

# New Issues in IP: 3D Printing and Impacts on Business in Japan

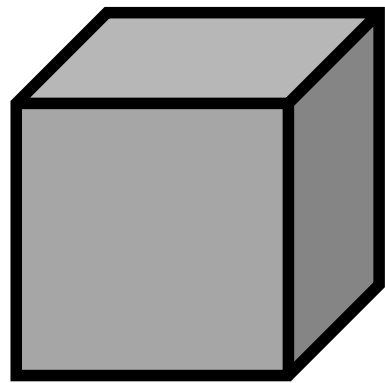
March 1, 2018



FUJII Akira

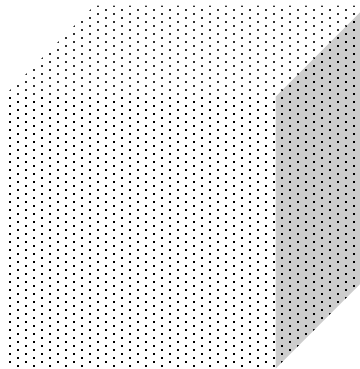
Sonoda & Kobayashi IP Law

# 3D Printing

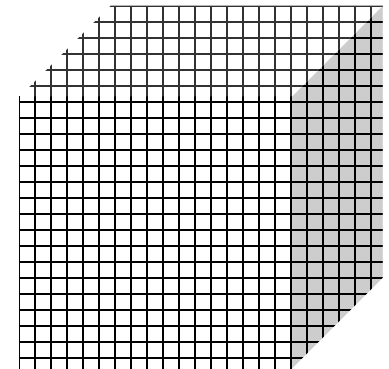


Object

Scan



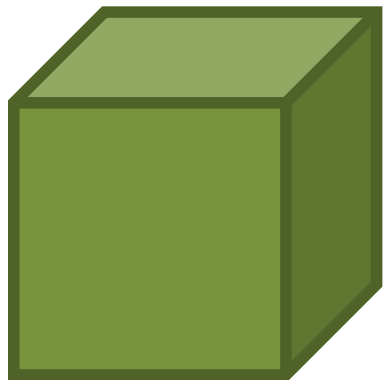
Point Groups



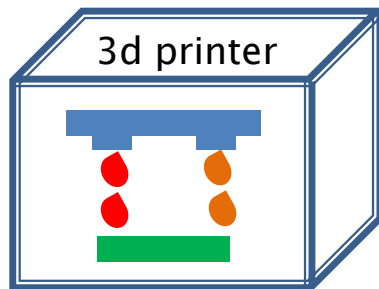
Mesh



Data for 3D Printer



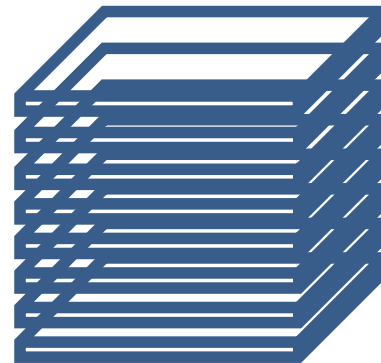
Replica



3d printer

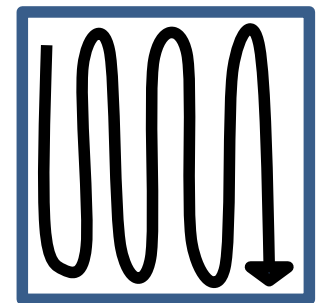


Printing



Slices

+



Tool Path

3D Data

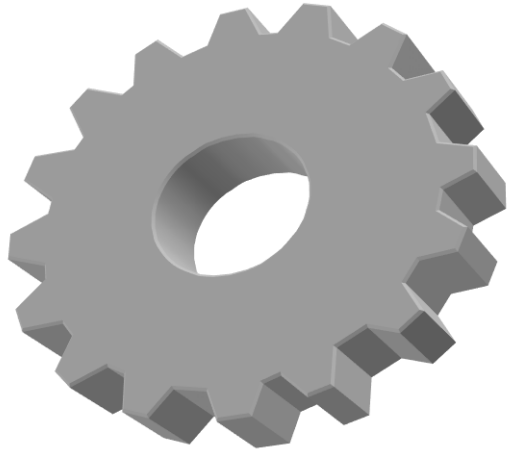
# Types of 3D Printing

What is different, for example, from NC processing (Numerical Control processing)?

