



domoBIO
Providing bioprinting solutions

Product Catalogue

Multi-technology, multi-purpose
bioprinter

High Performance
Heat



Cooling/Heating

Roller

01 About us

Domotek is a technology company founded in 2015. We design and manufacture the domoBIO series: multi-technology, multi-purpose bioprinters that bring advanced biofabrication to research centres, universities and companies.



Our vision

To develop affordable multi-technology, multi-purpose bioprinters.



Our mission

To make medical research accessible and help solve complex healthcare challenges.



02 Value proposition

A single versatile platform integrating the latest biofabrication technologies —solution electrospinning (ES) and melt electrowriting (MEW), bioinks, filament and pellets— with interchangeable print heads and build platforms.



Multi-tool system

Multiple print heads on the same construct.



Interchangeable print heads & platforms

Quick change, no tools needed.



Multi-technology system

Extrusion, syringe, electrospinning and photocuring.



100% adaptable

Tailored configuration for each client.

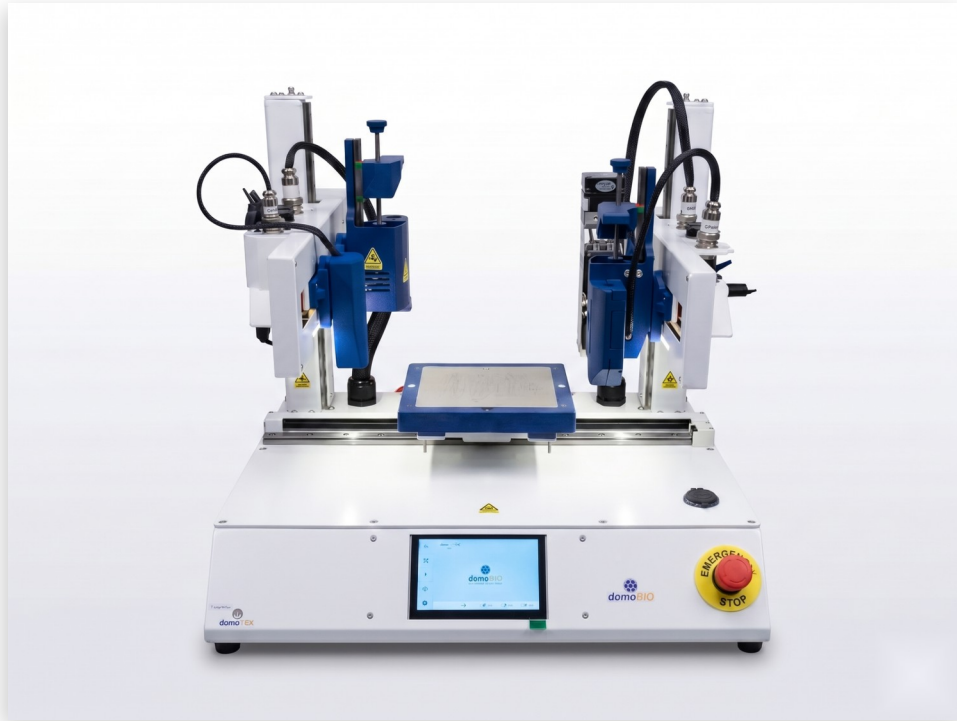


Remote connectivity

Remote monitoring of the manufacturing process.

Versatility · Multi-technology · Multi-material · Accessible hybrid biotechnology

03 The domoBIO 4AC bioprinter



Specifications

Dimensions	370×480×470 mm
Weight	20 kg
Print heads	4 simultaneous
Print volume	130×130×100 mm
Resolution	X·Y 0.0125 · Z 0.0001 mm
Power supply	230 V AC · 50 Hz · 22 W
Connectivity	Ethernet · Web · Email alerts
Interface	Touchscreen · Cura · domoSLICER · .gcode

04 Two configurations

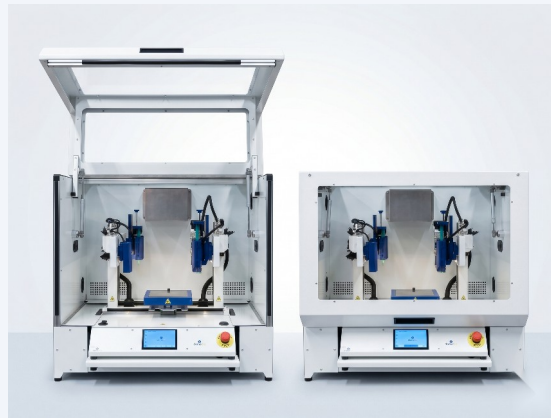
The domoBIO series adapts to two working orientations on a single machine, depending on the application.



