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产权组织标准委员会（CWS）

第十一届会议
2023 年 12 月 4 日至 8 日，日内瓦

关于修订产权组织标准 ST.88 的提案

外观设计表现形式工作队共同牵头人编拟的文件

概　述

1.　外观设计表现形式工作队对产权组织标准ST.88的当前版本提出了修订建议，即通过提及产权组织标准ST.91，纳入有关立体图像和立体模型的建议，并略作排版修改，以提高一致性和明确性。

背　景

2.　产权组织标准委员会（CWS）在2020年11月举行的第八届会议上，通过了关于工业品外观设计电子表现形式建议的新产权组织标准 ST.88，并要求外观设计表现形式工作队为标准委员会下届会议编制一份关于对可缩放矢量图（SVG）格式处理的提案（见文件CWS/8/24第31至第41段）。当时还注意到，已通过的标准没有就立体图像和立体模型提出建议，建议稍后重新讨论这一问题，必要时对标准进行修订。

3.　标准委员会第九届会议批准了对产权组织标准ST.88的修订，将SVG作为一种可选格式纳入该标准第12段（见文件CWS/9/25第80至第83段）。

4.　在标准委员会第九届会议通过新的产权组织标准 ST.91“关于数字立体模型和图像的建议”之后，并考虑到第57号任务要“确保对产权组织标准ST.88进行必要的修订和更新”，外观设计表现形式工作队共同牵头人重新研究了在产权组织标准 ST.88 中纳入关于立体对象的建议的问题，或是明确纳入或是通过提及产权组织标准ST.91。

5. 2023 年期间，在外观设计表现形式工作队维基页面上发布了两份草案，并在工作队成员之间进行了两轮讨论。工作队成员的所有反馈意见均已纳入并列于本次修订产权组织标准 ST.88 的最终提案中。

产权组织标准 ST.88 的拟议修订

6. 外观设计表现形式工作队编制了一份修订产权组织标准ST.88的提案，供标准委员会审议并酌情批准。拟议修订详见本工作文件附件，并在下文作了总结。 两类修改可分为以下两个类别：

- 第 1 类：涉及通过提及产权组织标准 ST.91 纳入有关立体图像和立体模型的建议；以及
- 第2类：包括为提高一致性和明确性所作的细微排版改动。

7. 对附件中标明的第1类修改可总结如下：

(a) 第3(a)段：更新“立体模型”目前的定义，使之与产权组织标准ST.91中的定义相一致；并增加提及ST.91的脚注：

(b) 第3(b)段：新增术语“立体图像”，采用ST.91中的定义；并增加提及ST.91的脚注；

(c) 第 5(d)段：新增提及，即“产权组织标准 ST.91：关于数字立体模型和立体图像的建议”；

(d) 第17段：新增下述节标题和段落：

‘RECOMMENDATIONS FOR ELECTRONIC 3D IMAGE AND 3D MODEL FORMAT AND SIZE

17. It is recommended that 3D image and 3D model formats for industrial designs, where accepted by the Office, follow relevant recommendations provided in WIPO Standard ST.91.’；

(e) 第25段：新增下述段落：

‘If the hologram is submitted as a 3D image or 3D model, then it should follow the recommendations for 3D images and 3D models above’；

(f) 第33-35段：将每段结尾处更新为：

‘(for 3D specific recommendations, see also WIPO Standard ST.91).’；

(g) 第41段：新增下述关于电子图像转换建议的段落：

‘For transformation of 3D images and 3D models, including converting 3D images or 3D models to 2D views, relevant recommendations in WIPO Standard ST.91 should be followed.’；

(h) 第25段：新增下述关于全息图表现形式建议的段落：

‘If the hologram is submitted as a 3D image or 3D model, then it should follow the recommendations for 3D images and 3D models above’；以及

(i) 第33-35段：将每段结尾处更新为：

‘(for 3D specific recommendations, see also WIPO Standard ST.91).’。

8. 对附件中标明的第2类修改可总结如下[注：~~删除线~~表示删除，下划线表示增加]：

(a) 第1段：对导言文本作如下更新，使其与各节标题相一致：

‘This~~ese~~ Standard provides recommendations ~~provide guidance~~ on how to create, capture, store, display, manage, transform, search, publish and exchange electronic representations of industrial designs’；

