

Ecosistema Medical 3D Printing a Massachusetts

Oficina d'ACCIÓ a Boston
22 de maig de 2018



Índex

Introducció

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Introducció

Boston i l'estat de Massachusetts

L'estat de Massachusetts, situat al nord-est dels Estats Units d'Amèrica, és un estat punter en **tecnologia i educació**.

Demogràficament i geogràfica, ocupa el 15è i 44è lloc respectivament sobre el total dels 50 estats que conformen la nació. Així, amb una població de 6.811.779 habitants (2016) i una superfície de 27.336 metres quadrats, **Massachusetts és una regió eminentment similar a la de Catalunya**.

Amb una excel·lent dotació logística, Massachusetts i el seu centre neuràlgic, Boston, disposen d'una **connexió immillorable amb els demés estats del país, així com amb Canadà i el continent europeu**, relació en bona mesura fomentada pel port de Boston -un dels principals de la costa est dels EE.UU.

La xarxa d'aeroports locals, comercials i internacionals, i la moderna infraestructura viària són, entre d'altres, factors que sens dubte permeten el posicionament de Boston i l'estat que representa com a **regió de referència a nivell mundial**.

Boston i l'estat de Massachusetts

Massachusetts és una regió caracteritzada per la seva profunda pluri-especialització, i el **sector de les ciències de la vida n'és el capdavanter**.

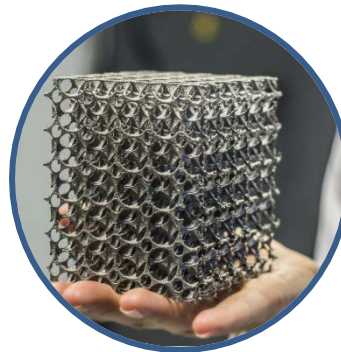
La indústria que envolta el sector mèdic i li dona servei ha convertit l'estat de Massachusetts en el **principal contingent de recerca biomèdica a nivell mundial**, arribant a registrar un total de 66.053 places laborals el passat any 2016 -gairebé un 1% de la població-, amb un **creixement total d'un 28% en 10 anys**.

Donada aquesta proporció d'ocupació en un sector tan tecnològicament punter i científicament complex, **Massachusetts està fortament apuntalada per un sistema educatiu de primera línia**.

Així, universitats, institucions de recerca i hospitals com **Harvard, Massachusetts Institute of Technology, Wyss Institute o el Massachusetts General Hospital** (entre d'altres), reben cada any importants rondes de finançament governamental a través del National Institute of Health (entre d'altres de caràcter privat).

Sector 3D Printing a Massachusetts

Impressió 3D amb metalls i fibres



Impressió 3D per a prototipatge

Bioimpressió o *tissue printing*



Polivalència de la impressió 3D:

Tasques industrials i mecàniques

Prototips per a recerca i implantologia

Perspectiva de substitució de dermis o teixit ossi

Creixent varietat de tintes

Sector 3D Printing a Massachusetts

📈 L'any 2016, la impressió 3D va representar un 2% del PIB dels EUA

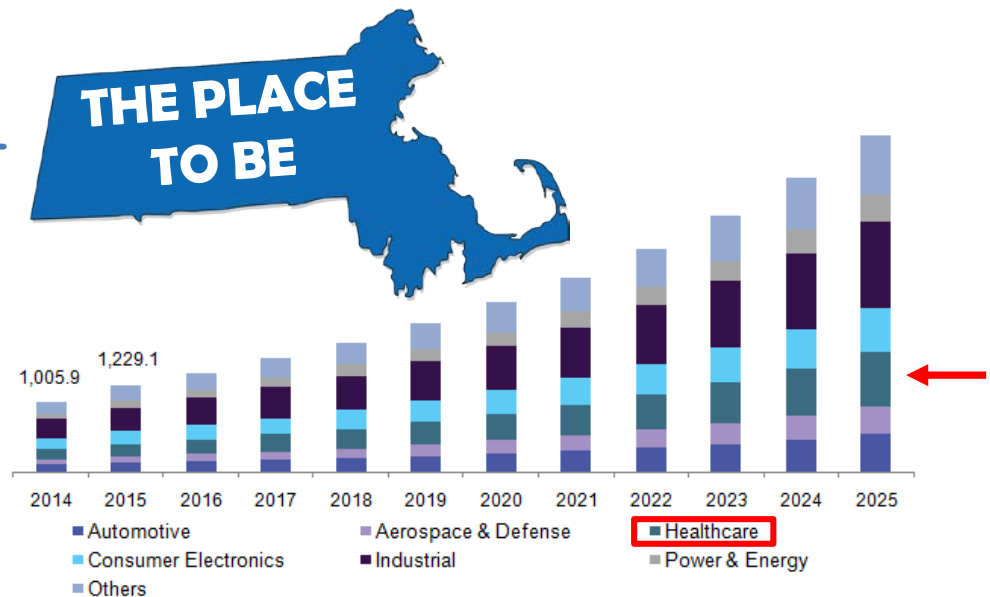
❓ En l'actualitat **no disposem de dades econòmiques contrastades** de l'aplicació de la impressió 3D a les ciències de la salut, però:

