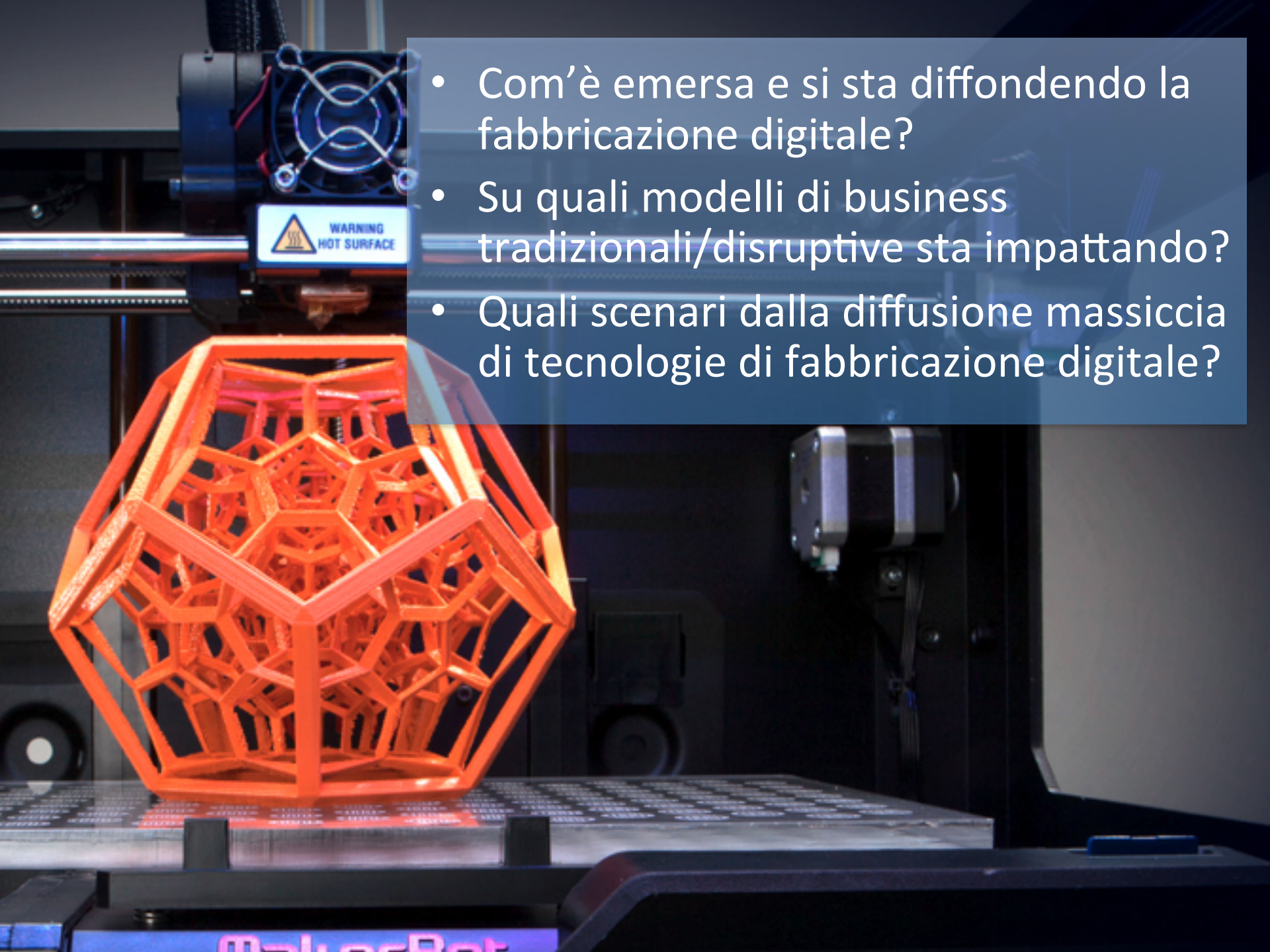




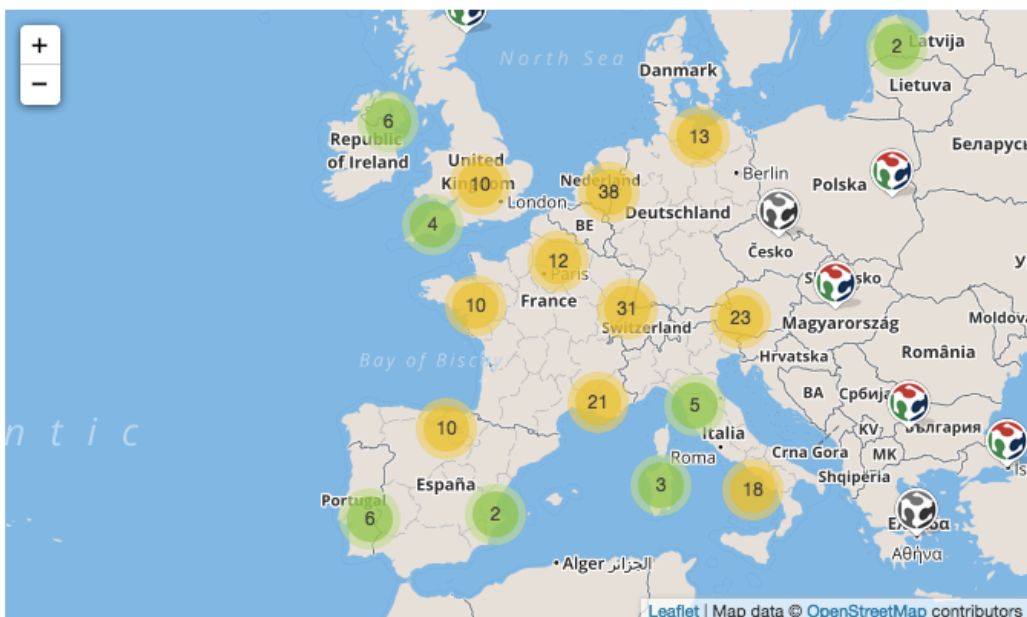
Nuovo Manifatturiero: prospettive e scenari

Gianluca Dettori, dpixel

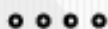
29 Ott @Make in Nugoro, Nuoro

- 
- A 3D printer is shown in the process of printing a complex, orange, lattice-like structure. The printer has a blue fan on top and a warning label that reads "WARNING HOT SURFACE". The printed object is a large, hollow, geometric shape with a complex internal structure. The printer is a MakerBot, as indicated by the logo at the bottom.
- Com'è emersa e si sta diffondendo la fabbricazione digitale?
 - Su quali modelli di business tradizionali/disruptive sta impattando?
 - Quali scenari dalla diffusione massiccia di tecnologie di fabbricazione digitale?