(b) 第2段：为明确性起见，对文本作如下修订：

‘These recommendations are intended to ~~achieve~~ facilitate:

•~~The~~ Maximum re-use of ~~the same~~ electronic representations when ~~for~~ applicants ~~to~~are filing the same design at multiple Intellectual Property (IP) offices’；

(c) 第3段：为一致性起见，对文本作如下修订：

‘For the purposes of this ~~recommendations~~ Standard, the following ~~terms~~definitions apply ~~unless otherwise specified~~’；

(d) 第3(a)-(p)段：修订定义文本，将“means”替换为“is”，并将缩略语移至定义之后，以保持一致性和明确性；

(e) 第4段：增加两个缩略词“DPI”和“PPI”；

(f) 第5段：更新文本，将所有涉及“Recommendation”之处的“r ”大写，使其更加清晰；

(g) 第6段和第42段：将所有涉及“IP office”和“office”之处改为“Office”；

(h) 第9段：对文本结尾处作如下更新，指明“of the receiving Office”：

‘Offices should not apply any transformations to images received from applicants which do not comply with the ~~Office's~~ image requirements of the receiving Office’；

(i) 第11-16段和第24段：在每一处“image”之前插入“2D”，以便更加明确；

(j) 第21段：将段号由“22”更新为“23”；

(k) 第38段：将关于公布视频文件的最后一段从“Recommendations for electronic video format and size”一节移至“Recommendations for online publication of representations”一节；以及

(l) 第45段：如下文所示删除“captured by the industrial property office”，因为受理局可为公布或任何其他目的进行润饰：

‘Offices may perform limited touch-ups of electronic images ~~captured by the industrial property office~~.’。

9. 请标准委员会：

(a) 注意本文件及本文件附件的内容；并

(b) 审议并批准上文第 7 和第 8 段所述并转录于本文件附件的对产权组织标准 ST.88 的拟议修订。

[后接附件]

STANDARD ST.88

RECOMMENDATIONS FOR ELECTRONIC REPRESENTATION OF INDUSTRIAL DESIGNS

~~*Revision approved by the Committee on WIPO Standards (CWS) at its ninth session on November 5, 2021*~~
Proposal presented for approval by the Committee on WIPO Standards (CWS) at its eleventh session

INTRODUCTION

1. This~~ese~~ Standard provides recommendations ~~provide guidance~~ on how to create, capture, store, display, manage, transform, search, publish and exchange electronic representations of industrial designs.

OBJECTIVES

2. These recommendations are intended to ~~achieve~~facilitate:

- ~~The m~~Maximum re-use of ~~the same~~ electronic representations when ~~for~~ applicants ~~to~~are filinge the same design at multiple Intellectual Property (IP) offices;
- A common set of requirements for IP offices to exchange electronic representations data;
- A common set of requirements for IP offices to process and publish electronic representations; and
- A common set of requirements to enhance automated search of electronic representations.

DEFINITIONS AND TERMINOLOGY

3. For the purpose~~s~~ of the~~is~~e ~~recommendations~~Standard, the following ~~terms~~definitions apply ~~unless otherwise specified~~:

(a) “3D model” **is** ~~means~~ an electronic file that is created by a specialized software, for mathematically representing the surface of an object’s visual representation in three dimensions[1];

(b) “3D image” is a digital image that represents objects displayed in three dimensions such as 3D photos and stereoscopy[2];

(c) “industrial design” ~~means~~is the visual aspect of an object, including its two-dimensional and three-dimensional features of shape and surface. Industrial designs are protectable through registration in an industrial property office or another competent authority. Some jurisdictions distinguish between a “design” for two-dimensional objects and a “model” for three-dimensional objects;

(d) ~~“DPI” or~~ “Dots Per Inch” or “DPI” ~~means~~is a measurement of a physical device, such as a display or printer, of the number of individual dots that can be placed within the span of one linear inch. DPI is commonly applied to monitors, scanners and even digital cameras for which the technical correct term is pixels per inch, but DPI is commonly used instead. For the purposes of the present Standard, therefore, DPI is used as a measurement for all image input or output devices mentioned in this Standard[3];

