3D models and 3D images

Response ID:137 Data

1. Country code page

1. Please enter the two-letter country code corresponding to your Office or Organization.
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DE

Please enter your email address so we can contact you if we have questions about your response.

2. Questions page

This survey was approved by the seventh session of the CWS to collect information on practices and expectations of IPOs and users (applicants) for 3D models and 3D images.

Applicant Input
It is hoped that IPOs will consider the views of IP applicants, including industry, when formulating their responses. For this purpose, a Model Questionnaire For Industry On The Design Of Objects For IP Rights Protection Using 3D Models And Images has been prepared. IPOs are encouraged to consider this model questionnaire as a guide for them to collect relevant information on the views of applicants.

MODEL QUESTIONNAIRE FOR INDUSTRY ON THE DESIGN OF OBJECTS FOR IP RIGHTS PROTECTION USING 3D MODELS AND IMAGES

Glossary

3D model – An electronic file that is created by specialized software, for mathematically representing the surface of an object in three dimensions

3D Images – Images that represent objects displayed in three dimensions (length, depth, height), e.g. 3D photos, stereoscopy, etc.

3DS – A file format used by the Autodesk 3ds Max 3D modeling, animation and rendering software

DWF – Design Web Format

DWG – A file format widely used for CAD drawings

IGES – Initial Graphics Exchange Specification

OBJ – An open geometry vertex file format used for CAD and 3D printing

Raster image – An image that is composed of a map of points (pixels), referred to as a bitmap. Typical file formats for raster images include JPEG, TIFF, PNG and BMP

STL – Standard Tessellation Language - a file format native to the stereolithography CAD software created by 3D Systems

STEP – Standard for the Exchange of Product model data –an open ISO Standard which can represent 3D objects in Computer-aided design (CAD) and related information

Vector graphics – An image file that is composed of shapes formed of mathematical formulas and coordinates on a 2D plane. As opposed to raster images, vector graphicshave the property of scaling infinitely without any degradation of quality

X3D – Successor of VRML, an Open ISO Standard XML format

Part 1. IP objects and stages of their lifecycle

2. 1.1. Does your office currently use 3D models or 3D images for IP objects within the office? If so, for which IP objects

Trademarks
Other (please specify): In the field of chemical structures, once in a while, applicants file lists of 3D atom coordinates.

3. 1.2. Does your office consider using 3D models or 3D images for IP objects in the future? If so, for which IP objects

Trademarks
Other (please specify): Trademarks: provided that there has been an agreement with the EUIPO, 3D models and/or 3D images are potentially possible and useful for position marks, other marks and tracer marks. Designs: there are no concrete plans for introducing 3d models. We are waiting for the developments within the amendment of European design law.

4. 1.3. On which stages of IP objects' lifecycle does your office currently accept/implement 3D models?

	Filing of the application	Examination	Storage	Search	Publication	Data exchange	Other (please specify in comments)
Trademarks	X	X	X		X	X	
Industrial designs							
Patents in chemistry as a field of technology (e.g. chemical structures, biological structures)							
Patents (e.g. inventions and/or utility models) in other fields of technology except chemistry							
Integrated circuit topology							

Comments:

5. 1.4. Does your Office carry out any image transformations? If so, for which objects and on which stages?

	Filing of the application	Examination	Storage	Search	Publication	Data exchange	Other (please specify in comments)
Trademarks							
Industrial designs							
Patents in chemistry as a field of technology (e.g. chemical structures, biological structures)							
Patents (e.g. inventions and/or utility models) in other fields of technology except chemistry							
Integrated circuit topology							

Comments: Trademarks: DPMA does not carry out any kind of image transformations considering the types of trademarks which are relevant for 3D models or 3D images. Any kind of transformation of the trademark representation would be a violation of applicable trademark law.

6. 1.5. On which stages of IP objects' lifecycle does your office consider accepting/implementing 3D models in the future?

	Filing of the application	Examination	Storage	Search	Publication	Data exchange	Not sure	Other (please specify in comments)
Trademarks	X	X	X		X	X		
Industrial designs								
Patents in chemistry as a field of technology (e.g. chemical structures, biological structures)								
Patents (e.g. inventions and/or utility models) in other fields of technology except chemistry								
Integrated circuit topology								

Comments:

Part 2. Existing practices and future plans

7. 2.1. Please describe existing practices/future plans for using 3D models and 3D images within your office

Trademarks: In accordance with the 3D file formats currently supported by EUIPO, 3D trademark applications can be submitted at DPMA based on the 3D file formats OBJ, STL, and X3D. These formats are used throughout the different stages of lifecycle as stated in item 1.3. There are no nearer future plans for changes on the currently implemented practices. But in order to keep up with economic and technical developments we will extend the accepted file formats, if necessary.