1

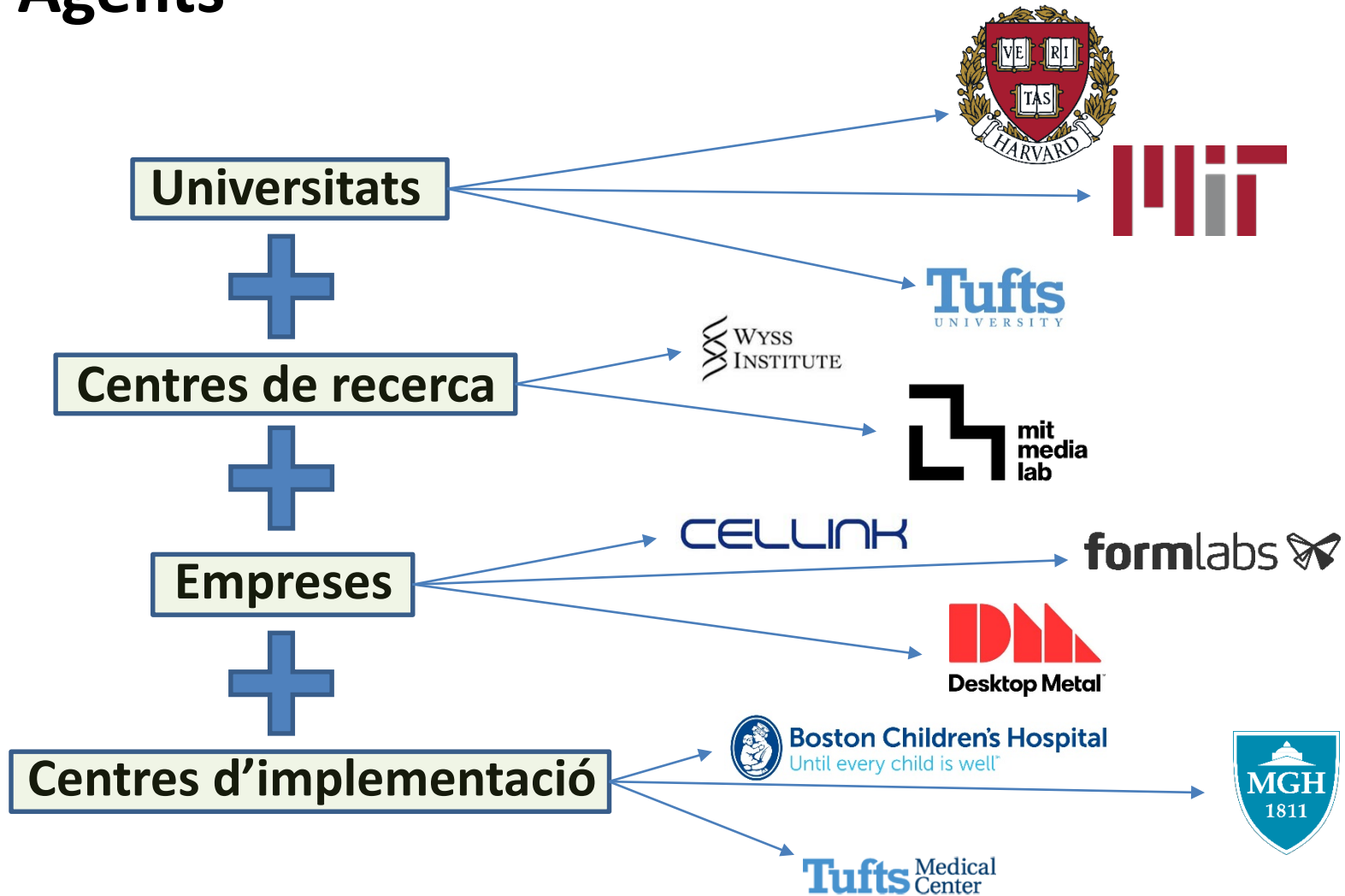
Massachusetts és un reconegut *early-adopter* de la tecnologia d'impressió 3D

2

Amb 60.000 places laborals, Massachusetts és líder en recerca biomèdica



Agents






Tendències del sector





Tendències del sector

Aplicació de la impressió 3D a tractaments *in situ* és a dir:




-  Impressió d'òrgans humans
-  Impressió de **teixit ossi**
-  **Regeneració de ferides** a partir d'un teixit de nova creació

Aplicació de la impressió 3D al sector farmacèutic, a través de:



-  L'elaboració de **càpsules personalitzades**, per tal de prendre més d'un medicament alhora
-  Una **elaboració més eficient**: menys temps d'elaboració i menys despeses

Tendències del sector

Aplicació de la impressió 3D als dispositius mèdics:

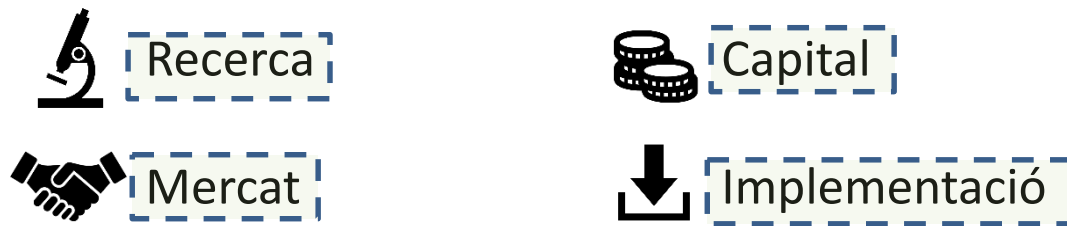
-  Elaboració d'aparells **totalment adaptats al pacient**
-  Possibilitat de producció mitjançant **materials assimilables pel cos humà**
-  **Reducció dràstica en el cost** de producció unitari

Aplicació de la impressió 3D a l'estudi de les intervencions:

-  **Interconnexió amb softwares i aparells d'escanejat en 3D**
-  Possibilitat de **reproduir amb gran fidelitat i diversos materials** l'entorn subjecte a tractament

Tendències del sector

- ✓ **Lideratge consolidat** a nivell mundial
- ✓ **Cicle complet per al desenvolupament** de noves tècniques



- ✓ **Teixit associatiu consolidat**, pioner al món
- ✓ **L'ecosistema més preparat** per a l'evolució de la **impressió 3D** en les ciències de la salut

Fires

BIOMEDevice

+450 solution providers across the full spectrum of medtech manufacturing.