FAB FOUNDATION

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Fab Labs

[What is a Fab Lab?](#)[What qualifies as a Fab Lab?](#)[The Fab Charter](#)[Setting up a Fab Lab >](#)

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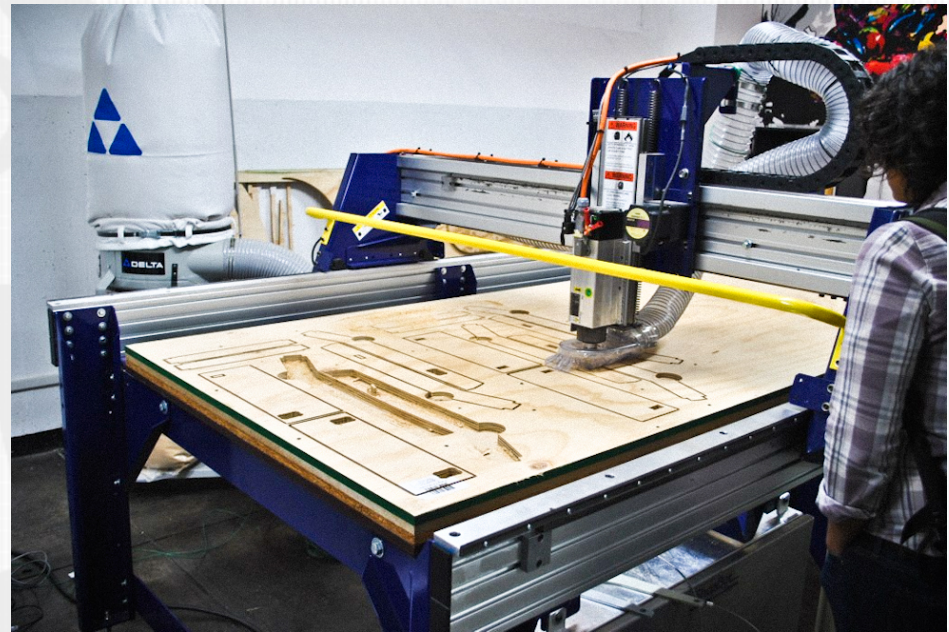


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Nuoro

www.ccn.com.it

A fab lab (fabrication laboratory) is a small-scale workshop offering (personal) digital fabrication (Wikipedia)

The program began as a collaboration between the Grassroots Invention Group and the Center for Bits and Atoms (CBA) at the Media Lab (MIT) with a grant from the National Science in 2001



Basic setup:

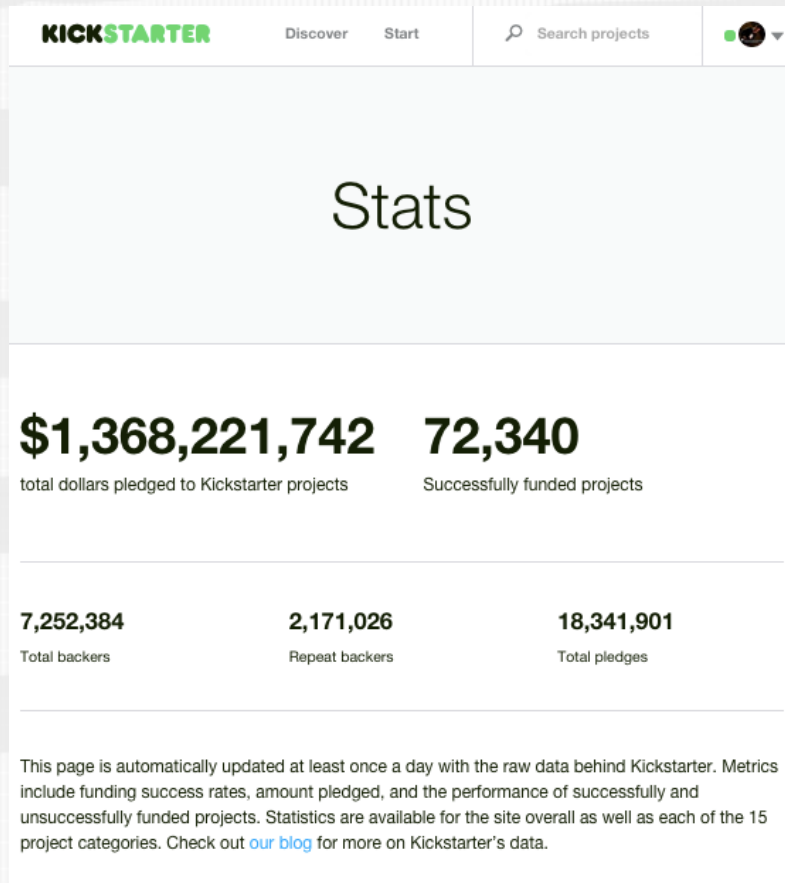
- Laser cutter, plasma cutter, water jet cutter, knife cutter: sheet material cutting
- 3-axis CNC machines: 3 or more axes, computer-controlled subtractive milling or turning machines
- Rapid prototyper: typically a 3D printer of plastic or plaster parts
- Printed circuit board milling: two-dimensional, high precision milling to create circuit traces in pre-clad copper boards
- Microprocessor and digital electronics design, assembly, and test stations



Makers! 90.000 persone a Maker Faire Europe di Roma 2014

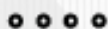


Kickstarter



- 3M di donatori, nel 2013 \$480M raccolti da 243 nazioni;
- 19.911 progetti finanziati solo nel 2013