Cell viability

WITHOUT CHAMBER

Geared towards bioprinting with live cells, bioinks and hydrogels. Laboratory environment, optimised to preserve cell viability throughout the entire process.



Advanced materials

WITH CHAMBER · TEMPERATURE & HUMIDITY

The domoBIO is placed inside a chamber with temperature and humidity control to fabricate advanced materials and technical polymers.

05 Technologies

A single machine combining the main biofabrication technologies, each with its own field of application.



FDM

Fused Deposition Modelling

Extrusion of molten thermoplastic (PCL, PLA...) layer by layer.

- Rigid scaffolds and hybrid constructs.



Bioinks

Hydrogel extrusion

Deposition of cell-laden bioinks and hydrogels.

- Soft tissues and 3D in vitro models.



ES

Solution electrospinning

Nanofibres generated by electric field from a polymer solution.

- Extracellular matrices and drug-loadable dressings.



MEW

Melt Electrowriting

Molten microfibres deposited in an ordered manner by electric field.

- High-precision scaffolds with controlled porosity.



Coaxial

Core-shell extrusion

Two concentric flows through a single nozzle.

- Encapsulation and vascular channels.



Solenoid

Solenoid dosing

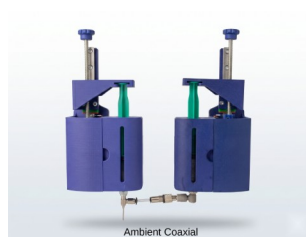
Drop-by-drop dispensing by electromagnetic actuation.

- High-precision microdeposition and patterning.

06

Print heads

A family of interchangeable extruders and tools, one for each technology.



SPECIAL TOOLS

AutoCal

Automatic calibration module that levels print head and platform by contact, ensuring precision and repeatability on every print.

Sensor type	Contact
Standard deviation	< 0.01



SYRINGE EXTRUDERS

Ambient Syringe

Syringe extruder for bioinks and hydrogels at room temperature. Compatible with standard Luer Lock.

Volume	10 ml
Max viscosity	200 Pa·s
Nozzle	14 G – 27 G Luer Lock
Temperature	Ambient



SYRINGE EXTRUDERS

Heated Syringe

Heated version of the syringe extruder, for materials that require thermal control during deposition.

Volume	10 ml
Max viscosity	200 Pa·s
Nozzle	14 G – 27 G Luer Lock
Temperature	Ambient – 60 °C



COAXIAL EXTRUDERS

Ambient Coaxial

Coaxial extruder with two concentric flows through a single nozzle, for hollow fibres, encapsulation and vascular channels. Customisable nozzle diameter.

Volume	10 ml (core and shell)
Max viscosity	200 Pa·s
Nozzle	Core 22 G + shell 16 G
Temperature	Ambient



Ambient Coaxial

SYRINGE EXTRUDERS

Solution Electrospraying

Solution electrospraying head for the fabrication of nanofibre scaffolds.

Volume	10 ml
Max viscosity	200 Pa·s
Nozzle	14 G – 27 G Luer Lock
Max voltage	20 kV



THERMOPLASTIC EXTRUDERS

Filament

Filament extruder (FFF) for thermoplastics such as PCL and PLA — the backbone of hybrid constructs.

Temperature	Ambient – 250 °C
Nozzle	0.2 – 1 mm
Filament	1.75 mm

MEW configuration available by adding a grounded wire at the nozzle.



THERMOPLASTIC EXTRUDERS

Pellets

Pellet extruder that feeds polymer pellets directly, reducing material cost and expanding the range of compatible polymers.

Temperature	Ambient – 250 °C
Nozzle	0.2 – 1 mm
Pellets	0.5 – 5 mm

MEW configuration available by adding a grounded wire at the nozzle.



SPECIAL TOOLS

UV 365 nm

UV photocuring head at 365 nm for cross-linking photosensitive bioinks during printing.

Wavelength	365 nm
------------	--------

Function	Photocuring / Cross-linking
----------	-----------------------------



SPECIAL TOOLS

UV 405 nm

UV photocuring head at 405 nm for cross-linking photosensitive bioinks during printing.