(e) “electronic representation” ~~means~~is the drawing(s) and/or photograph(s) representing a design on computer files, which may have been created and/or converted from the original physical representation, the original paper representation and the original electronic representation;

(f) ~~"EXIF" or~~ “Exchangeable Image File Format” or “EXIF” is a standard for storing metadata with different image formats, including JPEG and TIFF. It is commonly used by digital cameras, smartphones, scanners, and other systems handling image or audio files;

(g) “hologram” ~~means~~is a photographic recording of a light field, rather than of an image formed by a lens, and it is used to display a fully three-dimensional image of the holograph subject;

(h) “image search” is a method of search for designs by inputting one or more images;

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[1] As defined in WIPO Standard ST.91.
[2] As defined in WIPO Standard ST.91.
[3] DPI is not a property of the image itself, which is independent of any physical measurements. Electronic image files do not contain an inherent DPI, but may contain a suggested DPI value that provides output devices with a recommended density for displaying the image

(i) “metadata search” is a method of search for designs by inputting metadata text;

(j) “original electronic representation” ~~means~~is the electronic drawing(s) and/or photograph(s) representing a design as submitted by the applicant on computer files;

(k) “original paper representation” ~~means~~is the drawing(s) and/or photograph(s) representing a design as submitted by the applicant on paper;

(l) “original physical representation” ~~means~~is the physical product specimen (or model) embodying a design as submitted by the applicant to the IP office;

~~(m) “PPI” means Pixels per inch. See DPI;~~

(m) “raster image” ~~means~~is 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;

(n) “resolution” ~~means~~is the number of pixels in an electronic image representing its width and height. This is usually given as width x height, e.g. 1024 x 768;

(o) “vector graphics” ~~means~~is 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; and

(p) “view” ~~means~~is the 2D image formed when the design (normally a 3D object) is viewed or projected from a certain position, e.g., front view, rear view, perspective view.

4. The following acronyms are used in this document:

(a) 4K UHD stands for 4000 pixels Ultra-High-Definition, a video resolution of at least 3840 x 2160 pixels;

(b) ANSI stands for American National Standards Institute;

(c) DPI stands for Dots Per Inch;

(d) EXIF stands for Exchangeable Image File Format;

(e) GIF stands for Graphics Interchange Format;

(f) GPS stands for Global Positioning System;

(g) IEC stands for International Electrotechnical Commission;

(h) ISO stands for International Organization for Standardization;

(i) JPEG stands for Joint Photographic Experts Group;

(j) PDF stands for Portable Document Format;

(k) PNG stands for Portable Network Graphics;

(l) PPI stands for Pixel Per Inch;

(m) TIFF stands for Tagged Image File Format; and

(n) W3C stands for World Wide Web Consortium.

REFERENCES

5. The following WIPO Standards are of relevance to ~~should be applied as referenced in~~ this Standard:

(a) WIPO Standard ST.80 : Recommendation concerning bibliographic data relating to industrial designs;

(b) WIPO Standard ST.81 : Recommendation concerning the content and layout of industrial design gazettes;

(c) WIPO Standard ST.86 : Recommendation for the processing of industrial design information using XML (Extensible Markup Language); ~~and~~

(d) WIPO Standard ST.91 Recommendation on digital three-dimensional (3D) models and images; and

(e) WIPO Standard ST.96 Recommendation for the processing of intellectual property information using XML (EXTENSIBLE MARKUP LANGUAGE).

GENERAL RECOMMENDATIONS

6. This Standard recommends that industrial design documents should provide images in an electronic format, including applications, publications, and other documents containing designs. Electronic image formats and sizes recommended by this Standard should be accepted by each IP Office.

7. If an Office has established its preferred electronic representation of designs which differs from this Standard, it is recommended that the Office announce its preferences in its official publications or websites regularly. This includes elements such as image format, resolution, and file size.

8. Offices should preserve the original electronic representation submitted with an application for archival purposes.

9. Offices should not apply any transformations to images received from applicants which do not comply with the ~~Office's~~ image requirements of the receiving Office, such as changing the size, resolution, scaling, color space, or other features to bring the image into compliance. If an application contains images which do not comply with the Office's requirements, the images should be rejected with a message informing the applicant which requirement was not met and how to provide acceptable images[4].