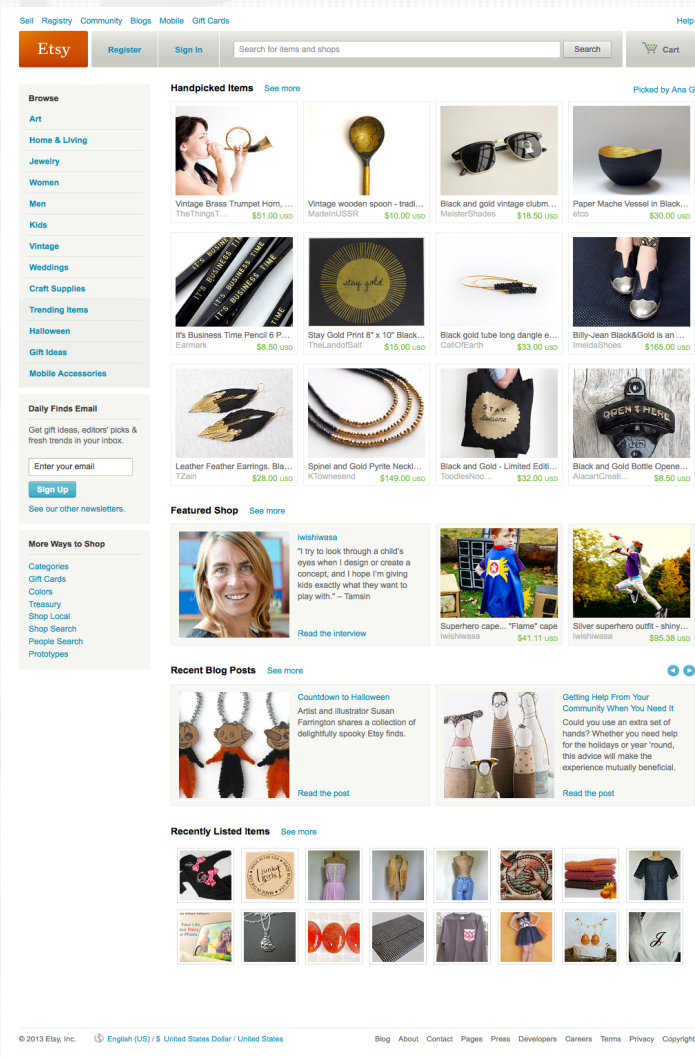
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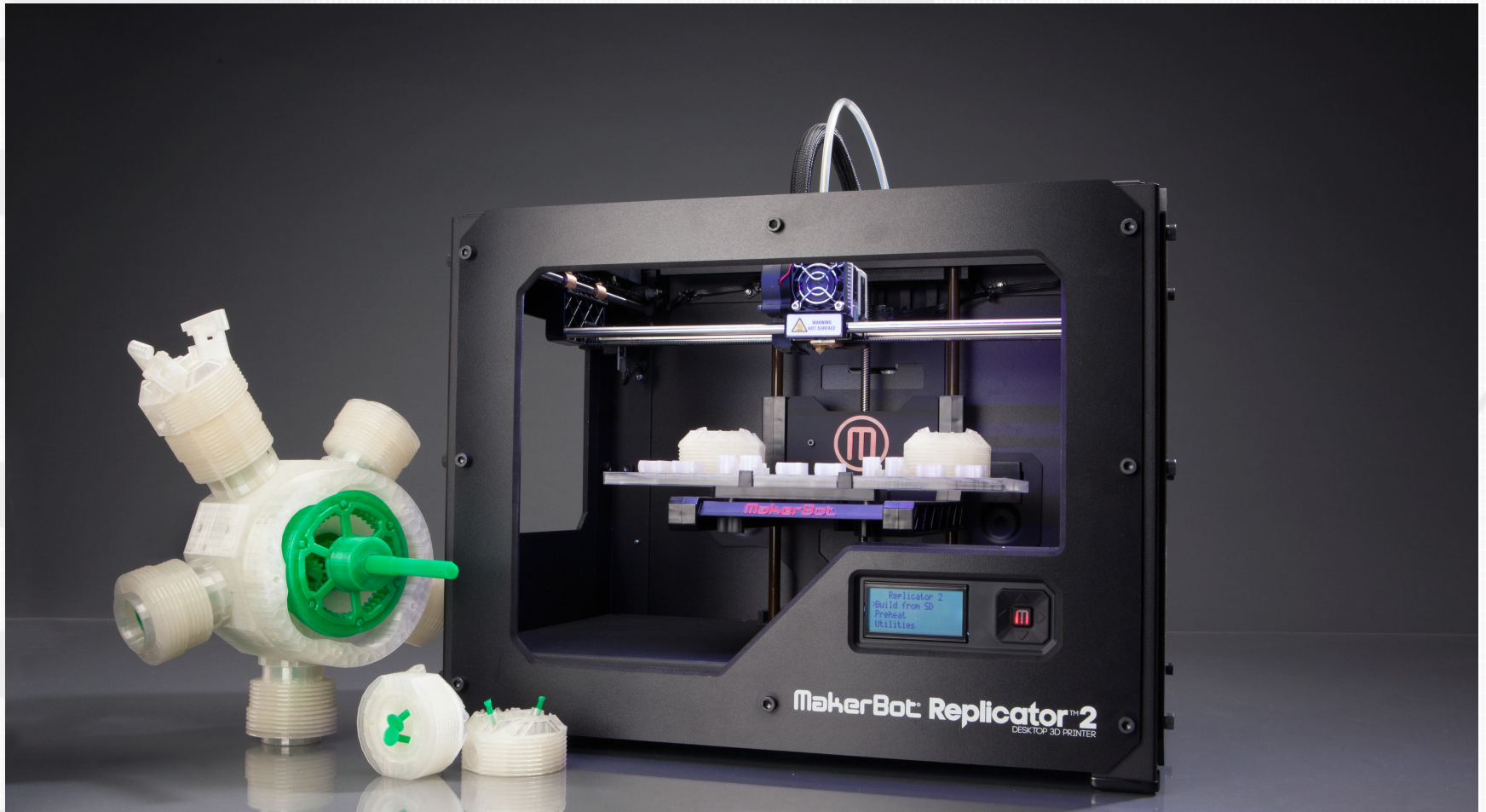
www.nu.camcom.it



- ETSY: Fondata nel 2005
- Gli investitori comprendono Accel Partners, Hubert Burda, Index Ventures e Union Square Ventures
- 600 dipendenti. Con sede nel quartiere DUMBO di Brooklyn, NY
- Uffici a Hudson, NY; San Francisco, CA; Berlino, Germania; Londra, Regno Unito; Dublino, Irlanda e Toronto, Canada
- Oltre 40 milioni di membri
- Oltre 1 milione di negozi attivi
- Oltre 26 milioni di articoli in vendita
- \$1.35 BN di vendite totali nel 2013
- 250 paesi con transazioni



Makerbot (hardware)



+ Thingiverse (software)