Wavelength	405 nm
------------	--------

Function	Photocuring / Cross-linking
----------	-----------------------------



07

Build platforms

Interchangeable printing surfaces.



Cool / Heat



High-Performance Heat



Drum Collector



MEW

BUILD PLATFORMS

Cool / Heat

Thermally regulated platform that keeps bioinks and hydrogels within their optimal thermal window.

Thermal range

5 – 55 °C

Adapters

Petri



Microscope
slide



Multiwell
plate



BUILD PLATFORMS

High-Performance Heat

High-performance heated platform for technical thermoplastics that require elevated bed temperatures.

Thermal range

Ambient – 120 °C

Adapters

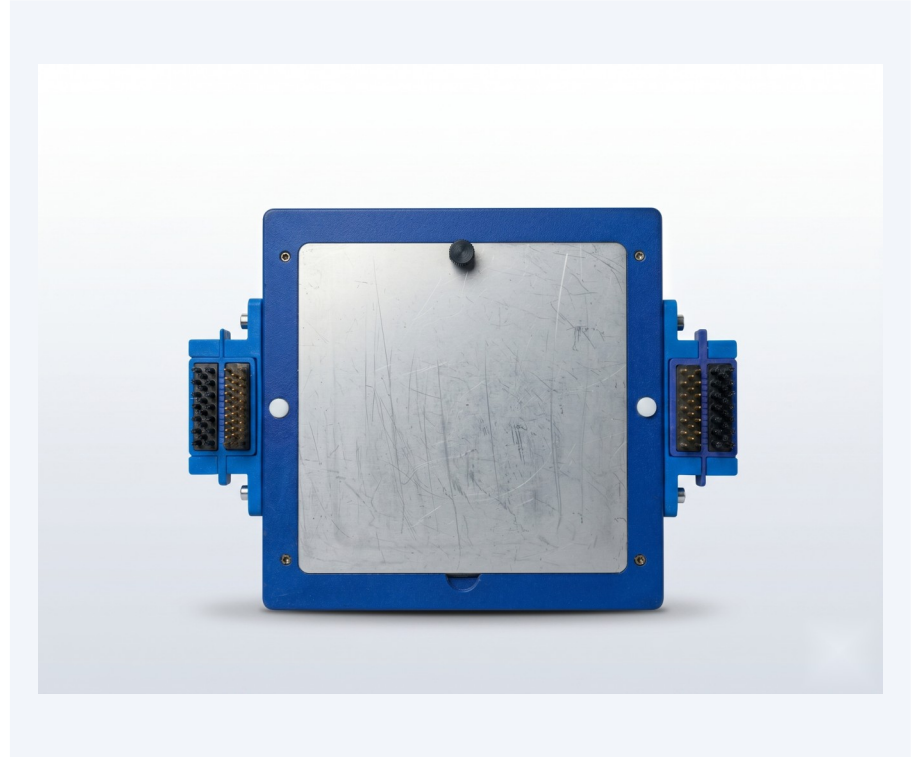
Petri



Microscope
slide



Multiwell
plate



BUILD PLATFORMS

Drum Collector

Drum collector platform for continuous collection, designed for electrospinning processes with deposition onto film.

Type	Rotating collector
Application	Fabrication of tubular, hollow and cylindrical structures
Revolutions per minute	75 – 4,000
Collector diameter	50 mm



