

# 3D models and 3D images

Response ID:264 Data

## 1. Country code page

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

Don't know your country code? [Please click here.](#)

EM

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

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## 2. Questions page

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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](#)

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## 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 graphics have 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  
Industrial designs

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

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	X	X	X		X	X	
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	X						
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:** In Designs, a Javascript viewer which is able to grab snapshots of the 3D model is used to create a set of image views. Only these image views are protected. In Trademarks, the e-filing accepts the 3D models file as-is without creation of image. For the publication or certificate, only the URL to the online eSearch tool is supplied (a link to the original 3D model file).

#### 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				
Industrial designs				X				
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:** Trademark & Design Search methods: Using current methods i.e. search based on image coding and/or Image recognition using AI Search based on 3D models to evaluate: - 3D model search algorithms based on mesh, vertices, triangles... components + using AI - 3D model reconstruction from 2D images when required/useful

## 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

Both e-Filing of trade mark and industrial design accept JPEG images and OBJ, STL, and X3D files for 3D models.

## Part 3. Regulations

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

Trade marks:

Article 3(1) EUTMIR allows for trade marks to be represented in any appropriate form using generally accepted technology, as long as it can be reproduced on the Register in a clear, precise, self-contained, easily accessible, intelligible, durable and objective manner so as to enable the competent authorities and the public to determine with clarity and precision the subject matter of the protection afforded to its proprietor.

Article 3(3)(c) EUTMIR further specifies that for trade marks consisting of, or extending to a three-dimensional shape, including containers, packaging, the product itself of their appearance (shape mark), the mark shall be represented by submitting either a graphic reproduction of the shape, including computer-generated imaging, or a photographic reproduction. Article 3(5) states that where the representation is provided electronically, the Executive Director of the Office shall determine the formats and size of the electronic file as well as any other relevant technical specifications.

EUTMIR: [https://eur-lex.europa.eu/legal-content/EN/TXT/?](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.104.01.0037.01.ENG&toc=OJ:L:2018:104:TOC)

[uri=uriserv:OJ.L\\_.2018.104.01.0037.01.ENG&toc=OJ:L:2018:104:TOC](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.104.01.0037.01.ENG&toc=OJ:L:2018:104:TOC)

Designs:

Article 36(5)CDR and Article 4 CDIR require that the representation of the design consist in a graphic or photographic reproduction of the design, either in black and white or in colour. As such current legislation only allows for static images to be filed. However the Office allows 3D computer-animated design generating motion simulation to be used as an additional technical means of viewing the design but it does not replace conventional static views.

Article 4(1)(d) CDIR states that where the application is filed by electronic means, the graphic or photographic reproduction of the designs shall be in a data format determined by the President of the Office; the manner of identifying the different designs contained in a multiple application, or the different views, shall be determined by the President of the Office;

CDR & CDIR: <https://euipo.europa.eu/ohimportal/en/community-design-legal-texts>

For both trade marks and designs:

Annex 2 to Decision No EX-19-1 of the Executive Director of the Office of 18 January 2019 on communication by electronic means contains the technical requirements for attachments to electronic filing and communication.

Annex 2: [https://euipo.europa.eu/tunnel-](https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/contentPdfs/law_and_practice/decisions_president/EX-19-1_annex-2_en.pdf)

[web/secure/webdav/guest/document\\_library/contentPdfs/law\\_and\\_practice/decisions\\_president/EX-19-1\\_annex-2\\_en.pdf](https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/contentPdfs/law_and_practice/decisions_president/EX-19-1_annex-2_en.pdf)

Decision N0 EX-19-1: [https://euipo.europa.eu/tunnel-](https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/contentPdfs/law_and_practice/decisions_president/EX-19-1_en.pdf)

[web/secure/webdav/guest/document\\_library/contentPdfs/law\\_and\\_practice/decisions\\_president/EX-19-1\\_en.pdf](https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/contentPdfs/law_and_practice/decisions_president/EX-19-1_en.pdf)

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## Part 4. Formats and technical tools

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### 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.?

- 3D Formats used: OBJ, STL, X3D

- The same format is used for all stages of the life cycle

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### 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.?

See 4.3

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### 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

3MF to consider if requested by users + industry wide adoption.

3MF (3D Manufacturing Format) is an open source XML file format standard designed for using additive manufacturing, including information about materials, colors, and other information that can't be represented in the STL format.

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**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?**

- Web browser: HTML < canvas> + WebGL
- Open Source JavaScript Library: JSC3D (<https://github.com/humu2009/jsc3d>)
- Microsoft 3D viewer

**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?**

See 4.6

**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)**

Other Javascript libraries/frameworks/converters such as Three.js and Babylon.js.

## 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.)**

- 3D file maximum size: 2MB
- Preference ASCII encoding over binary (to specify)

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

Browser support, wide spread adoption, open source (no license), simplicity

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

Same as 5.2

## 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?**

No search based on 3D files yet but only on JPEG images and coding.  
Specific advantages and/or drawbacks will be seen when evaluating search on 3D files.

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

Yes

## Part 7. Other

**20. 7.1. Do you have any other comments?**

It would be useful to create a reference database of 3D models for the evaluation of tools/algorithms, test, training (AI), etc.

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.

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You may download a copy of your answers:

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4. Thank You!

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

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