10. Offices should not remove any information from submitted images for archival purposes. Copies of the image for other purposes, such as publication or data exchange, should have sensitive or personal information removed. For instance, EXIF metadata in an image file may contain data such as name or GPS location.

RECOMMENDATIONS FOR ELECTRONIC 2D IMAGE FORMAT AND SIZE

11. This Standard recommends JPEG[5] and PNG[6] as preferred electronic 2D image formats for industrial designs.

12. Where supported by the Office, images may optionally use one of the following alternative formats instead of a preferred format:

(a) SVG format: this format is not preferred because some Offices have uncertainties about integrating SVG with their existing processes and requirements;

(b) TIFF format: this format is not preferred because it is not compressed, leading to very large file sizes; and

(c) GIF format: this format is not preferred because PNG is a newer format with better support for color and transparency features.

13. 2D images should not use PDF format. PDF is designed for complex documents not for storing images, and can contain extraneous information besides the image. Determining the precise boundaries between images and other document elements (such as where the margin begins) may be difficult in PDF. Converting or extracting images from PDF to other formats may introduce errors or unintended changes.

14. Offices should accept at least one of the preferred 2D image formats for ~~filing, and~~filing and should accept all of the preferred 2D image formats for data exchange. Offices may accept other 2D image formats for filing as well, as long as they convert the image to one of the preferred formats for data exchange and publication.

15. 2D images should be accepted in color, grayscale, and black & white as chosen by the applicant. Files of at least 5 MB in size should be accepted. 2D images should have a minimum resolution of 300 x 300 pixels and a maximum resolution of 3840 x 2160 pixels (corresponding to 4K UHD). When a design application or submission includes multiple 2D image files, it is recommended that Offices set a limit on the total size of all images in the design application. This limit should not be less than 100MB, and may be higher if the Office wishes to accept larger submissions.

16. Where the recommendation related to suggested sizes is not able to be followed due to the variable nature of the figurative elements, e.g., long and narrow strip or ribbon type figurative elements, it is recommended that in addition to a total view, the complete 2D image also be presented as multiple sections, with each section in a separate file that complies with the requirements above, and textual instructions on how the sections fit together.

RECOMMENDATIONS FOR ELECTRONIC 3D IMAGE AND 3D MODEL FORMAT AND SIZE

17. It is recommended that 3D image and 3D model formats for industrial designs, where accepted by the Office, follow relevant recommendations provided in WIPO Standard ST.91.

RECOMMENDATIONS FOR ELECTRONIC VIDEO FORMAT AND SIZE

18. Files containing video or multimedia should use one of these preferred formats[7]: MP4 container files (.mp4) with one of the following video codecs: AVC/H.264 or MPEG-2/H.262.[8]

[4] The Office may choose how to handle this situation, for instance, whether to reject the entire application, or to accept the application and require the applicant to replace the rejected files.
[5] JPEG provides lossy compression of images to create small file sizes and is generally preferable for works such as photographs.
[6] PNG provides lossless images with compression and is generally preferable for works such as drawings, figures, or graphical designs.
[7] The recommended formats may be updated in the future as conditions change.
[8] These formats are ISO standards and have the widest hardware and software support. There are known patent pools covering these formats from the MPEG Licensing Administration, including for video playback, but common platforms such as Windows, Mac OS, Android, and iOS include licenses for playback at this time.

19. Where supported by the Office, design applications containing video or multimedia may use one of these alternative formats instead: WebM[9] or MP4 container files with one of the following video codecs: VP9 or AV1[10].

20. Multimedia files should not use video container or codec formats other than the preferred and alternative formats. For instance, the formatsMPEG-1[11], VP8[12], and HEVC/H.265[13] should not be used.

21. Offices should accept at least one of the preferred or alternative multimedia formats for filing, and should accept all of the preferred and alternative formats for data exchange with other Offices. For filing, Offices may accept formats other than preferred or alternative formats at their discretion as long as they convert the video to one of the preferred or alternative formats for data exchange and publication. However, it is preferable to avoid conversions altogether (see paragraph 232).