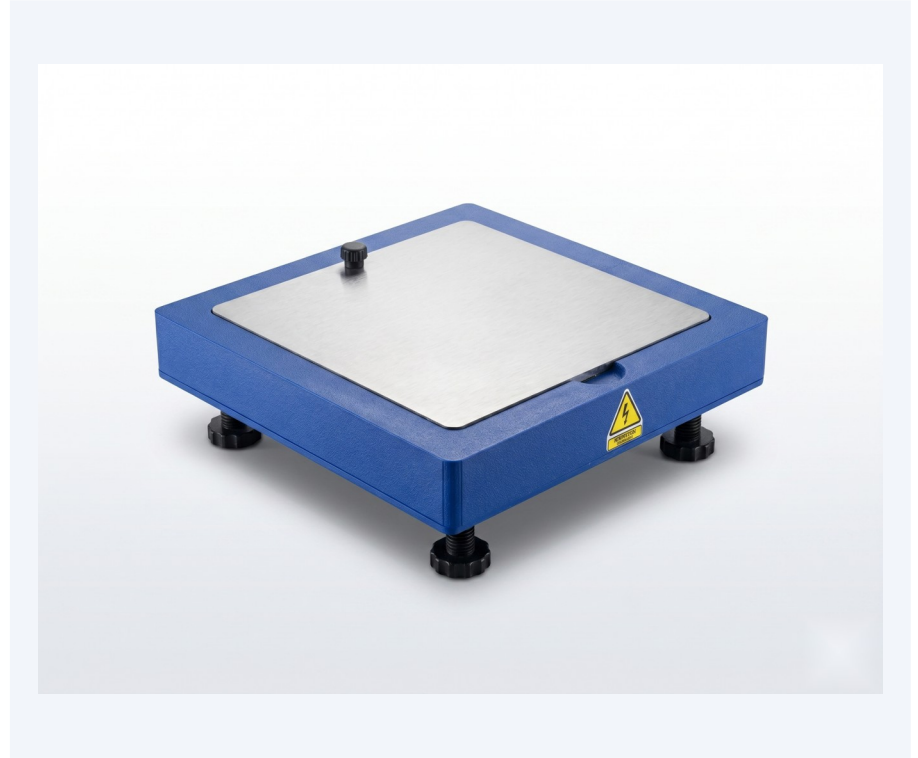
BUILD PLATFORMS

MEW

Collector platform for Melt Electrowriting (MEW), with a conductive surface for ordered microfibre deposition.

Type

MEW collector



08 New developments

Our roadmap continuously expands the domoBIO ecosystem with new print heads and prototypes.

Prototype stage



Heated Coaxial

Core-shell in a single nozzle

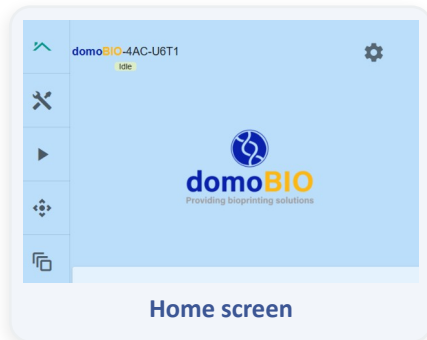


Solenoid

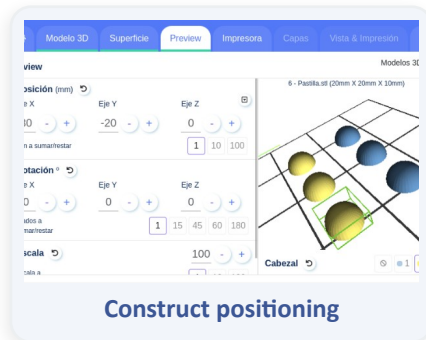
High-precision microdeposition and patterning

09 Custom software for the domoBIO 4AC

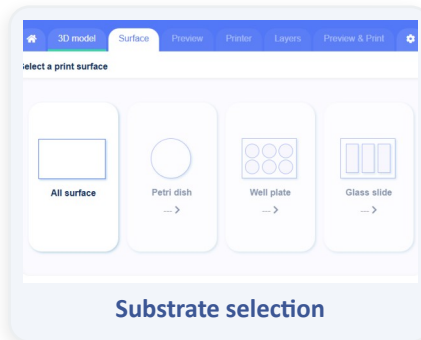
domoSLICER · The control layer that connects print heads, materials and construct in every print.
The domoBIO is also compatible with commercial slicers such as CURA.