Part 3. Regulations

8. 3.1. What laws and regulations concerning 3D models and 3D images are implemented within your jurisdiction?

General regulations:
The German government has defined obligatory "Standards and Architectures for eGoverment Applications" ("SAGA") and guidelines for the architecture for governmental applications. These standards address the following goals:
• Cost effectiveness
• Agility
• Openness
• Security
• Interoperability
• Reusability
• Scalability
Among others, these standards define which formats should be used for accepting, storing and transmitting information, in order to guarantee that everybody is able to work with these formats and that the formats are suitable for long time archiving as this is necessary for information in intellectual property files.
For 3D-models, only the following two formats are defined as potential candidates that may be used:
• eXtensible 3D, Edition 2 (X3D)
• Universal 3D 4th Edition (U3D)

Trademark specific:
• Trademark law
• Trademark Ordinance
• Announcement of 14 January 2019 of the readable types of data carriers at the DPMA and the formats for the representation of trade marks (Sec. 6a Trade Mark Ordinance [https://www.dpma.de/english/our_office/publications/announcements/2019/14012019/index.html]

Part 4. Formats and technical tools

9. 4.1. Which formats of 3D models or 3D images does your office use at the moment? Does your office use the same or different formats for different stages of lifecycle: filling, examination, publication etc.?

Generally
Beside the officially allowed formats for filing an application, applicants can send electronic media with supporting information. Currently there is no restriction on the formats contained in these electronic media. It is unknown whether any 3D models were ever submitted via this mechanism.

Trademark specific: The 3D file formats supported by DPMA are OBJ, STL, and X3D. These formats are used throughout the different stages of lifecycle as stated in item 1.3.

10. 4.2. Which formats of 3D models or 3D images does your office consider using in the future? Does your office consider using the same or different formats for different stages of lifecycle: filling, examination, publication etc.?

Generally
As newer formats are regularly examined and added to our governmental standards, it can be expected that the list of allowed formats will be extended. This also applies to 3D formats.

Trademarks: There are no nearer future plans for changes on the currently implemented practices. But in order to keep up with economic and technical developments we will extend the currently supported 3D file formats, as long as they comply with legal requirements.

Designs: no concrete plans yet. One possibility could be to allow similar formats as for trademarks. However, considerations should also include the fact that design applications can contain up to 100 designs (multiple applications), which would result in large data volumes.

11. 4.3. Please provide us with your suggestions and proposals on formats and reasons why you suppose them to be

important (a list of formats to consider) except mentioned in items 6.1, 6.2

Generally:
As we are usually obliged to stick to our governmental standards, we would be pleased to see X3D and U3D as recommended formats.
Trademarks: In accordance with the 3D file formats currently supported by EUIPO, DPMA accepts OBJ, STL, and X3D for 3D trademarks. Each of them is a standardized or widely used and open file format.

12. 4.4. Which technical tools does your office currently use to work with 3D models (i.e. viewers, converters, etc.)? Are these standard tools commercially available, or do you consider using any special tool developed for your Office or by your Office?

Trademarks: DPMA's trademark system uses an HTML5 compatible standard web browser (Firefox) for the visualization of the 3D models, partially utilizing dedicated Java script libraries. File format conversions do not take place due to legal reasons.

13. 4.5. Which technical tools does your office consider using in future work with 3D models (i.e. viewers, converters, etc.)? Are these standard tools commercially available, or do you consider using any special tool developed for your Office or by your Office?

Trademarks: Currently, there are no future plans for any changes on the status quo.
Designs: no concrete plans, probably similar tools as for trademarks.

14. 4.6. Please provide us with your suggestions and proposals on tools and reasons why do you suppose them to be important (a list of tools to consider)

The tools should be free, available for the public and able to process and show the formerly mentioned file formats, e.g.:
• X3D -> X3DOM (https://www.x3dom.org/)
• U3D -> ThreeJS (https://threejs.org/)

Part 5. Specific requirements and limitations

15. 5.1. Please provide us with preferable specific file requirements? Should they be the same or different for different objects and stages (i.e. limitations and restrictions for 3D files, size (Mb) and format of 3D model for storing, processing, and sharing, etc.)

