the design being embodied in an article of manufacture. These same recitations would likely be viewed in an enforcement action as limiting the scope of the design patent to the articles (environments) described – electronic screen display and related environments – such that a physical clock may be viewed as outside the scope. See Curver Luxembourg, SARL v. Home Expressions Inc., Appeal No. 2018-2214 (Fed. Cir. Sept. 12, 2019) (Court limited the scope to a design for a chair when applicant amended the title to refer to a “chair”.)  Thus, while there are no precedents directly on point, if the design patent to the GUI were construed to not cover a physical version of a clock but only a GUI of a clock, then there is no finding of direct infringement and accordingly no indirect infringement for converting the 3D graphic file into a tangible clock. However, direct infringement could still exist – and thus indirect infringement – if in the process of making the tangible clock the 3D graphic file was displayed on an electronic screen, something likely in this factual scenario.  There have been a number of academic and legal community discussions in recent years as to what extent a U.S. design patent, if purposely and skillfully drafted to attempt to cover both a physical and electronic screen display environment of the same exact design, could effectively provide protection in those two environments with a single design patent. For example, the title/specification theoretically may mention both physical and electronic interface environments/articles. While discussions are ongoing, there is little in the form of legal precedent / judicial guidance on this topic. There was interest in a 2016 case filed in the United States District Court for the District of New Jersey in which the BMW Group filed a complaint for design patent infringement, among other causes of action, against Turbosquid for sale of digital models of BMW vehicles purportedly protected by U.S. design patents. BMW of N. Am., LLC v. TurboSquid, Inc., No. 2:16-CV-02500 (D.N.J. May 3, 2016). The legal community thought there was potential the facts of the case could result in legal guidance on these issues. However, this case settled before any court decisions were reached. | |

1. **Can it be understood that 3D graphic file (such as STL[[2]](#footnote-2)) for 3D printing is used only in creating the corresponding design in your jurisdiction (or is regarded as essential for the creation of design)?**

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| **CNIPA** |  |
| 3D graphic file is not only used in creating the corresponding design. | |
| **JPO** |  |
| It is currently unclear whether a 3D graphic file for 3D printing (such as STL) is deemed to be used exclusively for the producing of the corresponding article (corresponding design). | |
| **KIPO** |  |
| The 3D graphic file does not fall within the term “article” under the Design Protection Act, which means tangible movables that can be mass-produced; therefore, it constitutes neither infringement nor secondary infringement | |
| **USPTO** |  |
| The 3D graphic file may be considered to be able to instruct a computer to create a design but it is unlikely to be considered to be infringing of a design for an article of manufacture in of itself as set forth in section 171. A computer file with instructions that will cause creation of a design as an electronic display, or a tangible product when implementing a 3D printer, is not likely considered to directly infringe a design patent but could be a basis for a finding of indirect infringement if direct infringement is found.  It is noteworthy that U.S. courts have up until now been reluctant to extend protection provided to tangible products to digital data itself in other related patent provisions and scenarios. For example, the U.S. Court of Appeals for the Federal Circuit has held in relation to certain importation provisions of section 271 that the term “article” is limited to tangible products and cannot be extended to digital data. *See e.g., ClearCorrect Operating, LLC v. ITC*, 810 F.3d 1283 (Fed. Cir. 2015); *see also Bayer AG v. Housey Pharms., Inc.*, 340 F.3d 1367 (Fed. Cir. 2003). | |

1. **Please state your opinion on the acts as below could correspond to infringement (including indirect/secondary infringement) in your jurisdiction? Please describe it if related cases have been reported.**
2. Acts creating the STL to need for 3D printing by 3D scanning the article of registered-design without holder’s permission
3. Act downloading from Internet the STL to need for 3D printing without holder’s permission
4. Act selling or distributing on Internet the STL to need for 3D printing without holder’s permission
5. Acts creating the article of registered-design in 3D printer without holder’s permission