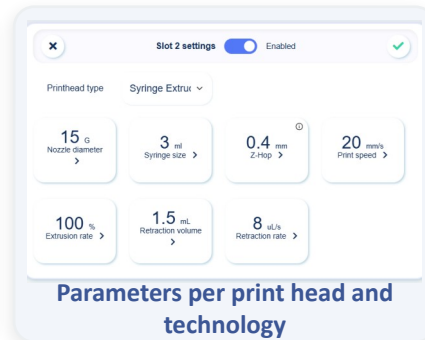
Home screen



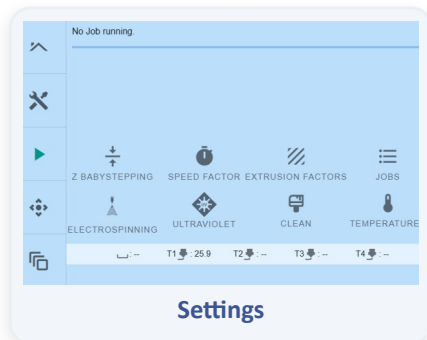
Construct positioning



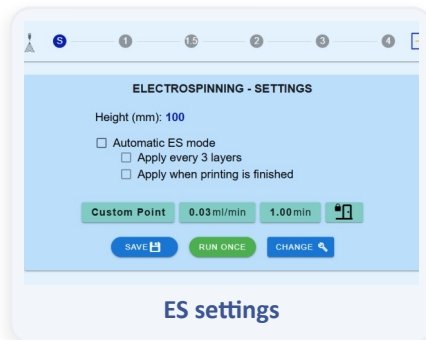
Substrate selection



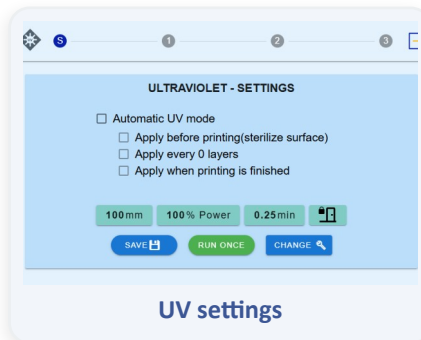
Parameters per print head and technology



Settings



ES settings



UV settings



Print start

10 Applications

The domoBIO platform serves a wide range of applications across research, healthcare and biotechnology.



Tissue engineering

Scaffolds for skin, bone, cartilage, soft tissues and vascularisation.



Oncology research

Tumoroids and 3D cancer models.



Drug discovery

3D in vitro models for screening and toxicology.



Controlled release

Tailored drugs with controlled release of active ingredients.



Organ-on-a-chip

Microfluidic devices and organ models.



Materials science

Bioinks, hydrogels and new biomaterials.



Cosmetics and skin models

Cosmetic and dermatological testing.



Cellular agriculture

Cell-cultured meat and fish.

11 Recent installations

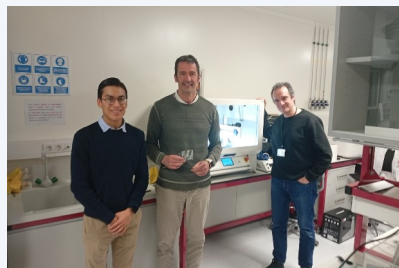
The domoBIO series serves research centres, universities and technology centres across Spain and worldwide.



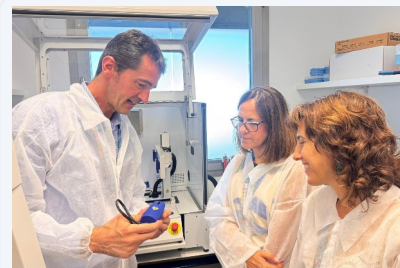
Max Planck Institute



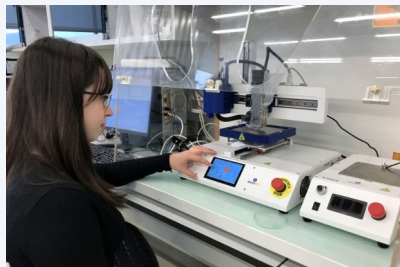
Hospital Puerta del Hierro



Tecnun - University of Navarra



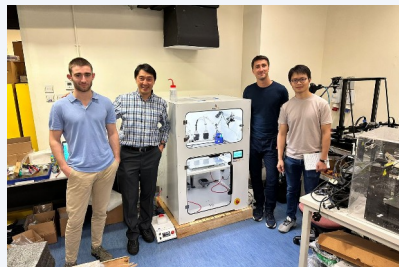
Irica · UCLM



University of Vigo



University of Sheffield



Hong Kong Polytechnic University



TECNALIA

12 Patented technology

domoBIO operates under an exclusive license of the patent protecting the multi-technology combination on a shared collector.



EP 3 786 322 B1

EUROPEAN PATENT GRANTED

System for the fabrication of composite fibre structures.

Granted by the EPO on 7 June 2023.

[View patent record →](#)



Worldwide exclusive license

SINCE JANUARY 2025

Holder: **CIC nanoGUNE**

Cooperative Research Centre in Nanoscience.