Trademarks: DPMA's trademark system uses the same file requirements throughout all stages of lifecycle. The specifications for accepted 3D file formats are published on the DPMA's home page as follows:
File format: OBJ, STL, X3D
Maximum file size: 20 MB

Designs: it seems reasonable to draft future requirements similar as for 3D trademarks. However, as design applications have the particularity that they can contain several design applications and therefore several representations in one application (multiple application), we would need to investigate the consequences this would have with regards to requirements, especially data volume. Additionally, the reproduction has high significance for the determination of the object of protection, with resulting requirements for the quality of reproduction, which could call for other criteria than for trademarks.

16. 5.2. In your opinion, what would be the main requirements when choosing 3D file formats (open source, wide spread adoption, etc.)

Generally:
Beside the restrictions of our architectural guidelines and the overall requirement that the format must be able to express models in a complexity suitable for the different IP rights, the following requirements must be fulfilled for the format and the tools necessary to work with these formats:
- The format must be open, well documented and standardized
- The format and its standard must be stable and well suitable for longtime archiving
- The format must be widely adopted by 3D applications, i.e. these applications have to have lossless exporters from the internal, usually proprietary format into these standardized formats

- Lightweight and free viewers have to be available to work with these formats. These viewers have to be accessible for the IP offices as well as for public users! Therefore, ease of use and a non-discriminating access to these viewers (e.g. no restriction to a certain operating system) are basic requirements. Typically, these requirements are only fulfilled by browser based tools.
- These viewers must be able to show the whole information contained in the model, i.e. no information may be lost due to missing features of the viewer. Otherwise the content of the application may not be disclosed completely.
- If formats allowed for application, do not conform to the rules of a certain country, reliable and lossless converters must be available in order to convert these formats to the internally used formats.

Trademarks: WIPO should choose the 3D file formats the EUIPO and all the European offices agreed upon in the Common Communications (https://euipo.europa.eu/ohimportal/de/news/-/action/view/3941045). Which are common and well known to the users.

Designs: a format should be chosen with is widely used and well accepted in the relevant fields of industry. As the majority of design applicants at the DPMA are SMEs and one time applicants (designers, free lancers, students etc.), a format should be chosen which can be generated through low cost means, and which does not require "professional" types of software.

17. 5.3. In your opinion, what would be the main requirements when choosing tools for working with 3D files?

Generally

Beside the requirements mentioned above, lightweight viewer applications are needed for a tight integration into our IP management applications and our workflows. Our application should be able to control the viewer and ideally embed the viewer into our electronic workbench.

This is not true for heavyweight 3D applications that are used to create these models. Users would be forced to open these applications manually as an external application, search and load the models into the application manually, etc.

Publication must be possible in DPMA´s electronic register, and the tools used for display need to guarantee that object is represented as it was filed and registered.

Representation needs to be unmodifiable, and invariable on all viewers, (particularly for designs).

Formats must meet the requirement of clear and distinct representation.

Trademark specific: That WIPO chooses the tools which the EUIPO and the member states agreed upon in the Common Communications.

Part 6. Expectations concerning the use of 3D

18. 6.1. Which specific advantages and/or drawbacks do you expect from 3D models and 3D images regarding search, for instance prior art search?

Trademarks: There is no such thing as prior art search in the German Trademark law. But 3D models and 3D image can help to determine the scope of protection of a trademark or improve the assessment of similarity of trademarks.

Designs: no search on designs at DPMA.

19. 6.2. Do you expect that applicants will comply to provide 3D models which fulfill the defined standards?

Trademark specific: Yes, because 3D trademark applications that do not comply with the accepted file formats will be rejected. For certain areas of expertise, i.e. flow visualization or advanced engineering purposes etc., the commonly used formats seem to be too low level to contain those types of information needed for expressing certain information. High level models are commonly used, but are proprietary and do not lend themselves to lossless conversion into common models. For certain areas, therefore, we do not expect that applicants would make use of the possibility of providing 3D models.

Part 7. Other

20. 7.1. Do you have any other comments?

3. Review Page

You have reached the end of the survey questions. Your answers have been saved.

If you or your colleagues wish to revise your answers later, you can use the link emailed to you with the Save and Continue option in the top right of this page. The Review or Back button below will return you to your answers.

When you are ready to submit your final answers, click the Submit button below. You will no longer be able to edit your responses after clicking Submit.

You may download a copy of your answers:

4. Thank You!

Thank you for taking our survey. Your response is very important to us.