- ▶ Also called “additive manufacturing technology” (← →Cutting)
- ▶ Unfit for mass production as of today (∵expensive materials, processing speed, etc.)
- ▶ Used for manufacturing single objects (spare parts, medical purposes), and prototypes
- ▶ Many of acts to carry out the invention do not qualify as carrying it out “as business”
- ▶ 3D shape data and processing data can be circulated (situation where not fully being able to control them is expected)

# 3D Printing and Patent Rights

# Example: Epochal Invention of Gear G



Gear G

- Novel feature is its shape
- Conventional materials can be used
- Patented for achieving technical effects

Patentee is the exclusive producer and seller

# Q1: Do the following actions infringe the patent?

(A) Person who purchased the gear G through legitimate channels takes a photo with a digital camera and uploads it on his blog without the consent of Patentee

(B) Person who acquired the blueprint of the gear G copies and provides the blueprint to a third party without the consent of Patentee

# A1: No patent infringement assumed

(Effect of Patent Right)

Article 68 A patentee shall have the exclusive right to **carry out** the patent invention as business ...(abbr.)

(Definition)

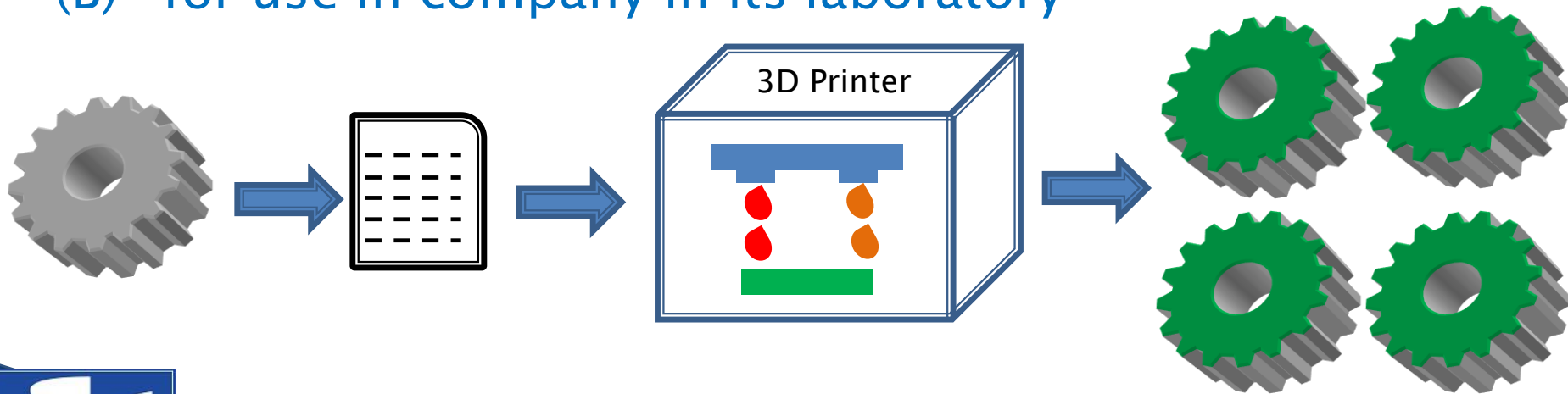
Article 2(3) “Carrying out” an invention in this Law means the following acts.

(i) in the case of an invention of a product (including a computer program, etc., the same shall apply hereinafter), producing, using, assigning, etc. (assigning and leasing and, in the case where the product is a computer program, etc., including providing through an electric telecommunication line, the same shall apply hereinafter), exporting or importing, or offering for assignment, etc. (including displaying for the purpose of assignment, etc., the same shall apply hereinafter) **of the product**;

# Q2: Do the following actions infringe the patent?

Person who purchased the gear G acquires shape data of the gear G using a 3D measurement device without the consent of Patentee, uses the data to produce output from a 3D printer, and creates a copy of the gear G and uses it:

- (A) for personal use at home
- (B) for use in company in its laboratory





# A2: Patent infringement (“as business”) cannot be prosecuted

(Effect of Patent Right)

Article 68 A patentee shall have the exclusive right to carry out the patent invention as business ...(abbr.)