Technologies covered

UNDER THE PATENT UMBRELLA

- ✓ Solution electrospinning (ES)
- ✓ Melt electrospinning (MEW)
- ✓ Filament · Pellets (FFF)
- ✓ Coaxial (core-shell)
- ✓ UV photocuring (LED)
- ✓ Bioinks and hydrogels
- ✓ Interchangeable print heads
- ✓ Rotating collector + climate chamber

13 Scientific publications

domoBIO technology underpins research published in international scientific journals.

Formulation and 3D Printing of Collagen/Chitosan Inks: Tailoring the Scaffold Properties

BIOMAT/BCMaterials (UPV-EHU) · Biogipuzkoa · Proteinmat
21 March 2026 · DOI: 10.3390/gels12030261

Innovative Use of Gallic Acid as a Crosslinking Agent for Gelatin

BIOMAT/BCMaterials (UPV-EHU) · Newcastle University
22 July 2025 · DOI: 10.3390/pharmaceutics17080951

Assessment of Collagen-Based Inks to Develop Bilayer Constructs by 3D Printing

Carranza et al. (BIOMAT/BCMaterials – UPV-EHU) · Adv. Materials Technologies
2025 · DOI: 10.1002/admt.202401421

Light-Responsive and Antibacterial Graphenic Materials as a Holistic Approach to Tissue Engineering

UC3M (Bioengineering) · Okayama University · Domotek SL
7 June 2024 · DOI: 10.1021/acsnanoscienceau.4c00006

Optimization of Ink Composition and 3D Printing Process to Develop Soy Protein-Based Scaffolds

BIOMAT/BCMaterials (UPV-EHU) · Universidad de Sevilla
25 March 2024 · DOI: 10.3390/gels10040223

Electrospun PVP-Based Dressings Containing GO/ZnO Nanocomposites for Antibacterial Wound Care

UC3M (Bioengineering) · IMDEA Materials · Domotek SL
22 February 2024 · DOI: 10.3390/pharmaceutics16030305

Combination of 3D Printing and Electrospinning to Develop Chitin/Gelatin/PVA Scaffolds

BIOMAT/BCMaterials (UPV-EHU) · Biodonostia · Proteinmat
6 March 2023 · DOI: 10.18063/ijb.701

Texture-modified soy protein foods: 3D printing design and red cabbage effect

Carranza et al. (BIOMAT/BCMaterials – UPV-EHU · Proteinmat) · Food Hydrocolloids
2023 · DOI: 10.1016/j.foodhyd.2023.109141

Effect of Sterilization Processes on Alginate/Gelatin Inks for Three-Dimensional Printing

BIOMAT/BCMaterials (UPV-EHU)
23 November 2022 · DOI: 10.18063/ijb.v9i1.645

Wound-Microenvironment Engineering through Advanced-Dressing Bioprinting

BioCruces Bizkaia · TECNALIA (BRTA) · Int. J. Mol. Sci.
4 March 2022 · DOI: 10.3390/ijms23052836

3D Printed Chitosan-Pectin Hydrogels: From Rheological Characterization to Scaffolds Development

BIOMAT/BCMaterials (UPV-EHU) · Universidad de Sevilla
21 October 2021 · DOI: 10.3390/gels7040175

3D-Printed Mucoadhesive Collagen Scaffolds as a Local Tetrahydrocurcumin Delivery System

BIOMAT/BCMaterials (UPV-EHU) · Domotek SL · Proteinmat
15 October 2021 · DOI: 10.3390/pharmaceutics13101697

Plasma-Based Bioinks for Extrusion Bioprinting of Advanced Dressings

BIOMAT/BCMaterials (UPV-EHU) · BEGIKER · BioCruces
16 August 2021 · DOI: 10.3390/biomedicines9081023

Electrospinning y fabricación aditiva: tecnologías convergentes

Revista de Plásticos Modernos · Vol. 119, Nº 754
2020

Utilización de polímeros reciclados como materia prima en fabricación aditiva

Revista de Plásticos Modernos · Vol. 120, Nº 758
2020

Impresión 3D: una herramienta clave ante emergencias sanitarias

Revista de Plásticos Modernos · Vol. 120, Nº 761
2020



The domoBIO platform is the technology solution you need



info@domotek.es



+34 686 84 60 15



domotek.bio