

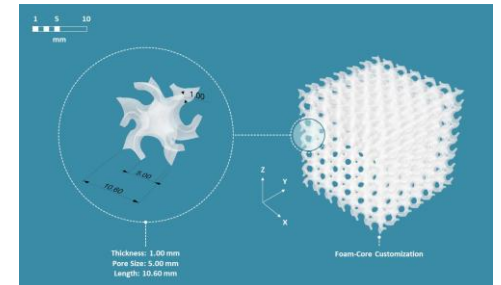
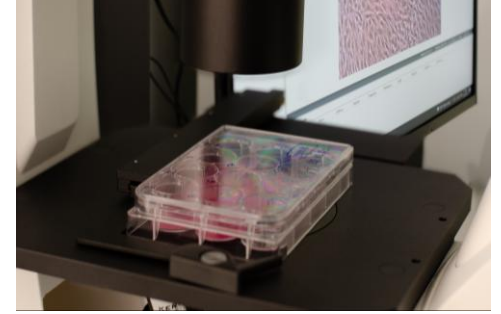
**BIOG3D**

Additive Manufacturing (AM) for
performance-driven and human-centered solutions

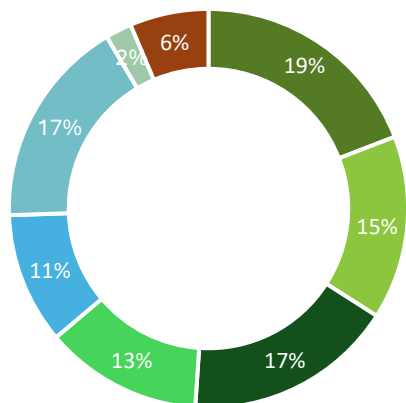
BioG3D is an **SME** founded in 2017 and headquartered in Athens, **Greece**. We are specialised in:

1. innovative 3D printing methodologies
2. material and product customisation, and
3. toxicological assessment

for human-centric and sustainable solutions. Provision of end-to-end product development services is achieved via advanced digital tools, such as computational design and analysis workflows for 3D modelling parametrisation and customisable products, as well as for optimisation of 3D printing parameters of custom feedstock materials.



EU R&D Programs



- Sustainability
- Composites
- In-Vitro Assessment
- Biomedical Applications
- Recycling / Product Life Cycle Management
- Universal Design
- Indoor Environmental Quality
- Hardware Development