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| **CNIPA** |  |
| As regard to the acts(1)(2)(3), according to the Patent Law in China, creating, downloading, selling or distributing the STL to need for 3D printing without holder’s permission do not fall within the category of infringement stipulated in the article 11 of the Patent Law，so these acts don’t constitute infringement.  From a legal perspective, there might be a possibility that these acts might constitute assisting or abetting infringement according to Tort Law of the People’s Republic of China, which needs to be decided by judicial organs according to judicial practice and further interpretation of Judicial Interpretation, based on the practical situation.  As regard to the acts (4), if the acts creating the article of registered-design in 3D printer without holder’s permission are for production or business purposes, should be deemed as infringement. | |
| **JPO** |  |
| In case the STL file is deemed to be a prescribed “computer program, etc.” ;  The acts 1) and 3) worked as a business may be considered as an indirect infringement of the design right in compliance with the provision of Article 38(i) or (ii) of the Revised Design Act.  The act 4) worked as business may be considered as a direct infringement of the design right. However, an act of manufacturing a different article from the registered design (e.g., 3D printing an ornament based on the shape of a registered passenger car) would not constitute an infringement of the design right.  -The act 2) would constitute neither direct nor indirect infringement. | |
| **KIPO** |  |
| Current law provides that engaging in creating, downloading, selling or distributing on internet any 3D graphic file of three-dimensional article of registered design for commercial purposes shall not be deemed infringement, given that 3D graphic file is not recognized as an article and the acts creating in, or transmitting 3D graphic file deemed not to be working the registered design: provided, however, that infringement is established only where the acts printing (producing) from 3D graphic file and selling (transferring) those are found. | |
| **USPTO** |  |
| While there is currently no legal precedent for these circumstances, it is unlikely that an act of creating an STL file by 3D scanning a physical product, or downloading, selling or distributing that file would be considered direct infringement. (Example 1-3). However, the creation of a tangible product protected by U.S. design patent using a 3-D printer would likely be infringement in the same fashion as any other manufacturing (making) of a design protected by a U.S. design patent. (Example 4). Accordingly, in that scenario (example 4) other acts such as creating the STL file, or downloading, selling or distributing the STL file (examples 1-3) could potentially be found to be acts of indirect infringement. | |

1. **If the users of online service distribute the 3D graphic file or STL file of the three-dimensional article of registered-design through the online service without holder’s permission, what responsibility does the online service provider have?**