Roll Top Box Printed with Wood and Stained by Fused3D

by Fused3D, published Feb 18, 2013

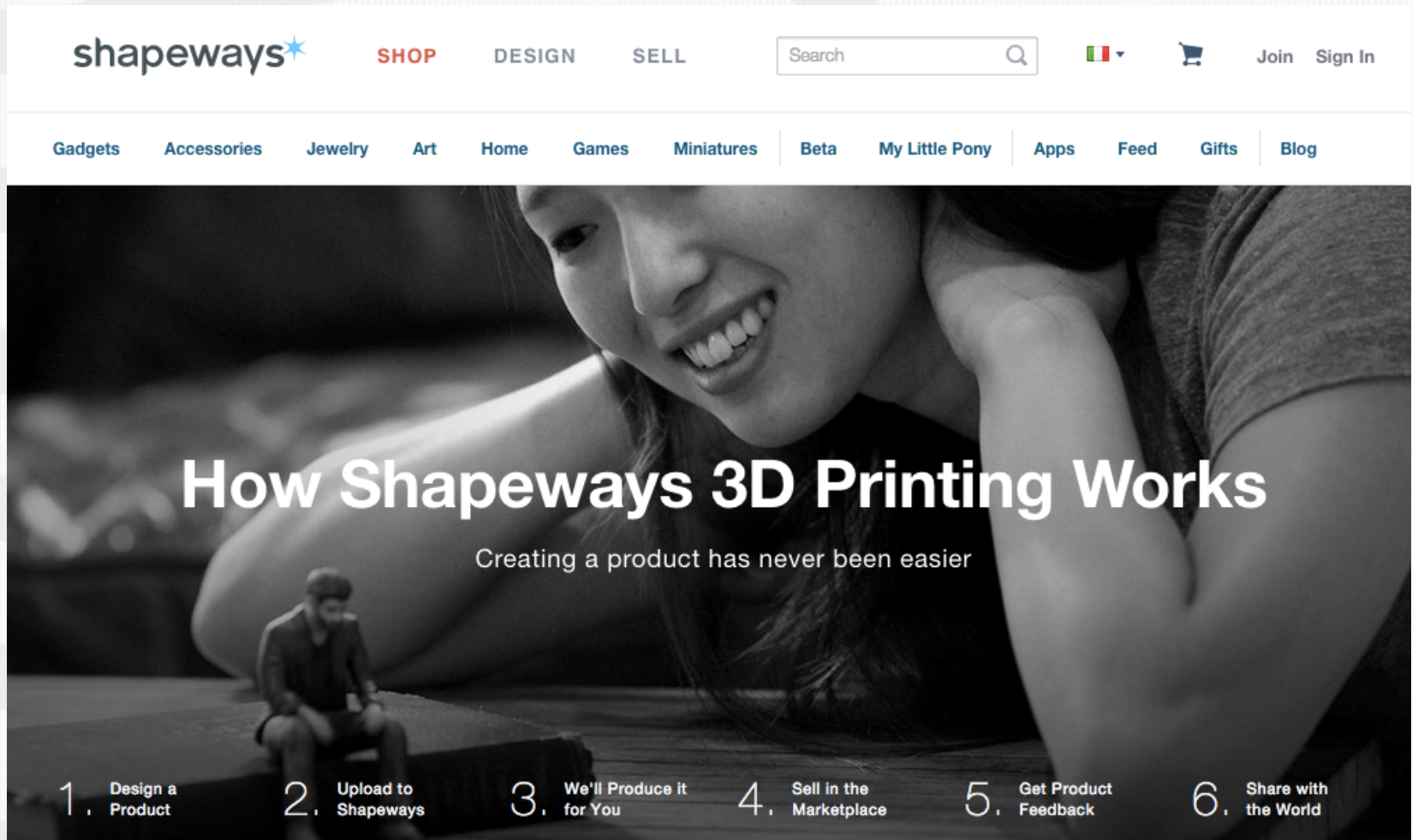


♥ Like	61
📁 Collect	80
💬 Comment	5
✍ I Made One	0
🔄 Remix It	2
🔗 Share	

↓ Download This Thing!



+ marketplace (Shapeways)



The image shows the Shapeways website interface. At the top is the Shapeways logo with a blue star, followed by navigation links: SHOP, DESIGN, and SELL. A search bar with a magnifying glass icon is on the right, along with a language dropdown (showing Italy), a shopping cart icon, and links for 'Join' and 'Sign In'. Below this is a secondary navigation bar with links for Gadgets, Accessories, Jewelry, Art, Home, Games, Miniatures, Beta, My Little Pony, Apps, Feed, Gifts, and Blog. The main hero section features a large black and white photograph of a smiling woman looking down at a small 3D printed figure sitting on a ledge. Overlaid on the image is the text 'How Shapeways 3D Printing Works' in large white font, followed by the tagline 'Creating a product has never been easier'. At the bottom of the hero section is a six-step process bar: 1. Design a Product, 2. Upload to Shapeways, 3. We'll Produce it for You, 4. Sell in the Marketplace, 5. Get Product Feedback, and 6. Share with the World.

shapeways★ SHOP DESIGN SELL

Search

Join Sign In

Gadgets Accessories Jewelry Art Home Games Miniatures Beta My Little Pony Apps Feed Gifts Blog

How Shapeways 3D Printing Works

Creating a product has never been easier

1. Design a Product
2. Upload to Shapeways
3. We'll Produce it for You
4. Sell in the Marketplace
5. Get Product Feedback
6. Share with the World



Cosa sta succedendo

- Grandi community di creativi si stanno cimentando con DIY, Arduino, nei Fablab;
- Nuovi canali distributivi si stanno aprendo (Fab.com, ETSI, Thingiverse, ...) accessibili a molti, diretti (quasi) e globali;
- Crowdfunding: storytelling, marketing e vendita prima di entrare in produzione;
- Un embrione di mass-market?



Professional 3D printing

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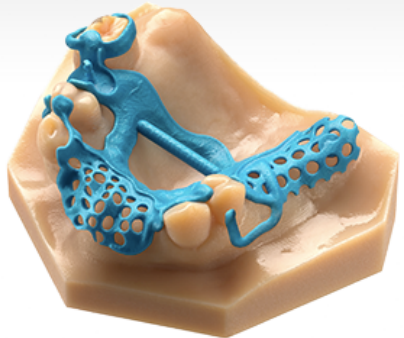
 [3D Printers](#) | [Materials](#) | [Solutions & Applications](#) | [Industries](#) | [Resources](#) | [Customer Support](#)

[Home](#) > [Materials](#) > [PolyJet](#) > [Dental Material](#)

Dental Material

3D print dental and orthodontic models

PolyJet Dental Materials are designed especially for digital dentistry and orthodontic applications, including stone models and aligners. These rigid, opaque materials have a natural-looking peach color and combine accurate detail visualization with high dimensional stability.



PolyJet

- [Order Materials](#)
- [Compare PolyJet Materials](#)
- [Digital Materials](#)
- [Digital ABS](#)
- [High Temperature](#)
- [Transparent](#)

Digital Dentistry With PolyJet 3D Printing Materials

PolyJet technology empowers dental practices and labs with three specially engineered dental materials:

- VeroDent (MED670) provides amazingly fine 16-micron layer thickness, rendering small features in great detail; and excellent strength and durability.
- VeroDentPlus (MED690) also provides fine 16-micron layers, plus the best available strength and durability.

