

# 3D PRINTING: THE SHIFTING BORDER BETWEEN DOMESTIC IP AND INTERNATIONAL TRADE

# WHAT WILL “INTERNATIONAL TRADE” MEAN IN TEN YEARS IN A 3DP WORLD?



Gutenberg bible: the first major book printed using mass-produced movable type



- Aircraft parts on demand, on-site
- 5% to 10% waste material rather than 90-95% from current machining
- 2-3 months faster, 70% cheaper

# 3D PRINTING – WHAT IS IT?

Manufacturing process where objects are created by depositing layers of material on top of each other based on a 3 dimensional digital map

- Known as “Additive Manufacturing” in industry
- Traditional manufacturing is “subtractive manufacturing”
  - Objects created by removing material
  - E.g., cutting out a pattern from metal or plastic
  - Includes machining, tooling, etc.

# 3D PRINTING – WHAT IS IT?

- **Not new**
  - First invented in the 1980s
  - Originally only metal and plastics
  - Objects printed using only one material
  - Generally 1 color (the color of the material)
- **Technology and capabilities have advanced**
  - More complex objects can be created using traditional materials
  - Metals, plastics, and ceramics
  - Non-traditional materials (sugar and chocolate printers, cells/living tissue, other food products)

# 3D PRINTING NEW COMMERCIAL PARADIGM

- Gartner predicts by 2018, at least 7 of 10 multichannel retailers will be using 3DP to create custom stock orders alongside new business models and players;
- Gartner also predicts “escalation of 3d Printing capabilities will change retail models and threaten intellectual property.” By 2018, 3DP will result in loss of at least \$100 billion per year in IP globally

# CHALLENGE TO TRADITIONAL IP

All IP rights implicated:

- **Trademark**
  - Printing a mobile device or athletic product accessory bearing the corporate logo
- **Copyright**
  - Printing a a well known cartoon character
- **Patent**
  - Printing a patented fastener or other device
- **Design Patent**
  - Printing mobile phone protective cover

# CHALLENGE TO TRADITIONAL INTERNATIONAL TRADE CONCEPTS

What is traded when a CAD file crosses a border?

- **Is it a Good?**
  - Is there cross-border trade in “goods”? A CAD data file would not typically fall under the HTS
  - What is being traded other than raw materials?
- **Is it a Service?**
  - Is the transmission of an internationally transmitted file to a local 3D printer the provision of a “service”? Data transmission generally not covered by GATS.
  - Design and engineering services separate from manufacturing.
  - Digital file is not a “product” but part of a process.

# CHALLENGE TO TRADITIONAL IP AND TRADE CONCEPTS





# IS THE WTO FRAMEWORK A DINOSAUR?

## Traditional Trade Regulation

- GATT
- GATS
- Customs Valuation Agmt
- Agmt on Agriculture
- Phytosanitary
- TBT
- Subsidies (SCM)
- Rule of Origin
- DSU

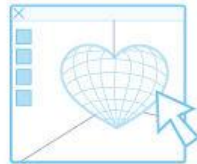
## *3D World*



# COMMERCIAL 3D PRINTING



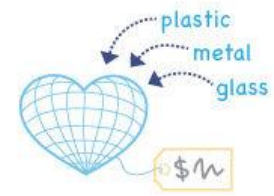
Idea!



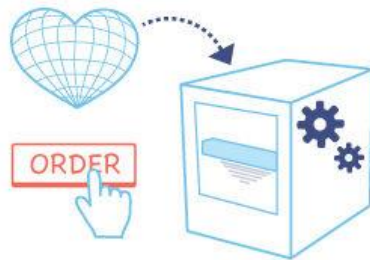
Model your design.



Upload to Shapeways.



Choose materials  
& get instant pricing.



We'll fabricate your order with  
3D printing awesomeness...



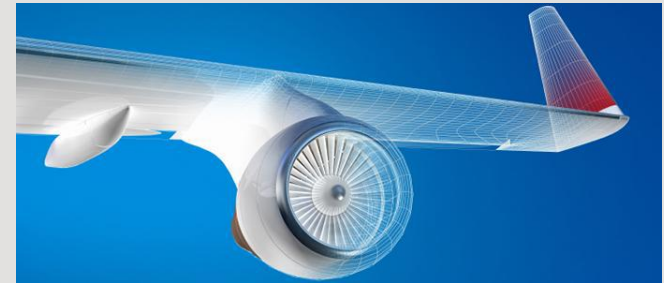
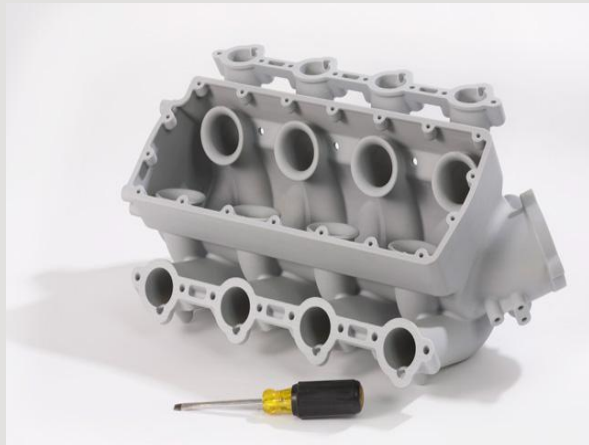
...and ship it  
anywhere in the world.