Expo Hours Wednesday, April 18 10:00 a.m. – 4:00 p.m.
Thursday, April 19 10:00 a.m. – 4:00 p.m



LEADING SUPPLIERS

The industry's top names will be on the floor, including Accumold, Nelson Laboratories, and B. Braun. Don't miss your chance to source from New England's largest collection of industry suppliers.

[Exhibitor Directory »](#)



TECH THEATER

Hear from the most innovative exhibitors as they showcase their latest technologies. Ask questions, get answers, and discover products to engineer into your projects.

[Tech Theater »](#)



INNOVATION TOURS

Join an expert guide on a one-hour tour of the show floor. Each walk focuses on a key theme at the forefront of the industry and highlights cutting-edge technologies.

[Innovation Tours »](#)



CENTER STAGE

This is the base for all of the show action every day. Expand your industry knowledge through free presentations, speed networking, demos, and expert panels.



SPEED NETWORKING

Make crucial connections, quick. These fast, fun, and one-on-one sessions are topic-specific and connect you with other medtech professionals for five-minute discussions.



ESC ENGINEERING THEATER

Open to all pass types, expand your embedded systems knowledge through free presentations, demonstrations, and expert-led panels.

Tech Theater

Risk-Based Approach to Biocompatibility Strategy

Speaker:

Chris Parker, M.S, M.B.A. (Study Director and Associate Director)

Location: Tech Theater, Booth 155

Date: Thursday, April 19

Time: 11:30am - 12:15pm

Free Content & Activities: Tech Theater



Center Stage

Enabling the Next Generation of Drug Delivery through Implantable Medical Devices

Speaker:

[Kevin Nelson](#) (CSO, TissueGen)

Location: Center Stage, Booth 563

Date: Wednesday, April 18

Time: 12:15pm - 12:45pm

Pass Type: Conference (Paid), Expo (Free) - [Get your pass now!](#)

Free Content & Activities: Center Stage

New technologies for the rapid identification of drug-resistant bacteria

Speaker:

[Alexis Sauer-Budge](#) (Managing Scientist, Exponent)

Location: Center Stage, Booth 563

Date: Wednesday, April 18

Time: 2:00pm - 2:45pm

Pass Type: Conference (Paid), Expo (Free) - [Get your pass now!](#)

Free Content & Activities: Center Stage

Center Stage

Emerging Models for Innovation

Panelists:

[Amy Siegel](#) (Founder, S2N Health, LLC)

[Christina Tamer](#) (Program Officer, Venture Development and Investments , VentureWell)

[Philip Devlin](#) (General Manager, Agility Labs a Triple Ring Technologies Company)

[Edgar Goluch](#) (Founder, QSM Diagnostics Inc)

[Carla Small](#) (Senior Director, Innovation and Digital Health Accelerator, Boston Children's Hospital)

Location: Center Stage, Booth 563

Date: Thursday, April 19

Time: 10:15am - 11:00am

Pass Type: Conference (Paid), Expo (Free) - [Get your pass now!](#)

Free Content & Activities: Center Stage

Collaborative Innovation

Moderator:

[Tor Alden](#) (Principal & CEO, HS Design, Inc.)

Panelists:

[Michael Quinn](#) (VP of Design and Engineering, HS-Design)

[Donald Lombardi](#) (President, Institute for Pediatric Innovation)

[Marty Coyne](#) (Principal and Founder, Matchstick)

Location: Center Stage, Booth 563

Date: Thursday, April 19

Time: 2:00pm - 2:45pm

Pass Type: Conference (Paid), Expo (Free) - [Get your pass now!](#)

Free Content & Activities: Center Stage

Keynote speakers

Biomedical Innovation – A Report From the Frontier

Speaker:

[Jeff Karp](#) (Professor of Medicine at Brigham and Women's Hospital, Harvard Medical School & MIT)

Location: Center Stage, Booth 563

Date: Wednesday, April 18

Time: 11:30am - 12:00pm

Pass Type: Conference (Paid), Expo (Free) - [Get your pass now!](#)

Free Content & Activities: Keynote



An all-star academic and industry-leading biomedical engineer, Jeff Karp will share exclusive insights at the forefront of regenerative medicine as well as explore the latest thinking at the intersection of biology and medicine. *More keynote details coming soon.*

MassMEDIC annual conference

MedTech at Draper Laboratory



Anthony F. Coston, Ph.D
Head of Medical Devices, Biomedical Solutions
Draper Laboratory

Panel Discussion

Real World Evidence—The Importance and Impact on MedTech Market Access

Moderator: Gabriele Brambilla, CEO, Alira Health

Panelists:

Edward Eventash, M.D. Medical Director, V.P. Medical Affairs, Hologic, Inc.

Michelle McHenry-Heath, Ph.D VP Regulatory, Clinical & Preclinical, Johnson & Johnson

Parashar Patel, Vice President, Global Health Policy, Boston Scientific Corp.

David V. Williams, Healthcare Consultant , Milliman, Inc.

MassMEDIC annual conference

Virtual Clinical Trials for MedTech – Sci Fi or Reality?

Sarah Dutta, Ph. D, Business Consultant, Dassault Systèmes

FDA – CDRH – Policies and Priorities



Jeffrey Shuren, M.D.