Related Information

- [Dental Materials Brochure](#)
- [Objet30 OrthoDesk](#)
- [Download PolyJet Materials Spec Sheet](#)
- [What is PolyJet Technology?](#)



Molte applicazioni

The screenshot displays the Roland website's 'APPLICATIONS' section. At the top, a navigation bar includes links for 'about', 'store', 'news, views & how-to's', 'en español', and 'FIND A DEALER'. Below this, a main navigation bar features the Roland logo and tabs for 'PRODUCTS', 'APPLICATIONS' (which is active), 'GALLERY', and 'SUPPORT'. A link to 'view all applications' is provided. The 'APPLICATIONS' section is organized into a grid of 16 categories: ADA Signage, Awards, Banners, Color Proofing, Commercial Printing, Custom Apparel, Dental CAD/CAM, Fine Art, Graphic Design, Industrial Marking, Labeling, Medical, Metallic Printing, Package Prototyping, Personalization, Photo Impact Printing, Print/Cut, Promotional Products, Rapid Prototyping, Signmaking, STEM for Education, Sublimated Graphics, Vehicle Graphics, and Window Tinting. Below the grid, a featured section for the 'ARM-10 Rapid Prototyping 3D Printer' includes an image of the printer and several 3D printed parts. A 'WATCH THE VIDEO' button is present. Below the image, a 'NEW' badge is next to the product name. At the bottom of this section, a row of links includes 'Overview' (selected), 'Features', 'Specifications', 'Information Request', 'Accessories', and 'Technical Support'.

about store news, views & how-to's en español FIND A DEALER

Roland®

PRODUCTS APPLICATIONS GALLERY SUPPORT

→ view all applications

ADA Signage	Dental CAD/CAM	Metallic Printing	Rapid Prototyping
Awards	Fine Art	Package Prototyping	Signmaking
Banners	Graphic Design	Personalization	STEM for Education
Color Proofing	Industrial Marking	Photo Impact Printing	Sublimated Graphics
Commercial Printing	Labeling	Print/Cut	Vehicle Graphics
Custom Apparel	Medical	Promotional Products	Window Tinting

WATCH THE VIDEO

NEW ARM-10 Rapid Prototyping 3D Printer

Overview Features Specifications Information Request Accessories Technical Support

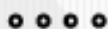
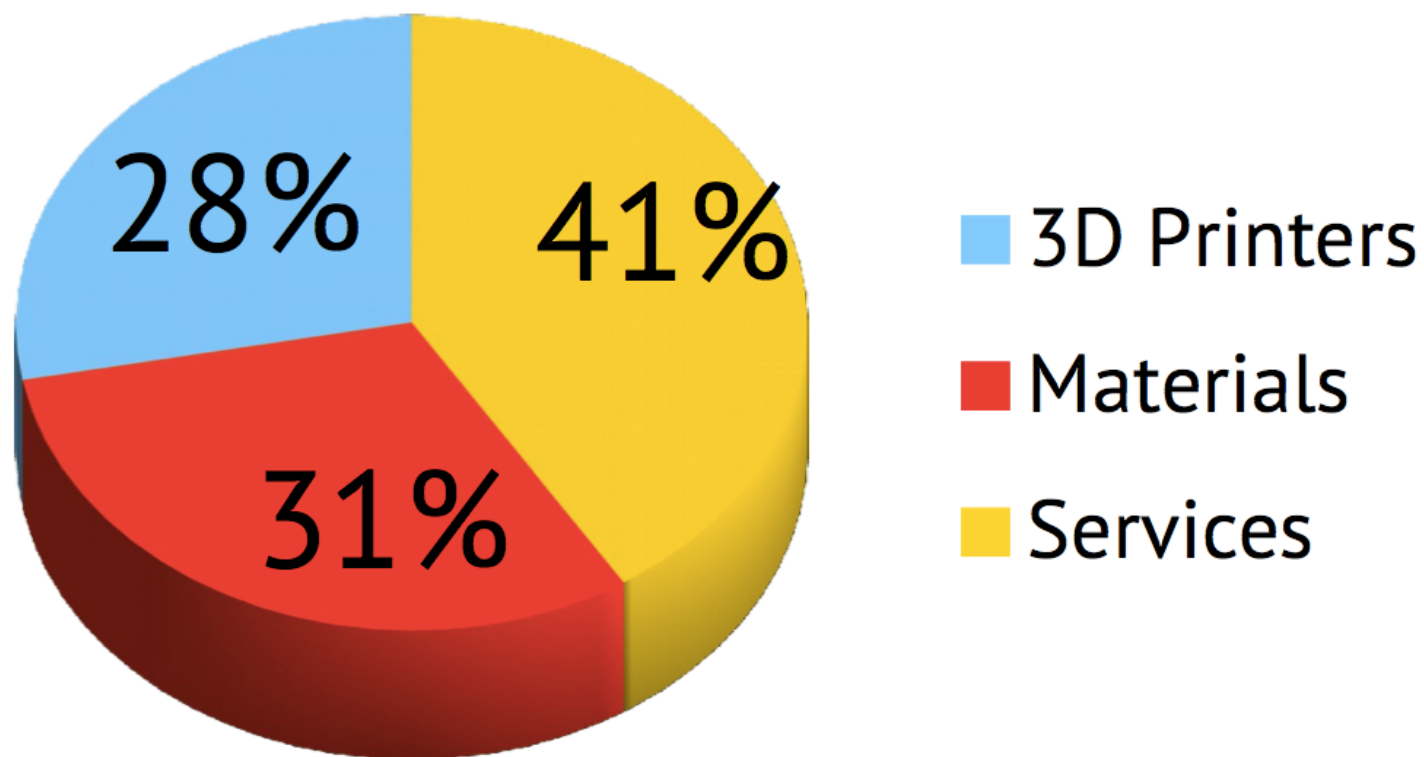


Innovazione = Rischio

- Disintermediazione;
- Marginalizzazione, spostamento dell'asse nella catena del valore;
- Minore appeal verso i clienti
- Il rischio di affrontare cambiamenti



Digital Fabrication: not just machines



Mercato 3D (2013)

MERCATO
TECNOLOGIE 3D

46 BILLION\$

APPLICAZIONI

MANIFATTURE
ENTI SPAZIALI
HEALT CARE
ENTERTAINMENT
COSTRUZIONI

PRODOTTI

STAMPANTI OCCHIALI
SCHERMI e APP. FOTOGRAFICA

SOFTWARE

SCANNER
RILIEVO
RICOSTRUZIONE
MODELLAZIONE
RENDERING



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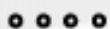


Camera di Commercio
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www.nu.camcom.it

Gli investitori se ne sono accorti

- 3D printing market has grown by 24.1% in 2011. Forecasts: \$3.1 billions (2016) \$5.2 billions (2020).
- (Wohlers Associates, 2011)



