

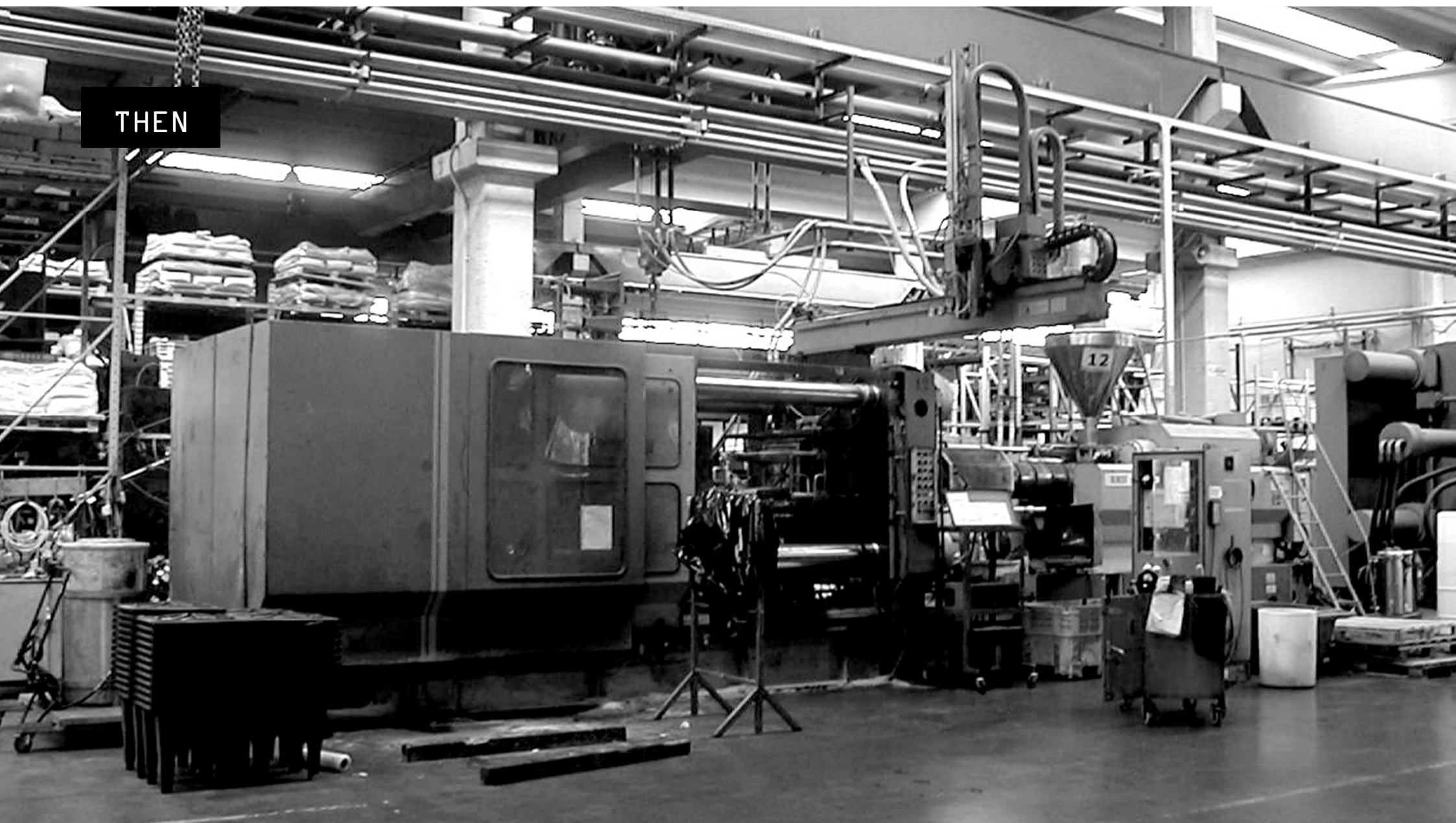


University of Birmingham
Teaching Labs of the Future

Ian Appleby
5 Mar 2015

MAKERBOT IS AN
INNOVATION COMPANY

THEN



NOW



MakerBot Replicator



Why Desktop 3D Printers?