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| **CNIPA** |  | |
| From a legal perspective, there might be a possibility that the online service provider distributing 3D graphic file or STL file of the three-dimensional article of registered-design might be subject to tort liability, which needs to be decided by judicial organs according to judicial practice and further interpretation of Judicial Interpretation, based on the practical situation.  *Tort Law of the People’s Republic of China Article 36*  A network user or network service provider who infringes upon the civil right or interest of another person through network shall assume the tort liability.  Where a network user commits a tort through the network services, the victim of the tort shall be entitled to notify the network service provider to take such necessary measures as deletion, block or disconnection. If, after being notified, the network service provider fails to take necessary measures in a timely manner, it shall be jointly and severally liable for any additional harm with the network user.  Where a network service provider knows that a network user is infringing upon a civil right or interest of another person through its network services, and fails to take necessary measures, it shall be jointly and severally liable for any additional harm with the network user. | | |
| **JPO** |  | |
| In principle, the online service provider would not be considered as being liable for infringement of the design right.  However, If the following conditions are satisfied, the same remedy (injunction and compensation for damages) may be granted against the online service provider as that against the user of the server (actual infringer).  A user of the server which is supplied by the online service provider infringes the design right, and  The online service provider itself 1) manages and controls the supply of the system to the user, 2) receives profit from the user such as a system usage fee, and 3) does not delete the information related to the infringement from the server within a reasonable period even where it has noticed or there is a reasonable reason that it could have noticed that there had been an infringement of the design right by the user.  (Reference)  Related court cases:  [Intellectual Property High Court, 2012/02/14, 2010(Ne)10076] Chupa Chups  [Intellectual Property High Court, 2016/10/08, 2016(Ne)10097 and 10059] Detergent  Act on the Limitation of Liability for Damages of Specified Telecommunications Service Providers and the Right to Demand Disclosure of Identification Information of the Senders  Article 3(1)  <http://www.japaneselawtranslation.go.jp/law/detail/?ft=1&re=01&dn=1&co=01&ia=03&x=82&y=13&ky=%E7%89%B9%E5%AE%9A%E9%9B%BB%E6%B0%97%E9%80%9A%E4%BF%A1%E5%BD%B9%E5%8B%99%E6%8F%90%E4%BE%9B%E8%80%85%E3%81%AE%E6%90%8D%E5%AE%B3%E8%B3%A0%E5%84%9F%E8%B2%AC%E4%BB%BB%E3%81%AE%E5%88%B6%E9%99%90%E5%8F%8A%E3%81%B3%E7%99%BA%E4%BF%A1%E8%80%85%E6%83%85%E5%A0%B1%E3%81%AE%E9%96%8B%E7%A4%BA%E3%81%AB%E9%96%A2%E3%81%99%E3%82%8B%E6%B3%95%E5%BE%8B&page=2> | | |
| **KIPO** | |  |
| In accordance with the applicable law, online service providers do not have any legal responsibility relating to the acts described above. | | |
| **USPTO** | |  |
| It is unclear what, if any, liability internet service providers (ISPs) would have in a circumstance in which a 3D graphic file or STL file of a three-dimensional article of a design protected by U.S. design patent were distributed over the internet. If it were found that a design patent were directly infringed and that distribution of the 3D graphic file or STL file were deemed an act of indirect infringement, one could envision a design patent owner including an ISP as a co-defendant in an infringement suit. There are specific provisions that relate to ISPs and provide safe harbors for ISPs in relation to copyright and trademark infringement by third parties using their service. However, ISP liability in relation to design patent infringement with distribution of 3D graphic or STL files would be an issue of first impression. | | |

**5. Is it infringement (including indirect/secondary infringement) if an otherwise infringing act is done for a private use?**  **Please describe it if related cases have been reported.**

- Acts creating and using the article of registered-design in 3D printer for personal use - e.g. acts creating and replacing in homes through 3D printing parts which consumers purchase and replace in private households

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| **CNIPA** |  |
| According to the current Patent Law in China, using the article of registered-design is not deemed as infringement; Acts creating and using the article of registered-design in 3D printer for personal use do not constitute infringement. | |
| **JPO** |  |
| In compliance with the provision of Article 23 of the Design Act, the holder of a design right has the exclusive right to work the registered design and designs similar thereto as a business. Therefore, any acts which have been done for private use would not constitute an infringement of the design right. | |
| **KIPO** |  |
| Conforming to the Article 92 of the Design Protection Act, the owner of a design right shall have the exclusive right to work the registered design commercially; he or she shall not be entitled to a claim against an act done for a private use accordingly.  Article 92 (Effects of Design Rights) The owner of a design right shall have the exclusive right to work the registered design or any similar design commercially: Provided, That the foregoing shall not apply where an exclusive license for a design right is granted and the exclusive licensee has the exclusive right to work the registered design or any similar design under Article 97 (2). | |
| **USPTO** |  |
| While there is a rather narrow judicially created defense for experimental use in relation to a patent infringement claim, the circumstances here make it unlikely such a defense would be available.  Practically speaking, the economics of litigation would make it unlikely an individual would be sued in court for a single infringing act in the circumstances described. Analogous fact patterns existed with respect to copyright infringement cases when online file sharing first became prevalent. Very infrequently were individual/user infringers sued, typically only those that were large volume or frequency infringers. | |

1. 3D graphic file: OBJ, FBX, 3DS, IGES, 3DM etc. - These file formats are used for storing information about 3D models. These files cannot be used for 3D printing per se, and need to convert to STL format for 3D printing [↑](#footnote-ref-1)
2. STL is a file format native to form of 3D printing technology used for creating models, prototypes. [↑](#footnote-ref-2)