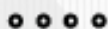
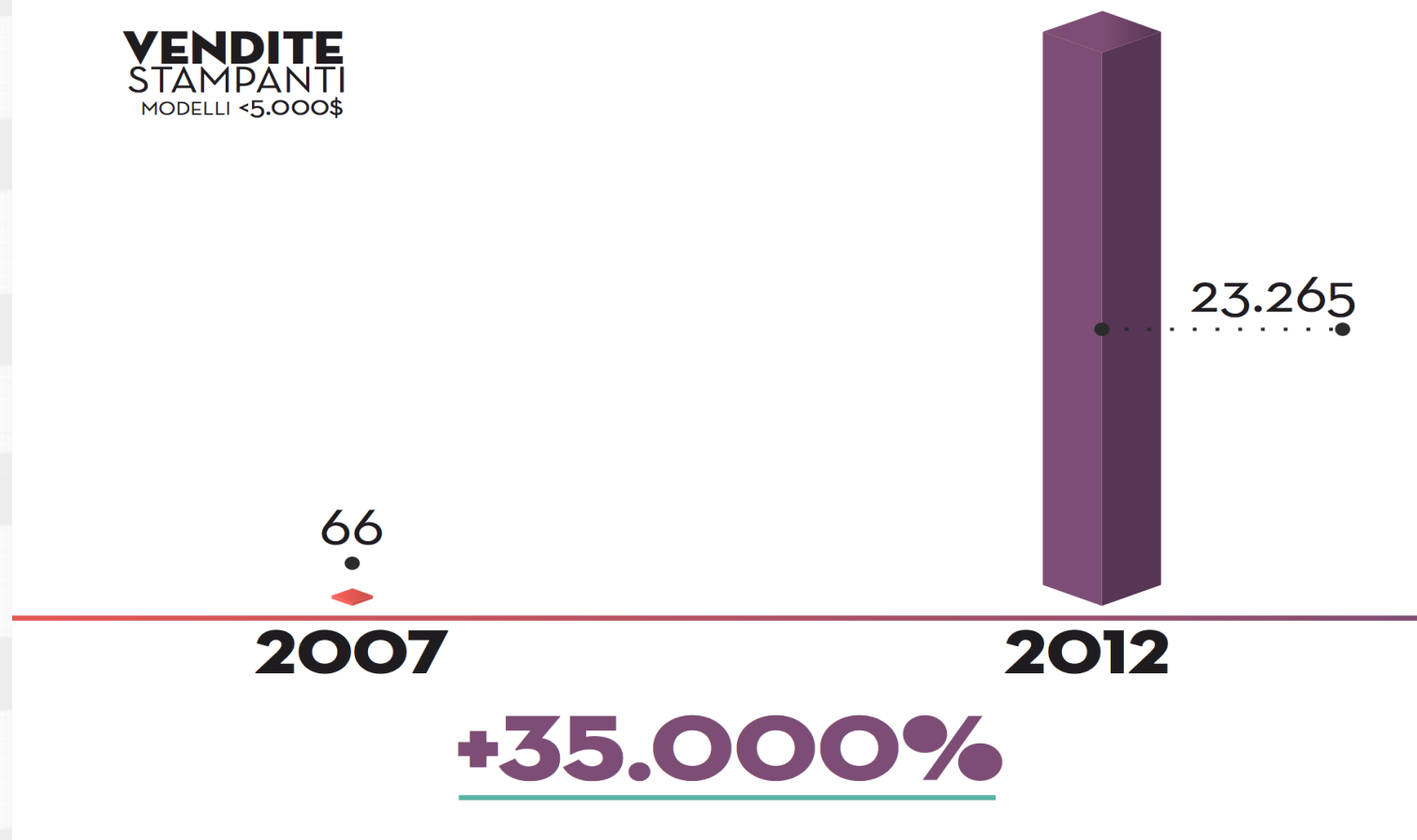
2013: 44 hackspaces in Italia, oggi 60

- Circa 400 hackspaces al mondo
- Ad oggi 60 in fase di accreditamento, in Sardegna (Sassari, Olbia, Pula + Nuoro)
- 18 Spagna, 32 Francia, Germania 13)



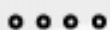
Vendite stampanti 3D Italia

VENDITE
STAMPANTI
MODELLI <5.000\$

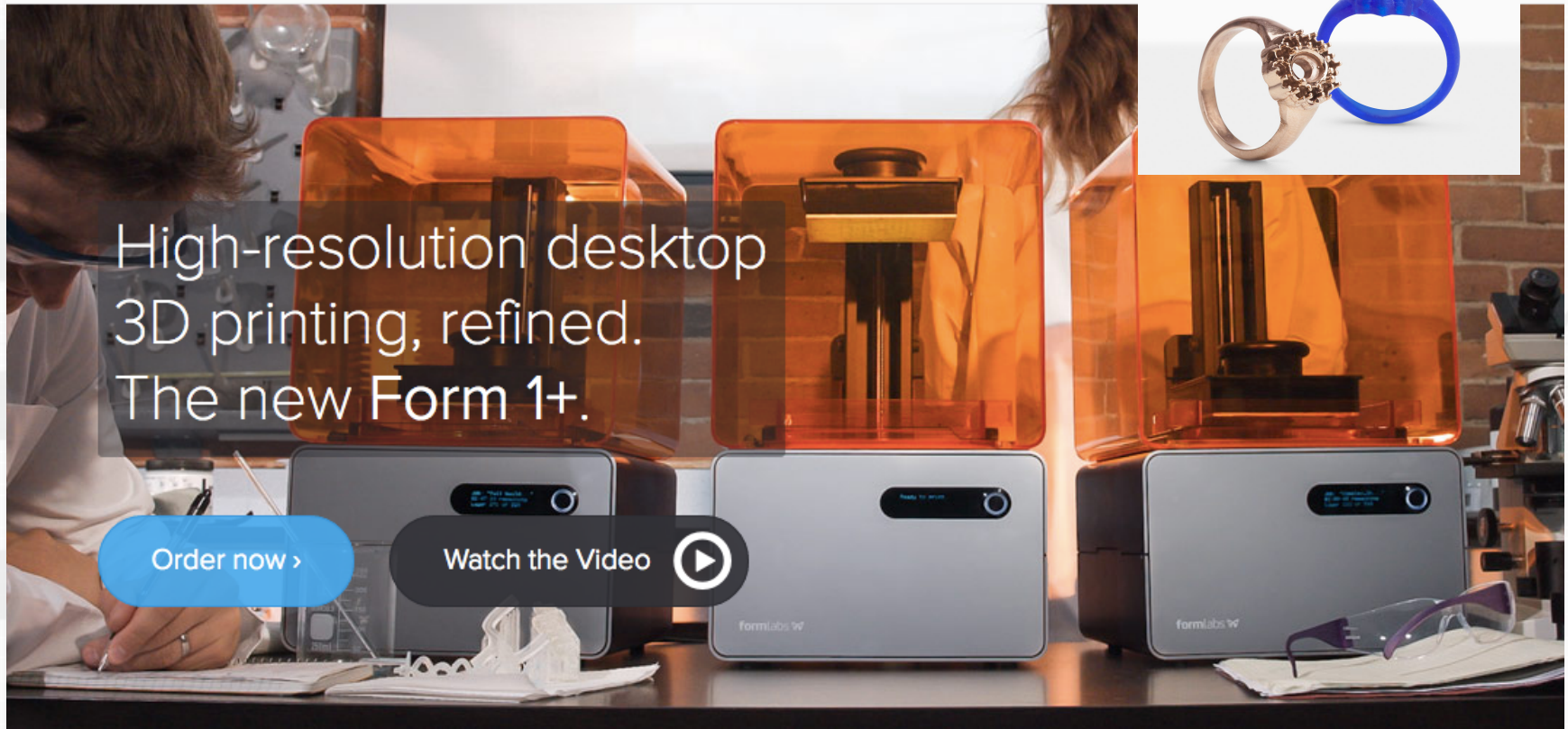


Ma quali le opportunità?