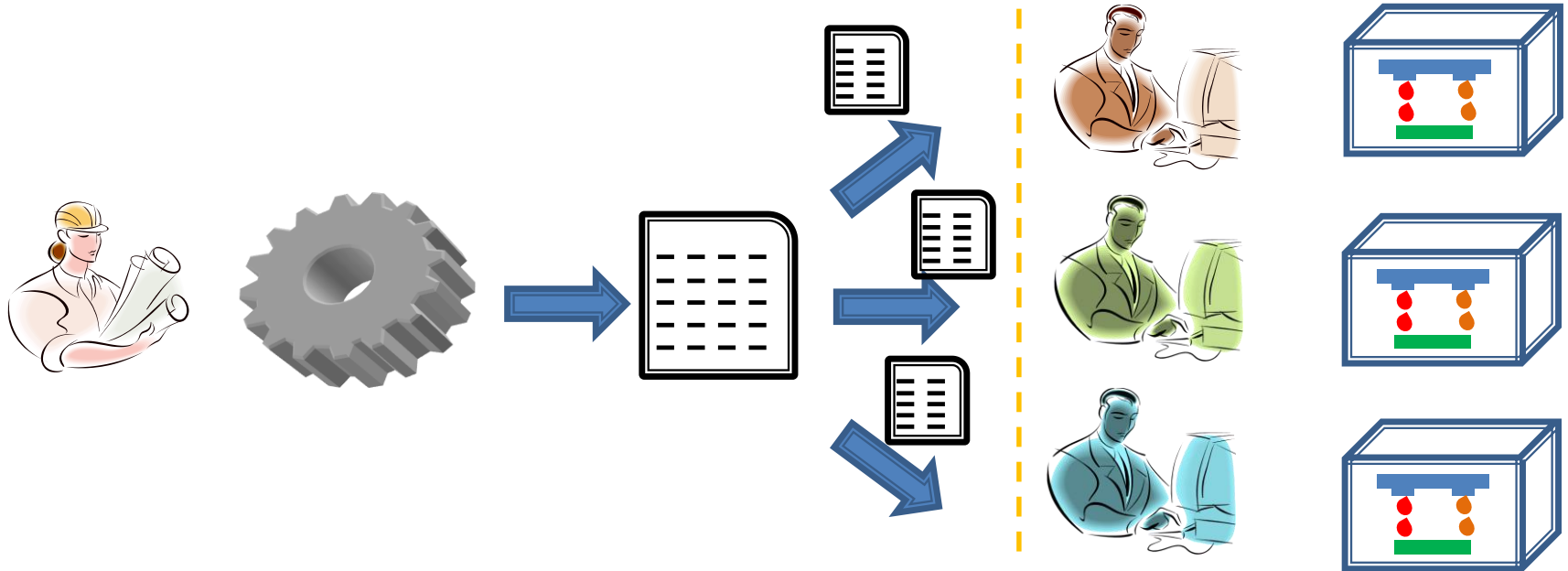
(Limitations of patent right)

Article 69(1) A patent right shall not be effective on carrying out the patent invention for experimental or research purposes.

(Assembling) a copied object (in a product) for sales to a third party qualifies as use and assignment as business, and is illegal, irrespective of its relationship with 3D printer

# Q3: Do the following actions infringe the patent?

Person who purchased the gear G acquires data of the gear G for 3D printer output using a 3D measurement device without the consent of Patentee, and sells it to a third party



Person conducting the action in the final stage here is not doing so “as business”

# A3: Direct infringement cannot be prosecuted

(Definition)

Article 2(3) “Carrying out” an invention in this Law means the following acts.

(i) in the case of an invention of a product (including a computer program, etc., the same shall apply hereinafter), producing, using, assigning, etc. (assigning and leasing and, in the case where the product is a computer program, etc., including providing through an electric telecommunication line, the same shall apply hereinafter), exporting or importing, or offering for assignment, etc. (including displaying for the purpose of assignment, etc., the same shall apply hereinafter) **of the product**;

# Possibility of indirect infringement (dedicated program, etc.)

(Acts Deemed to Constitute Infringement)

Article 101(i) Where a patent has been granted for an invention of **a product**, acts of producing, assigning, etc., importing or offering for assignment, etc. **any product** to be used dedicatedly for the producing of **said product** as a business

(Definition)

Article 2(4) A "**computer program, etc.**" in this Law means a computer program (a set of instructions given to a computer which are combined in order to produce a specific result, hereinafter the same shall apply in this paragraph) and any other information that is to be processed by a computer equivalent to a computer program.