- Make anything of any complexity
- Democratise the use of technology
 - Low cost - high access
- Multi-discipline
 - Engineering
 - Natural Sciences
 - Metallurgy and Material..
- Links with industry
- Community links
- Publicity





Limbs, Lego, gears, guns and more – the world of 3D printing is as limitless as imagination. With 3D printers increasingly used in industry and homes alike, Old Joe looks at how Birmingham is leading the way in the field.

From prehistoric Stonehenge to the world's tallest manmade structure, Dubai's gleaming Burj Khalifa, the human need to build and create is seemingly insatiable. Now a new technology is allowing users to generate almost any item, even a miniature version of themselves, using equipment freely available on the high street.

The future's rose-y for personalised Valentine's gifts

Posted on Friday 14th February 2014

As the price of flowers – especially red roses – rockets on this particular day, could scientists at the University of Birmingham hold the answer to wooing your loved one in the future without breaking the bank?

While 3D printers still cost a prohibitive amount of money for most ordinary households at the moment, as the technology advances, and costs fall, they could well become more commonplace. And what could be more romantic than presenting your beloved with a one-off rose, designed and printed by your very own self?

Not only that, but as science advances, 3D printers are allowing for printing in a whole range of materials – even precious metals. Dr Kiran Gulia, from the University of Birmingham's School of Metallurgy and Materials, who created the rose pictured here, said: "You can even make very intricate and beautiful jewellery with a 3D printer now – it really does look lovely."

So, who knows, in years to come, the Valentine's gift that means the most could even be a self-designed, home printed silver or gold rose, teddy bear or even a beautiful ring.



3D printing- the the Birmingham Way

'We are currently working on approximately £5 million worth of projects, with funding from both industry and research bodies,' says Professor Attallah. A unique aspect of 3D printing at Birmingham is that, unlike other universities, Professor Attallah and his team are able to create items at a scale on par with large manufacturers. This is thanks not only to the size and sophistication of the University's additive manufacturing labs, but also to the skills of Birmingham's staff and students.

'We have a strong combination of capacity, imagination, and understanding of 3D printing processes that allows us to scale up technology very quickly from an idea to a finished object,' says Professor Attallah. 'We are also not afraid to assess the processes and seek to understand their limitations.' This has allowed Birmingham to create innovative 3D printing solutions and make scientific breakthroughs across a range of diverse sectors:

Medicine

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Defence

Aerospace

Arts



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Why MakerBot?