Director, Center for Devices and Radiological Health

U.S. Food and Drug Administration

Center Stage Presentation

Dr. Jeffrey M. Karp, Brigham & Women's Hospital/Harvard Medical School/MIT

Moderator: Betsy Goodrich, VP, Design, Manta Product Development



Dr. Jeff Karp is a leading researcher in the fields of drug delivery, medical devices, stem cell therapeutics, and tissue adhesives. He is an Associate Professor at Brigham and Women's Hospital, Harvard Medical School, Principal Faculty at the Harvard Stem Cell Institute, and an affiliate faculty at the Broad Institute and at the Harvard-MIT Division of Health Sciences and Technology (where he teaches to MIT-Sloan business school students). He has published >100 peer-reviewed papers (with >13,000 citations) and has

given 250 national and international invited lectures and has >100 issued or pending national/international patents. Several technologies developed in his lab have formed the foundation for multiple products on the market and currently under development and for the launch of five companies including Skintifique, Gecko Biomedical, Alivio Therapeutics, Frequency Therapeutics and Landsdowne Laboratories.

Ca

SelectBio – BioEngineering 2018

Select Biosciences Fourth Annual BioEngineering 2018 Conference brings together the following topics:

- BioMEMS and Microfluidics-based Devices in Various Application Areas
- 3D-Bioprinting and Biofabrication Technologies
- Tissue Engineering Applications
- Synthetic Biology

Researchers from academia and industry present the latest advances and approaches in these converging 3D-bioprinting fields as well as in the development of biostructures and their applications.

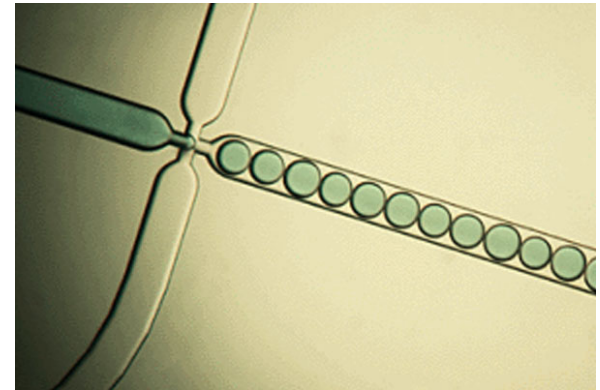


Centres de recerca a les universitats

Harvard University - Weitz Laboratory

The Weitz Laboratory studies the **physics of soft condensed matter, materials which are easily deformable** by external stresses, electric or magnetic fields, or even by thermal fluctuations.

Besides, and with 80.000+ citations, **Professor D. Weitz is a reference speaker in several 3D-Bioprinting events**, as his expertise has been vastly developed through his leadership at the Weitz Laboratory and the Materials Research Science and Engineering Center at Harvard University.



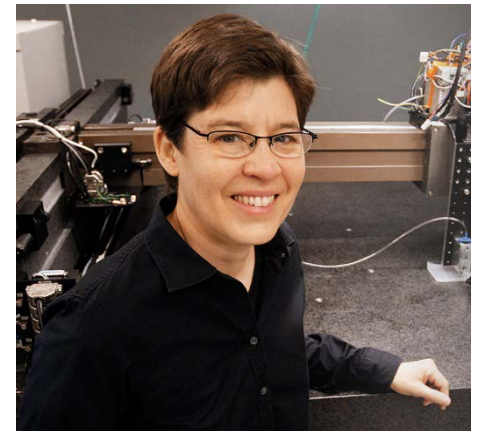
Prof. David Weitz

The Wyss Institute (Harvard University) - 3D Bioprinting of Living Tissues

Their main research is a **multi-lateral bioprinting platform that enables the fabrication of 3D tissues composed of multiple cell types, engineered extracellular matrices and vasculature.**

Fundamental studies related to drug screening , disease modeling and tissue repair and regeneration studies are also conducted within this research group.

One of its main influences is Jennifer Lewis, Professor of Biologically Inspired Engineering at the Harvard John A. Paulson School of Engineering and Applied Sciences. To date, Jennifer and her team have developed new classes of **concentrated colloidal, fugitive organic, polymer, hydrogel, and sol-gel inks for pen-on-paper, inkjet, roll-to-roll and 3D printing.** To expedite the transformation of 3D printing from a prototyping to a manufacturing platform, her team has recently demonstrated high throughput printing of multiple materials via multi nozzle arrays.



Prof. Jennifer A. Lewis

Massachusetts Institute of Technology – Laboratory for Manufacturing and Productivity

The Laboratory for Manufacturing and Productivity (LMP) is an interdepartmental laboratory in the School of Engineering with three major goals:

- The development of the fundamental principles of manufacturing systems such as 3D Printing, processes, and machines.
- The application of those principles to the manufacturing enterprise.
- The education of engineering leaders.
- Course: Additive Manufacturing: From 3D Printing to the Factory Floor
Length 5 Days Fee: \$4,900



Professor A. John Hart

Centres de recerca als hospitals

The Ott Lab for Organ Engineering and Regeneration at MGH

The Ott Laboratory for organ regeneration currently develops **perfusion decellularized scaffolds as a platform for organ engineering** by developing conditions suitable for human organs, deriving adult cell populations from patients, designing human size bioreactor systems, and developing human organ culture conditions.