- Accesso ad un vastissimo pool di talenti creativi/idee a costi accessibili;
- Innovazione di processo;
- Innovazione di prodotto;
- Cambio del modello di business;
- Ingresso in nuovi mercati;
- Espansione ed internazionalizzazione del proprio business.



Startup US: Formlabs, \$19M round A



High-resolution desktop
3D printing, refined.
The new Form 1+.

Order now >

Watch the Video



SOFTWARE

MATERIALS

FINISHING

SUPPORT

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FABLAB

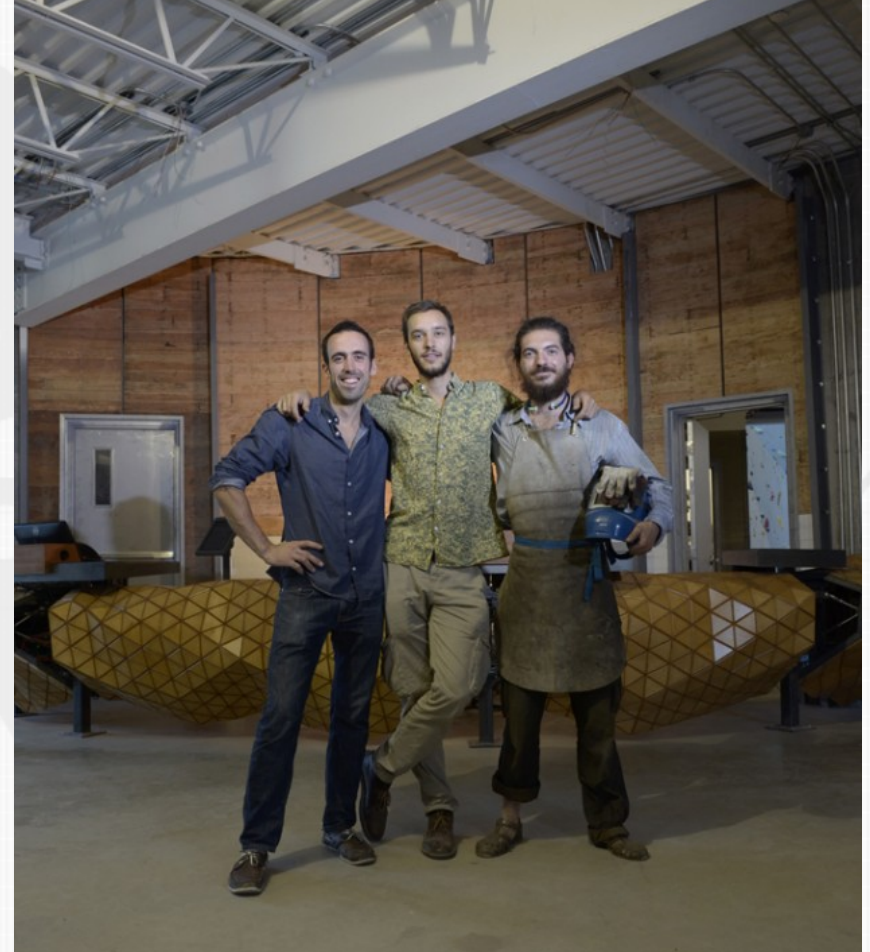
www.makeinnuoro.it



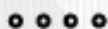
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Woodskin