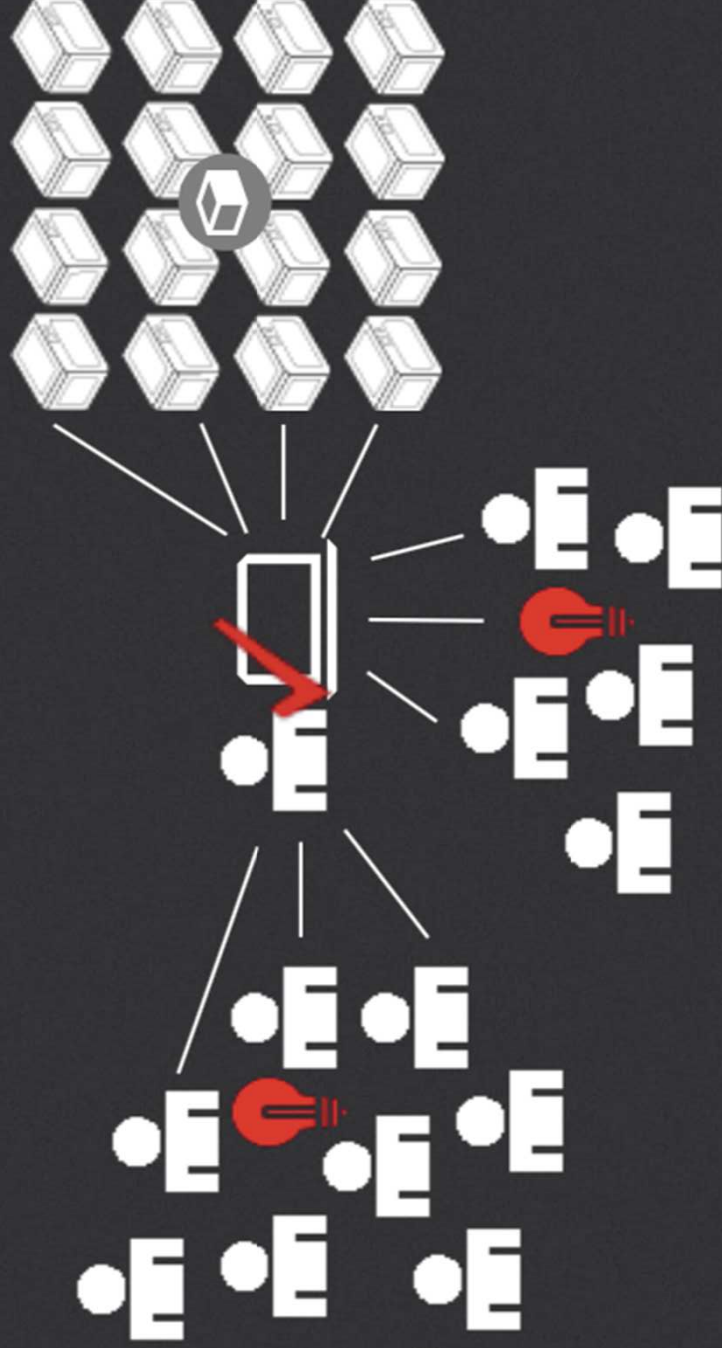
- Market leader
- 5th generation
- Ecosystem
- Connectivity
- Innovation Center

MAKERBOT

Control is the concept

Central control of all
installed 3D Printers with the
Innovation Center Platform

Start and stop, load and unload
Filament from one common point



MAKERBOT INNOVATION CENTER

Control is the concept

multiply build volume

do rapid
prototyping

increase research

INNOVATION CENTER

innovate faster

enables to

compete more
effectively

control the costs

do real time
prototyping

MAKERBOT INNOVATION CENTER

Increase collaboration



UNIVERSITIES

Extend the research with a variety of prototypes

Make use of new technical learning to attract talented students

Encourage team work and collaboration

Enable students to upload their 3D designs via tablet or PC easily at home

Control the costs of your print

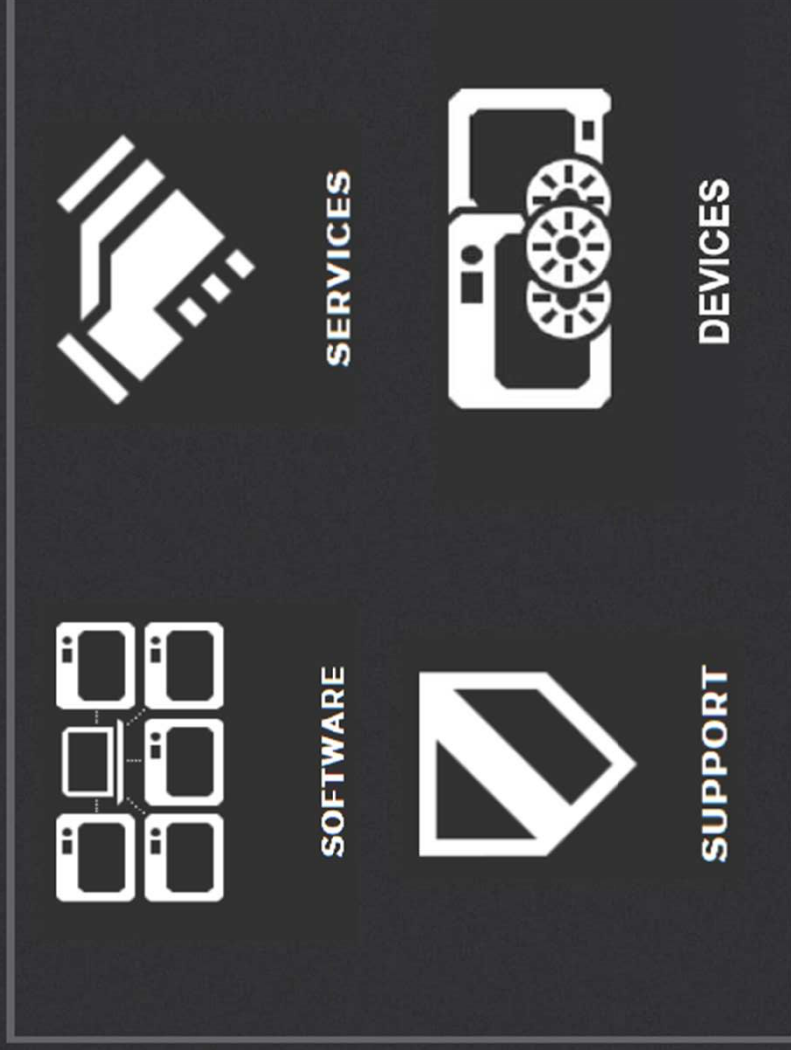
Close interaction in between university and MakerBot which can include special programs related but not limited to software, filament, ...