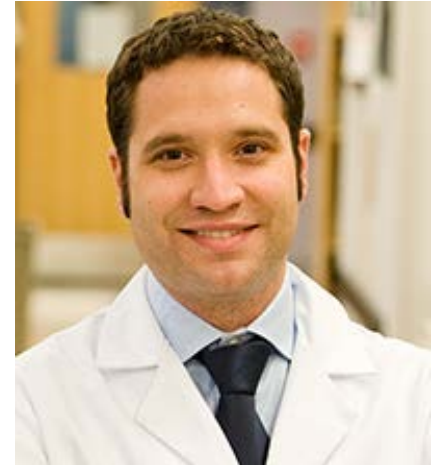
The laboratory is linked to the Harvard Stem Cell Institute, MIT, Harvard Medical School, the New England Organ Bank, and the clinical departments of MGH.



The Ott Lab for Organ Engineering and Regeneration at MGH

En altres paraules:

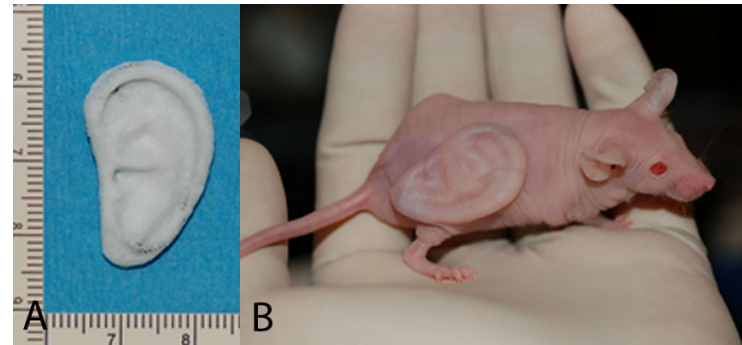
- Enginyeria d'òrgans com a **alternativa als trasplantaments.**
- Procediment derivat del *Bioprinting*: **òrgans de nova creació** a partir de les cèl·lules del propi donant.
- D'aquesta manera **s'evita qualsevol mena de rebuig** entre el cos i el nou òrgan.



Dr. Harald Ott



Laboratory for Tissue Engineering and Organ Fabrication at MGH



Main research interests are:

- .- Engineered Vascular Networks
- .- Liver Tissue Engineering
- .- Vascularized Bone
- .- Drug-induced Vascular Injury
- .- Ear tissue printing
- .- Tissue Engineered Scaffold Design,
- .- Lung Tissue Engineering
- .- *In Vitro* Model of Drug Metabolism
- .- Muscle tissue printing

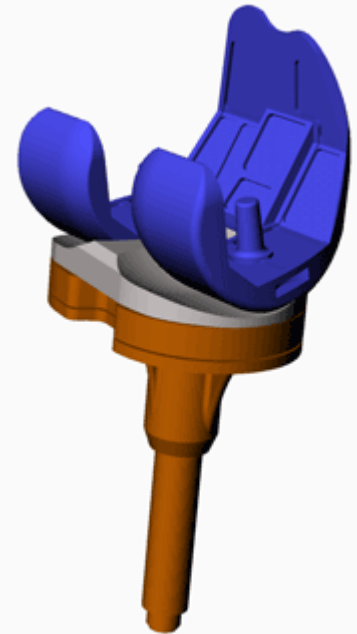
Technology Implementation Research Center at MGH

The Technology Implementation Research Center (TIRC) conducts translational research relating to orthopedic implants, materials and surgical technologies. Our mission is to dramatically improve the quality of orthopaedic care by leveraging biomechanical and biomaterials research to bring disruptive technology to active clinical use.

Recerca translacional encarada a trobar solucions sobre problemàtiques actuals de la medicina.

La **principal àrea de treball és la biomecànica**, és a dir, pròtesis i implants, entre d'altres, segments en els quals **es treballa colze amb colze amb la tecnologia d'impressió en 3D**.

Principals col·laboracions amb departaments d'ortopèdia del propi Massachusetts General Hospital.



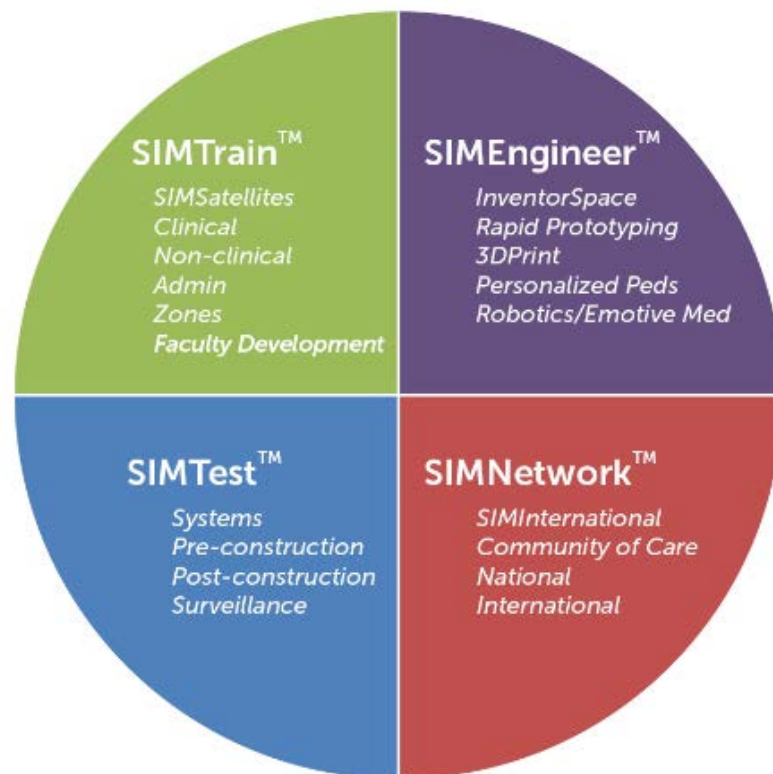
Boston Children's Hospital Simulator Program (SIMPeds)

Programa d'implementació tecnològica a la salut dels infants.