Amleto. Fondatore Medaarch

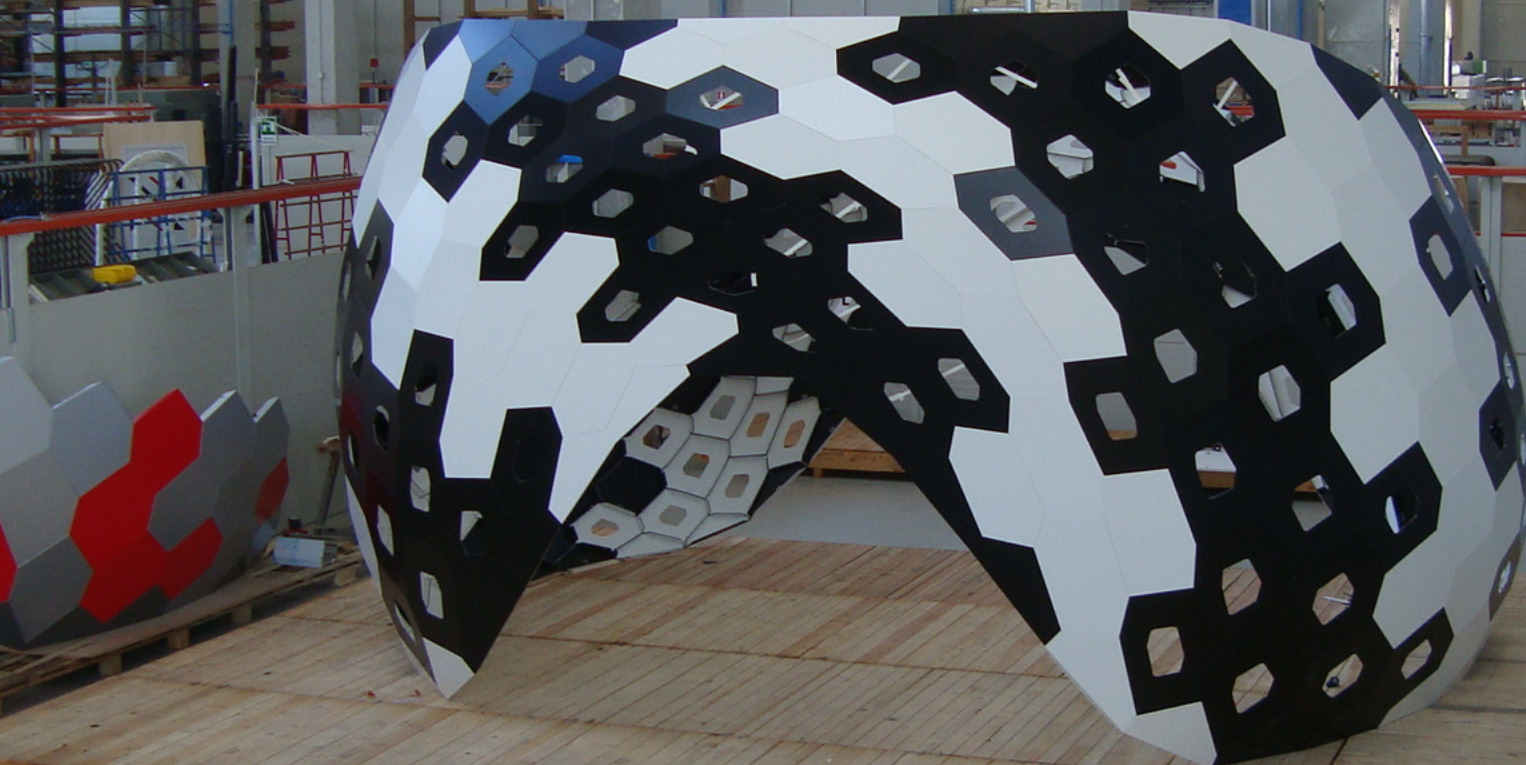


Tekla, nuovi prodotti/mercati



TEKLA
porte e finestre

TEKLA
porte e finestre



Fratelli Basile Interiors, contest in corso



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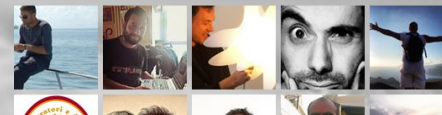
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Obiettivi del contest:

- Condividere conoscenze attraverso il laboratorio di fabbricazione digitale temporaneo del Mediterranean FabLab che verrà allestito appositamente in azienda per l'evento.
- Indagare in che modo gli approcci progettuali contemporanei legati al computational design possono trovare applicazioni immediate nelle pratiche dell'architettura e del manifatturiero.



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Don't Dream it Make it Contest



- 5 workshop di creativi, 5 progetti di cui Basile andrà a creare i prototipi
- Canale di marketing e brand reputation
- Attrazione di giovani designer per proporsi come partner sul mercato
- Riattivazione di una macchina a controllo numero 5 assi, che era 'ferma' causa crisi.



Tessuti Prete, riuso macchinari



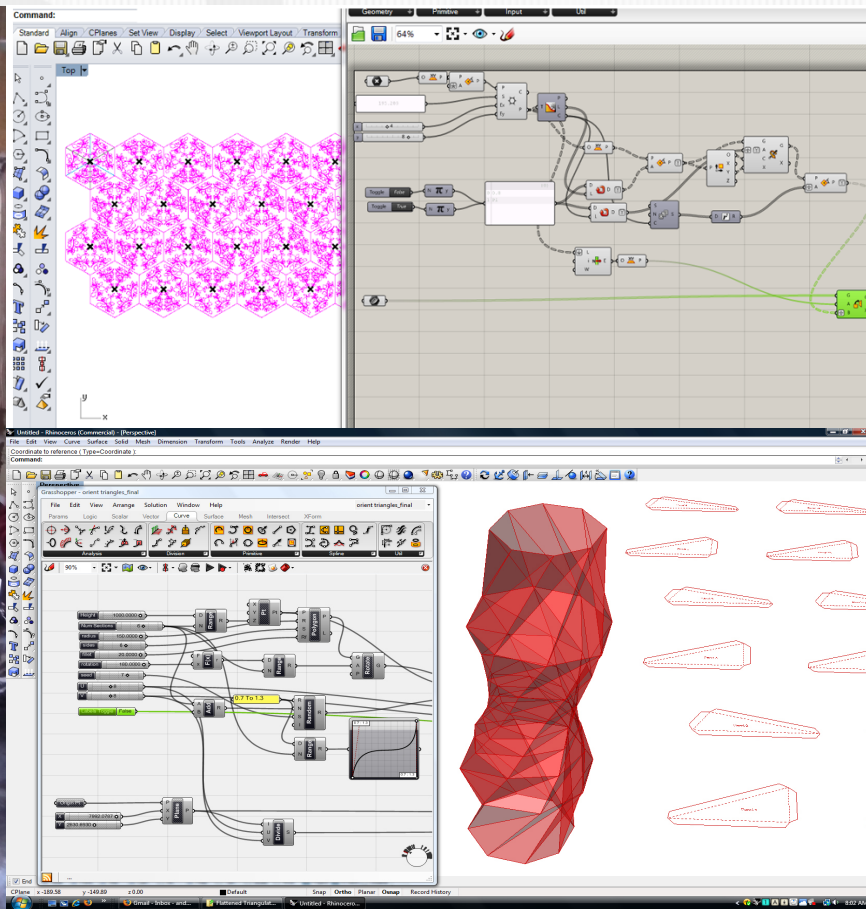
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Havana: dal packaging al design



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FOUR.join form and structure

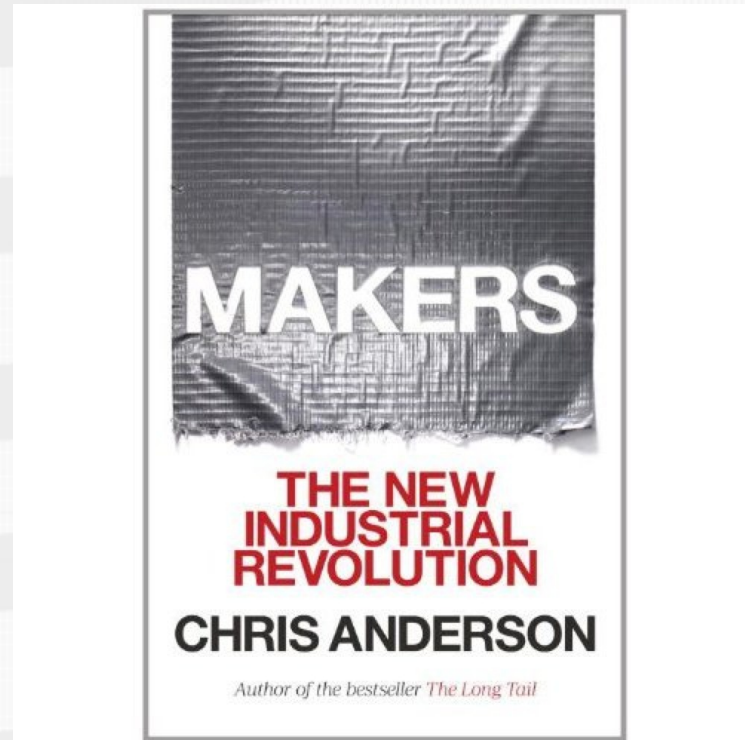
Make in Nuoro

- Diffondere la cultura, tecnica e manualità della fabbricazione digitale;
- Promuovere la trasformazione produttiva delle PMI del tessuto Nuorese;
- Avvicinare il territorio alle opportunità di crescita offerte dall'innovazione
- Favorire la nascita di startup e nuove imprese dedicate;

Vogliamo mettere in rete:

- Imprenditori
- Artigiani, tecnici, specialisti
- Studenti scuole medie e superiori
- Startupper
- Stakeholder del territorio (associazioni, istituzioni, enti)
- Universitari, ricercatori, accademici
- Giovani creativi





grazie



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