22. Offices should announce what container and codec formats are accepted by the Office. Offices should also verify that submitted multimedia files use a container and codec format accepted by the Office. Such checks can be performed in software at the time of submission. Simply checking the file extension or container format is not sufficient, as some containers (particularly MP4) can use dozens of different codecs. If a submitted file does not use an accepted format, the file should be rejected[14].

23. It is recommended that Offices do not convert multimedia files to a different format, as this can introduce errors, artifacts, or reduction in quality. Conversions may introduce artifacts in the video or audio data and may not match the original electronic representation. Conversion may be required in certain instances for publication or data exchange, such as where an Office accepts formats for filing not recommended by this Standard. In these cases, Offices should verify that the converted format faithfully reproduces the relevant features of the original format covered by the IP right. Offices should preserve the multimedia files originally submitted by the applicant for the duration of the IP right. If format conversions are done for publication or data exchange, the original format should also be made available online or on request.

~~When publishing video files, it is recommended that Offices provide information (including by linking to other websites) about the video formats it accepts and how to play them on various platforms. This information should be linked as near as possible to the published video so users can easily find it.~~

RECOMMENDATIONS FOR HOLOGRAM REPRESENTATION

24. If the hologram is submitted as a series of 2D images, then it should follow the recommendations for 2D images above.

25. If the hologram is submitted as a 3D image or 3D model, then it should follow the recommendations for 3D images and 3D models above.

26. If the hologram is submitted as a video object, then it should follow the recommendations for video formats above.

27. It is not recommended that Offices accept physical holograms in applicant submissions at this time, as there does not appear to be a general way to transform them into digital specimens. If Offices do accept physical holograms, it is recommended that they only use it as a visual aid and that it does not form part of the specification or define the scope of protection.

RECOMMENDATIONS FOR CAPTURING ELECTRONIC IMAGES

28. Where Offices accept original physical or paper representations as part of an application, it is recommended that the images be a minimum of 3 cm by 3 cm in size, and a maximum of 21 cm by 27 cm (reflecting shared dimensions of A4 and ANSI Letter size paper).

29. It is recommended that Offices convert original paper representations to digital images for publication and management. The conversion is recommended using one of the preferred formats for 2D raster images above. Alternatively, Offices may convert the paper image to one of the alternative 2D image formats as long as they convert to a preferred format for data exchange. The resolution of captured images can be as high as the Office deems appropriate, but in all cases should be high enough to adequately capture the details of the source image.

30. Offices should scan images for capture with at least 300 DPI to accurately represent the image. Offices should not scan images with lower than 200 DPI or higher than 600 DPI.

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[9] WebM is supported by most web browsers, though other platforms may require installing software to play.
[10] These codecs are designed for royalty-free use and supported by most web browsers. Both codecs are also supported within MP4 containers. At this time industry use of AV1 appears limited, however major platforms are planning to adopt it in the near future.
[11] Superseded by newer formats and not supported by MP4 containers.
[12] Superseded by VP9 and not supported by MP4 containers.
[13] Not widely supported at this time, covered by multiple competing patent pools.
[14] The Office may choose how to handle this situation, for instance, whether to reject the entire application, or to accept the application and require the applicant to replace the rejected files.

31. Captured images should be in color unless the original paper representation is black and white. The captured image should have the same legal authenticity as the original paper representation.

32. The original paper representation should be stored for archival purposes for at least one year longer than the duration of the IP right.

RECOMMENDATIONS FOR ONLINE PUBLICATION OF REPRESENTATIONS

33. Offices should publish images and documents containing images online. ~~(f~~For 3D specific recommendations, relevant recommendations in WIPO Standard ST.91 should be followed~~see also WIPO Standard ST.91)~~.

34. Images embedded in other documents, such as PDF, should reproduce the characteristics of the original image as closely as feasible. When publishing documents with embedded images online or in another electronic medium, Offices should also make the images available as separate files. For 3D specific recommendations, relevant recommendations in WIPO Standard ST.91 should be followed ~~(for 3D specific recommendations, see also WIPO Standard ST.91)~~.