Diverses tecnologies i àrees d'implementació: Impressió 3D i prototipatge, robòtica, instruments mèdics, entre d'altres.

Disposa de diversos apartats translacionals: SIMTrain (entrenament mèdic), SIMEngineer (desenvolupament), SIMTest (*clinical trials*) i SIMNetwork (divulgació i connexions).

<https://www.statnews.com/2016/06/15/birth-defect-baby-boston-childrens-hospital/>



Boston Children's Hospital Simulator Program (SIMPeds)

El programa SIMPeds és líder en el desenvolupament d'operacions quirúrgiques el més eficients possible.

Aquesta eficiència l'aconsegueixen mitjançant l'aplicació de les tècniques d'impressió 3D i simulació de què disposen, per tal de poder simular amb anterioritat un entorn el més fidel possible al que l'equip mèdic es trobarà a la operació real.

El SIMPeds és en definitiva un equip d'enginyers en contacte constant amb radiòlegs, cirurgians i demés especialistes del Boston Children's Hospital.



Tufts Medical Center - Surgical and Interventional Research Laboratories

Overview



Tufts Medical Center's Surgical and Interventional Research Laboratories is a full-service surgical testing facility used by industry and academia for preclinical medical devices and diagnostic testing.

We specialize in prototype studies, product evaluation, comparative testing and physician training and demonstration. We provide our external clients with a **number of services** including proof of concept, interventional and surgical procedures, expert consulting from our 500+ on-site physicians, training and histology/pathology.

Our team of 40 employees and staff support will work with you to bring your novel idea or new application to the next level.

Tufts Medical Center – SIRL (Surgical and Interventional Research Laboratories)

El SIRL de Tufts Medical Center és un departament que **ofereix els seus serveis a centres i entitats independents.**

El centre SIRL, propietari d'unes instal·lacions dotades de la més avançada tecnologia, està **capacitat per a desenvolupar qualsevol tecnologia innovadora i disruptiva** que pugui aportar un benefici substancial a l'eficiència mèdica actual.

El SIRL proposa un plantejament molt encarat a la prova i implantació experimental d'aquestes innovacions en animals, una filosofia que els hi ha valgut una notable reputació en aquest terreny.



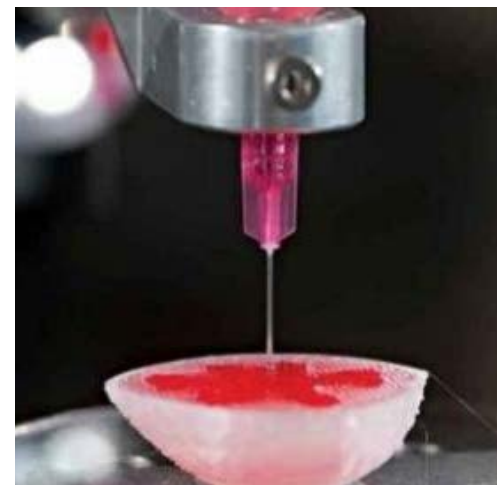
Brigham and Women's Hospital – Tissue Typing Laboratory

Transplant focused laboratory:

The Tissue Typing Laboratory performs a variety of **histocompatibility tests on solid organ transplant candidates** and prospective donors.

The laboratory also does **high-resolution typing of hematologic stem cell candidates** with related and unrelated donors to determine the most appropriate donor.

The laboratory serves as a **reference resource for 12 solid organ transplant programs in the 6 New England states**, under a contract with the New England Organ Bank.



Empreses i agents del sector



Boston Scientific



PROFESSIONALS

PATIENTS

PRODUCTS

ABOUT



Patient Product Information

About Your Device
Patient And Caregiver Support

Featured Products

CRT-D
CRT-P
Defibrillators (ICD)
Left Atrial Appendage Closure Device
Pacemakers
Remote Patient Monitoring
Spinal Cord Stimulator Systems
Stents: Coronary

Product Categories

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By Medical Specialty

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Interventional Cardiology Products
Interventional Radiology Products
Neurological Surgery Products
Orthopedic Surgery Products
Pain Medicine Products
Pulmonology Products
Urology Products
Vascular Surgery Products

Resources & Support

Customer Support
Product Details Scan App
Reimbursement
Product Security



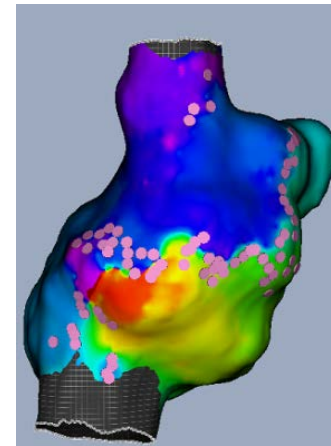
Patients & Caregivers

Are you looking for information about an implanted device?

[Access Product Information >](#)

Boston Scientific

Boston Scientific has advanced the practice of less-invasive medicine by providing a broad and **deep portfolio of innovative products, technologies and services across a wide range of medical specialties**. These less-invasive medical technologies provide **alternatives to major surgery** and other medical procedures that are typically traumatic to the body.



Johnson & Johnson - DePuy Synthes



People inspired™

From here, Anywhere.