Your idea made real!

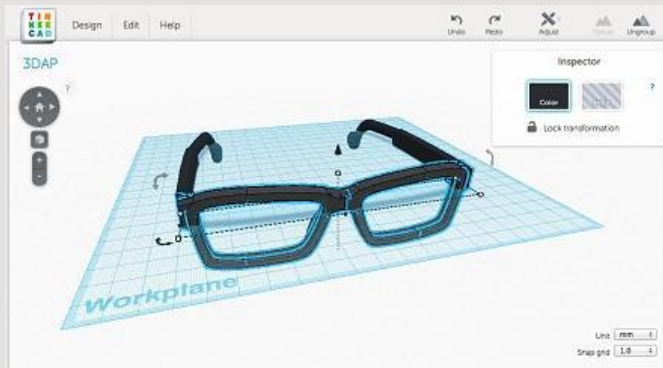
# 3D PRINTING – NEW TRADE PARADIGM

## AUTOMOTIVE, MEDICAL & AEROSPACE



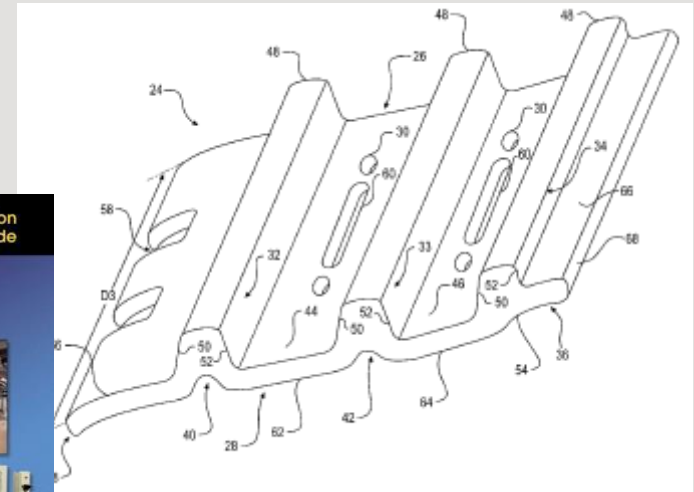
# 3D PRINTING – NEW TRADE PARADIGM

## FASHION, CONSUMER GOODS, and WEAPONS



# 3D PRINTING – NEW TRADE PARADIGM

## TOOLS AND REPLACEMENT PARTS



# 3D PRINTING – NEW TRADE PARADIGM

HOME 3D PRINTERS: \$300



# 3D PRINTING: DENTAL WARS PT. 2

- *ClearCorrect v. U.S. International Trade Commission and Align Technology, Inc.* (Court of Appeals for Federal Circuit)(2015).
  - Arose out of ITC Section 337 case.
  - ITC found electronic CAD files were “articles” and therefore subject to ITC jurisdiction.
  - CAFC, in accord with *Bayer*, found that intangible “articles” not covered by Section 337
  - Petitions for rehearing now pending.
  - Impact likely to be limited as induced infringement claims likely to work at the ITC so long as something was imported to the United States, even if it was not the CAD file itself.

# ENFORCEMENT LIMITATIONS

## **Problem 1: most 3D CAD files transmitted digitally**

- Experience of motion picture and music industry in US is that going after your customers is ultimately bad for business (Napster)
- CAD file hosts (Pirate Bay) are offshore
- U.S. Digital Millennium Copyright Act makes it difficult to go after the internet service providers



# ENFORCEMENT LIMITATIONS (CON'T)

## Problem 2: Is a Pirate Bay even acting unlawfully?

- CAD distributor not “making”
  - The right to make can scarcely be made plainer by definition, and embraces the construction of the thing invented. *Bauer & Cie v. O'Donnell*, 229 U.S. 1, 10 (1913).
- CAD distributor not “using”
  - The ordinary meaning of ‘use’ is to put into action or service.” *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1316 (Fed. Cir. 2005).
- CAD distributor not “offering for sale”
  - The offer must be for a potentially infringing article, i.e., a tangible object. *Transocean. v. Maersk Contractors*, 617 F.3d 1296 (Fed. Cir. 2010)
- CAD files cannot contributorily infringe
  - CAD files are akin to software in the abstract— mere information and detailed instructions which —might be compared to a blueprint (or anything containing design information, e.g., a schematic, template, or prototype), but which is not itself combinable into a device. *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007)

**THANKS!**

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