MAKERBOT INNOVATION CENTER

Innovation Center Components

**NOT JUST A
PRODUCT**

IT'S A SOLUTION





Florida Polytechnic University video

MAKERBOT INNOVATION CENTER

EMPOWER YOUR ORGANIZATION TO INNOVATE FASTER

A MakerBot Innovation Center empowers your university to innovate faster, increase collaboration, and compete more effectively.

HARDWARE

- A 3D printing center with large groups of MakerBot Replicator 3D Printers
- Attractive chrome racks
- Reliable MakerBot filament

SOFTWARE

- MakerBot Innovation Center Management Platform
- MakerBot Desktop application

SERVICES

- Rapid installation and deployment
- Strategic assistance
- Technical and user training sessions
- Side-by-side operational planning
- Professional staffing solutions

MAIN MENU



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FLORIDA POLYTECHNIC UNIVERSITY

MAKERBOT

3D PRINTERS

FIFTH GENERATION



£2,199.00

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**EASIEST AND MOST
VERSATILE WAY TO
GET FROM 3D MODEL
TO 3D PRINT**

Fifth-generation technology defines the new standard for ease of use, quality, and reliability.

App and cloud enabled.

Wi-Fi, USB and Ethernet connectivity.

**LARGE BUILD VOLUME
FOR REAL-TIME**

MakerBot Replicator Smart Extruder, motion controllers, and gantry design.

PROTOTYPING

On-board camera/diagnostics, assisted build plate leveling.

AND MODEL-MAKING





£4,999.00

MAKERBOT REPLICATOR Z18

3D PRINTER

MASSIVE BUILD

Make extra-large and ultra-tall industrial prototypes, models, and products.

VOLUME

30.0 L X 30.5 W X 45.7 H CM

Print multiple things at once. Think and build bigger than ever.
[11.8 L X 12.0 W X 18.0 H IN]

2,549 CUBIC INCHES

BEST PRICE TO

Powered by the user-friendly MakerBot Replicator 3D Printing Platform.

PERFORMANCE RATIO IN THE

App and cloud enabled. Wi-Fi, USB, and Ethernet connectivity ensures a seamless production workflow.

PROFESSIONAL CATEGORY

PROFESSIONAL-

Professional quality detail, realistic prototypes and models.

QUALITY DETAIL

Print paper-thin layers (100 micron resolution).

Get smooth-to-the-touch surfaces that don't need sanding, finishing, or post production.



MAKERBOT REPLICATOR SMART EXTRUDER

**SWAPPABLE,
LESS DOWNTIME**

The modular Smart Extruder can be easily swapped, minimizing downtime and maximizing your printing productivity.

Replacing a worn extruder with a backup couldn't be easier, and you don't need any special tools. Powerful magnets snap it into place in seconds, letting you quickly resume printing.

**DESIGNED WITH THE
FUTURE IN MIND**

The swappable Smart Extruder prepares you to quickly adapt to future innovations in the fast-evolving world of 3D printing (such as new filament materials) without having to purchase a new printer.