Attune®
Knee System



- Four studies consistently demonstrate improvements when evaluating patellofemoral complications for ATTUNE® PS Knee patients.
- Improved patellofemoral outcomes, including **less anterior knee pain** for ATTUNE® PS Knee patients.
- As few as 2% of ATTUNE® Knee posterior stabilized patients experienced mild anterior pain.
- ATTUNE® Knee System has shown **statistically significant improvements in PROMs** compared to certain leading knee brands.

[Get the Evidence >](#)

Johnson & Johnson - DePuy Synthes

Founded in 1895, DePuy Synthes was the **first commercial orthopedics company in the U.S.**

Their long-standing commitment to innovation in patient care has helped them become a global leader in orthopedic devices and supplies, including hip, knee, extremity, cement and operating room products.

Today, the DePuy Synthes Joint Reconstruction portfolio includes more than 200 products. Besides, **DePuy Synthes places a strong involvement in 3D Printing** as a key, game-changing technology for the next decades.



Formlabs

Started out of MIT in 2011, Formlabs now employs over 400 people across offices in Germany, Japan, and China.

With the Form 2 SLA 3D printer, Fuse 1 SLS 3D printer, Form Cell manufacturing solution, and Pinshape marketplace of 3D designs, **Formlabs is establishing the industry benchmark in professional 3D printing** for professionals from a variety of industries.

Formlabs has **recently launched its new Ceramic resin**, the first affordable ceramic 3D Printing material for a stereolithography 3D Printer.



Desktop Metal

Desktop Metal is a firm that has developed metal 3D printers **both for small scale and mass production purposes.**

Its Studio System features an end-to-end solution, and it's the only way to print complex metal parts in-house.

Its Production System is the first metal 3D printing system for mass production. It is based on **speed, quality, and cost-per-part efficiency** needed to compete with traditional manufacturing processes.

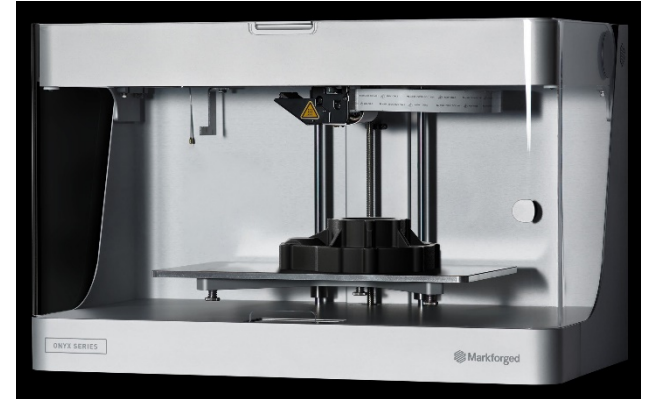


Markforged

Markforged launched the **first and only affordable 3D desktop printer that embeds continuous fiber into printed carbon and nylon** for an end-use composite part with the strength of metal.

They are overturning not only the 3D printing industry but also many traditional manufacturing methods giving their customers **unprecedented cost, time and efficiency savings**.

Markforged also offers a software to efficiently manage their machines.

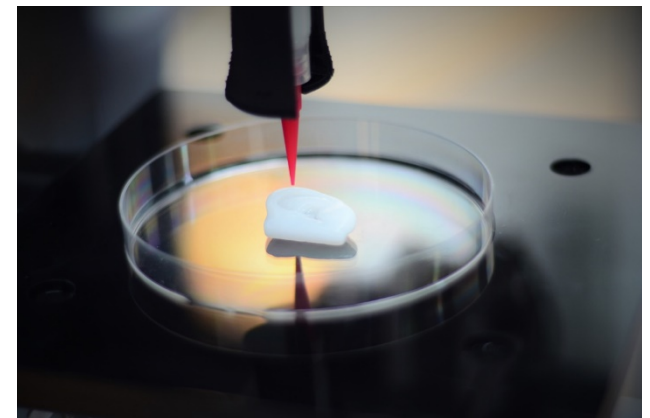


Cellink

Cellink provides desktop-friendly **3D printers for human living tissues -skin, cartilage tissues, etc-** (“Bio X” printer, “Inkredible” printer).

Also, Cellink **provides their own state of the art bioinks to be used with their printers**, currently owning a wide range of these inks, depending on the nature of the product desired (**cartilage, skin, bone, muscle, MSCs, Sacrificial Material**).

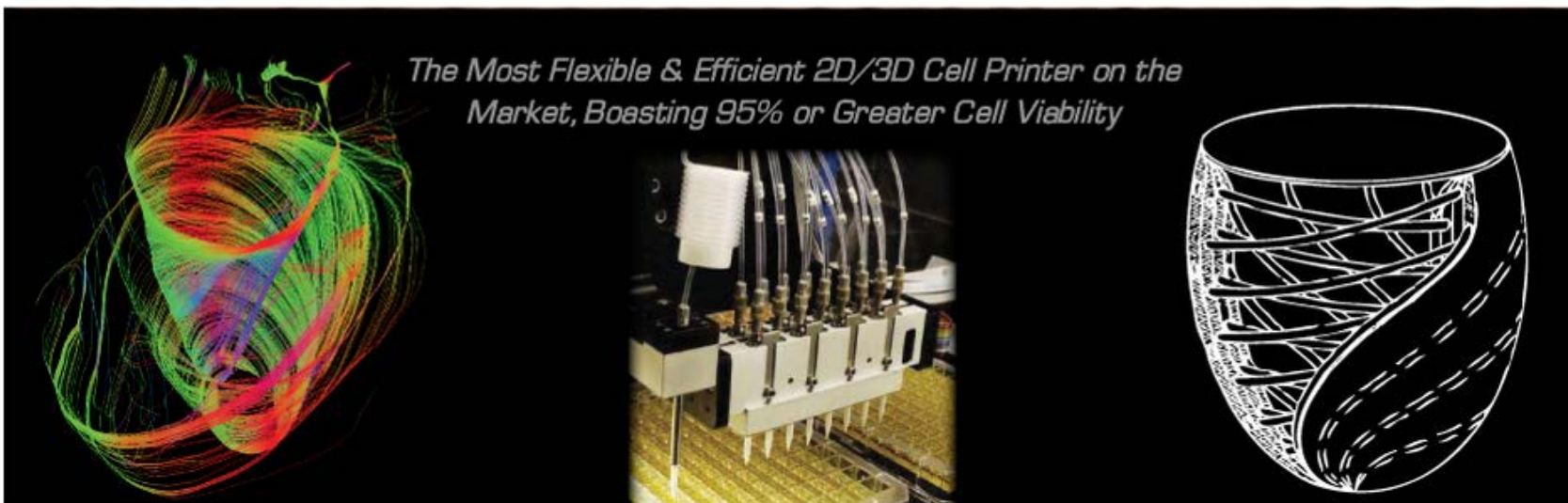
The company focuses on the development and commercialization of bioprinting technologies that allow researchers to 3D print human organs and tissues for the **development of pharmaceutical and cosmetic products, and in the future, for clinical applications.**