# Possibility to constitute indirect infringement (\*IIP 29.2)

- ▶ As general rule, the right holder of an object can prosecute indirect infringement if 3D data qualifies as “program, etc.”, but cannot do so if it does not qualify as “program, etc.” (note: the case of “dedicated” object)
- ▶ On the other hand, even if the 3D data does not qualify as “program, etc.”, there still are some chances to prosecute infringement by conduct interpretation of the person conducting infringement. There is also the possibility of constituting joint unlawful acts under civil law. It should be noted that right to seek an injunction is given on the establishment of indirect infringement, but this is not the case with the joint unlawful act under the civil law.

\*Institute of Intellectual Property “Research Report on Legal Protection of AI-based Creations and 3D Printing Data under Industrial Property Laws” (Feb. 2017 )

# Indirect Infringement due to “Dedicated Program, etc.”

# Reference: Resource from JPO “Examination Guidelines for IoT- Related Technologies”

- ▶ “data having structure” and “data structure” among the data may qualify as being “equivalent to a computer program”. (page 25)
- ▶ “Data structure” is “logical configuration given to data that is expressed by relations among data elements”. (Examination Handbook)
- ▶ Being “equivalent to a computer program” means having a nature similar to a program in defining computer processing, although it cannot be called a program due to not being direct instructions for a computer. (Annotation Manual of Industrial Property Laws )

# Reference: Resource from JPO/Industrial Applicability (Data)

[Claim 1]

3D shaping data to be used in a 3D shaping device that layers a modeling material that is to configure a 3D-shaped object as a final resultant and a support material that supports the modeling material during shaping, having a structure including, for each layer of the 3D-shaped object :

- modeling material data indicating a discharge position and a discharge amount of the modeling material;

- a modeling material pointer that points data used for subsequent shaping for the shaping based on the modeling material data;

- support material data indicating a discharge position and a discharge amount of the support material; and

- a support material pointer that points data used for subsequent shaping for the shaping based on the support material data, ...(abbr.)

Example of a program, etc. according to JPO



# Does 3D data qualify as a program, etc.?

Whether it qualifies as a program, etc. is controversial (IIP 29.2)

- ▶ 3D scan data (point group)
- ▶ Polygon data (e.g., STL)
- ▶ Data for 3D printer (slices + processing)

(Points to be considered)

- Does it have “data structure”?
- Any purpose other than 3D printing (“dedicated”)?
- Described in standard(ized) format?

# Issues and Impacts

- ▶ Possibility of the object protected by industrial property law being unlawfully jeopardized by 3D data of this object
- ▶ Sharing of 3D data with others can enhance free exercise of creativity, which can result in further creation of new ideas and products

IIP 29.2

- Use–Protection Equilibrium
- Revolutionary to the point of creating changes in law and concepts?
- Possibility of Process Patents
- Copyright Law and Civil Law (Contract, Tortious Acts)
- Unfair Competition Prevention Law
- “3D data of an object not protected by IP right”  
Additional values created in the process of data creation

# Discussions on revising Unfair Competition Prevention Law: Data Uses (Technical management assuming provisions to outside parties)

## (1) Unlawful Acquisition Type

i) Act of an outsider with no right acquiring data by act of violating management system; ii) Act of using data acquired by i); and iii) Act of providing data acquired by i) to a third party

## (2) Grave Violation of Fair and Equitable Principles Type

iv) Act of using the data acquired from a data provider under the condition of being prohibited to provide the data to a third party, in a manner that is evaluated as corresponding to embezzlement or breach of trust (manner that breaches a relationship between parties concerned with a high degree of trust under a consignment contract, etc.), with the intent of making profit or causing damage; and v) Act of providing the aforementioned data to a third party

## (3) Subsequent Acquisition Type

Cited from METI “Overview of Interim Report (Draft) on Discussion for Enhancing Data Uses”

# Thank you!



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