35. Images should be published in a preferred or alternative format, with a minimum resolution of 300 pixels in each dimension (width and height). Images should be published in color unless the original image is black and white. Format conversions or other transformations of submitted images should be avoided whenever possible as they have the potential to introduce errors, artifacts, distortions, or other differences. If a conversion or transformation must be done, Offices should verify that the resulting image faithfully reproduces the relevant features of the original image. For 3D specific recommendations, relevant recommendations in WIPO Standard ST.91 should be followed ~~(for 3D specific recommendations, see also WIPO Standard ST.91)~~.

36. If the published image differs from the original image submitted by the applicant in any way (file format, resolution, color space, or other aspects), the Office should note the differences in the publication. E.g. a note such as "Original image: 300 x 400 JPEG 8-bit color" would be appropriate. An indication of how the public can access the original image is also recommended.

37. Offices should remove metadata containing sensitive information from image files intended for publication. For example, EXIF metadata may contain name or geographic location. However, the original file with all metadata should be preserved for archival purposes.

38. When publishing video files, it is recommended that Offices provide information (including by linking to other websites) about the video formats it accepts and how to play them on various platforms. This information should be linked as near as possible to the published video so users can easily find it.

RECOMMENDATIONS FOR TRANSFORMATION OF ELECTRONIC IMAGES

39. Electronic images submitted with an application that are of insufficient quality or do not conform to the formats specified in this Standard should be rejected by the Office and the applicant asked to resubmit the images.

40. If an Office transforms a figurative element from one storage format to another (e.g., GIF to PNG), it is recommended that the Office retain the original format as well as the transformed format. If an Office chooses to discard the original format then it is recommended that clear procedural guidelines be established and documented. ~~or 3D~~

41. For transformation of 3D images and 3D models, including converting 3D images or 3D models to 2D views, relevant recommendations in WIPO Standard ST.91 should be followed.

42. If an Office performs touch-ups on an electronic image either submitted by an applicant or captured by the Office, it is recommended that the ~~a~~Office establish a set of procedures and guidelines for the physical process and ranges of touch-ups that the office will carry out (e.g., removing minor background specks —no larger than 1 mm). This will ensure consistency within the particular ~~a~~Office.

43. Given the variable nature of scanned images, and in particular the color rendition, Offices are recommended to use textual descriptions and detailed color claims when performing touch-ups on an electronic image of the corresponding figurative element. It is also recommended that records of performed touch-ups be kept for future reference.

44. If an Office performs touch-ups on an electronic image either submitted by an applicant or captured by the Office, the Office may choose to send the touched-up image back to the applicant for approval.

45. Offices may perform limited touch-ups of electronic images ~~captured by the industrial property office~~. Such touch-ups may include:

(a) erasing dust, hair, or other blemishes in the background of the image;

(b) erasing or color correcting background elements on the periphery of the figurative elements;

(c) erasing marks from creases in the original physical representation of the image;

(d) color correcting or color balancing the electronic image so as to better capture the original physical representation of the figurative element unless it substantially modifies the scope of the claims of the design.

46. Given the variation in color rendition due to scanning and printing variability, it is recommended that Offices clearly indicate that the colors are only for presentation purposes and that accurate renditions of the color are dependent on the equipment used. It is recommended that a disclaimer to this extent be included whenever a color figurative element is presented.

RECOMMENDATIONS FOR SEARCH OF ELECTRONIC IMAGES

47. It is recommended that Offices make images searchable by submission data, including at least application or file number, applicant name, and date of submission or registration.

48. It is recommended that Offices make images searchable using the Locarno Classification, including classes, subclasses, and types of goods.

RECOMMENDATIONS FOR VIEWS OF DESIGNS

49. The minimum and maximum number of views established by the Office for a design application should permit accurate representation of the design. The number of views required for accurate representation depends on the nature of the product, the features to be protected, the position (perspective) of views provided by the applicant, and other features of the Office's legal requirements.

50. It is recommended that Offices designate an exemplary image for design applications, either by selecting a representative image, selecting the first image in the application, or allowing the applicant to indicate the exemplary image. The exemplary image should be displayed prominently in publications of the application or registered design, such as on the title page of publications or as an accompanying thumbnail image in electronic catalogs, indexes, or databases.

[End of Standard]

[End of Annex]