Digilab

CELLJET
Cell Printer

The Most Flexible & Efficient 2D/3D Cell Printer on the Market, Boasting 95% or Greater Cell Viability



MICROGRID AND OMNIGRID ARRAYERS

WHETHER YOU ARE PRINTING TO PLATES OR SLIDES, DIGILAB HAS A MICROARRAY SYSTEM TO FIT YOUR NEEDS

Click any of the products below for more detailed information.

MICROGRID II

Digilab MicroGrid II is designed for high throughput sample handling with the ability to work from 96, 384 or 1536 well microplates. Up to 24 microplates at a time can be accommodated in the BioBank loading cartridge and a maximum of 10 BioBanks (240 microplates) may be programmed into a single run. With its innovative platform design, Digilab MicroGrid offers the best of both worlds: **large capacity and a small footprint**. Easy to upgrade and fully customizable, this unique instrument can quickly and economically adapt to the changing needs of your laboratory. [More details about MicroGrid II](#)



OMNIGRID ACCENT

Digilab OmniGrid® Accent offers a high performance benchtop solution for making DNA and protein microarrays. The Accent arrays biological samples from 3 plates onto a 50-slide platform and supports a print head with up to 48 pins. The OmniGrid Accent has a built-in sonication station for cleaning, making the OmniGrid Accent **ideal for custom protein microarrays**. The transparent enclosure with positive-pressure HEPA filtering provides a dust-free printing environment. [More details about OmniGrid Accent](#)

Sonication Included! Ideal for Custom Protein Microarrays.



OMNIGRID MICRO

Digilab OmniGrid® Micro is a flexible microarrayer, which is **ideal for entry level production**. Digilab OmniGrid Micro is designed for producing DNA or protein microarrays on slides. It can accommodate solid- or split-pin printing pins to create high- or low-density arrays for functional genomics research. The small footprint and 11-slide nest configuration make the OmniGrid Micro ideal for any laboratory starting out in microarraying. Digilab OmniGrid Micro can dip into a source plate (e.g. 96 or 384 well plate) and spot the sample solution onto a solid surface (e.g. glass slide, silicon substrate). In touching the surface with the pin, a given volume of sample is deposited onto the surface. Using the optional split microspotting pins, up to 200 consistent spots can be produced from a single dip. A vacuum wash station ensures active washing in between sample transfers while humidity control minimizes evaporation of precious sample. [More details about OmniGrid Micro](#)



Autodesk Build Space

The BUILD Space (Building, Innovation, Learning, and Design) is Autodesk's 34,000 sq. ft. workshop for **collaborative research and experimentation in digital fabrication, construction, automation,** and other innovations related to the AEC (Architecture, Engineering, and Construction) industry.

Autodesk and organizations from **academia, practice, and industry** use the BUILD Space to experiment, explore, and create a shared vision for the future of AEC innovation.



 AUTODESK.

AUTODESK BUILD SPACE

Autodesk Build Space



AUTODESK BUILD SPACE

AUTODESK BUILD SPACE

Our unique research and development workshop in Boston provides a venue for architecture, engineering, and construction professionals to experiment in a shared, collaborative environment.

Meet our BUILDers in Residence

Our BUILDers in Residence are working on projects in digital fabrication, sustainable design, construction, design robotics, and more.



Pillar Technologies

Boston-based startup Pillar Technologies is building a hardware-to-software solution to predict and prevent damage on construction sites through the use of on-site sensors.



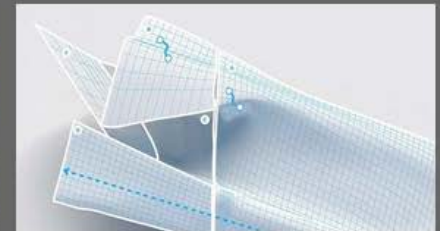
Elkus Manfredi Architects

Architecture and design firm Elkus Manfredi uses BUILD Space equipment to prototype and develop new techniques for historical preservation.



Design that Matters

Design that Matters is a nonprofit dedicated to solving problems in developing countries. The organization is currently working on a warming bassinet for low-birthweight newborns.



Harvard Graduate School of Design

Volkan Alkanoglu's graduate studio is designing superlight aluminum structures by applying techniques of the aviation and automobile industry to custom CNC-cut components.

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