Start: 01/04/2022
End: 31/03/2026



Start: 01/11/2020
End: 31/10/2024



Start: 01/01/2018
End: 31/12/2021



Start: 01/05/2024
End: 30/04/2028



Start: 01/12/2020
End: 31/05/2022



Start: 01/10/2018
End: 31/12/2022



Start: 01/09/2024
End: 31/08/2028



Start: 01/03/2021
End: 30/08/2025



Start: 01/01/2019
End: 31/01/2023



Start: 01/10/2024
End: 30/09/2028



Start: 01/04/2022
End: 31/03/2026

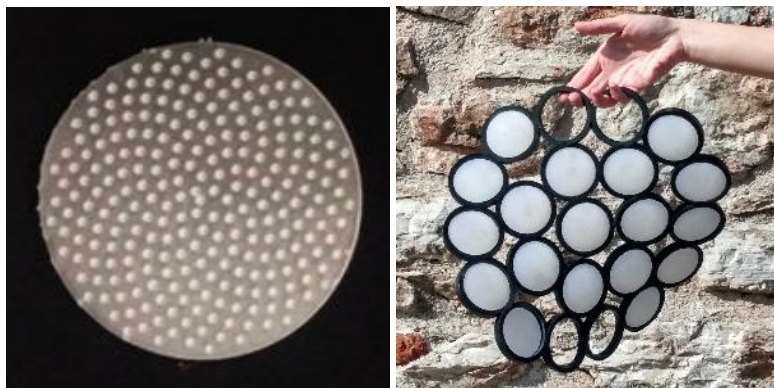


Start: 15/05/2019
End: 14/05/2020



3D Printed Customizable Components for
Indoor Environmental Quality Improvement

Test Case 7.1

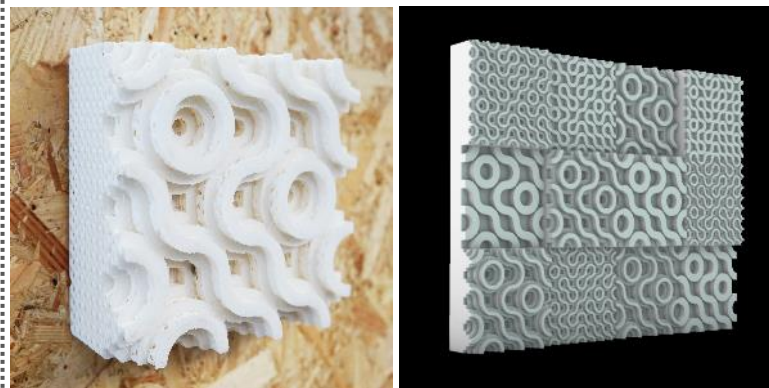


LIGHT DIFFUSERS

VPP: Photocurable
resin with diffusing
agents

VPP: High tensile
photocurable resin

Test Case 7.2



HYBRID SOUND
ABSORBING/
DIFFUSING PANELS

FFF: Thermoplastic
with foaming agents

Omniphobic coating
(PL9) **cidetec**
surface engineering

Test Case 7.3/7.4



MOISTURE/CO₂
ABSORBING
COMPONENTS

VPP: Elastomer
photocurable resin

RC: Clay minerals

Topic Calls & Involvement

Connecting the green transformation, social inclusion and local democracy

- **HORIZON-NEB-2025-01-PARTICIPATION-03:** Beautiful, sustainable and inclusive street furniture for the transformation of neighbourhoods

Role: Partner - [Design and 3D printing of small-scale furniture demo cases capitalising on upcycled thermoplastic or bio-based materials](#)

Circular and regenerative approaches for the built environment

- **HORIZON-NEB-2025-01-REGEN-01:** Applying regenerative design to the built environment in neighbourhoods
- **HORIZON-NEB-2025-01-REGEN-02:** Bio-fabricated materials for sustainable and beautiful construction
- **HORIZON-NEB-2025-01-REGEN-04:** Innovative approaches for sustainable, inclusive and beautiful social and affordable housing



Role: Partner - [Design and 3D printing of acoustic panels capitalising on upcycled bio-based materials \(e.g. upcycled wood from CDW\)](#)

Innovative funding and new business models for the transformation of neighbourhoods

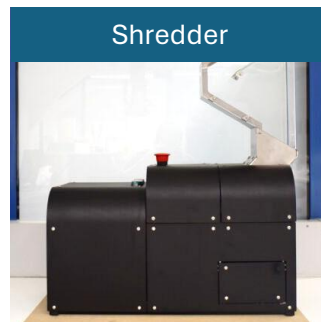
- **HORIZON-NEB-2025-01-BUSINESS-01:** Renovating the built environment through design for adaptability and disassembly

Role: Partner - [Design and 3D printing of joints for/and lightweight interior partitions](#)

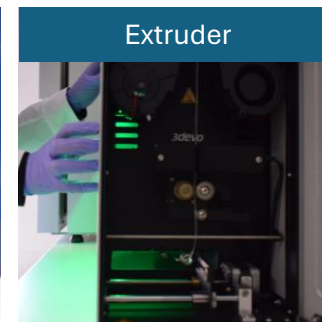
Requirements for partner(s) needed: materials' upcycling and provision, physical analysis and simulation, e.t.c.

3D Printing Technology		Indicative Build Volumes
Multi-material Fused Filament Fabrication (FFF)		305 x 305 x 605 mm
		400 x 400 x 800 mm
		256 x 256 x 256 mm
Vat Photo-Polymerisation (VPP)		145 x 145 x 175 mm
		134 x 75 x 130 mm
Direct Ink Writing (DIW)		150 x 160 x 110 mm
Liquid Deposition Modelling (LDM)		ø400 x 1000 mm

Material Development

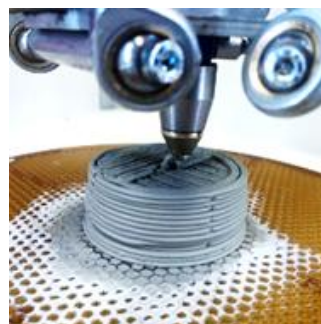


Shredder



Extruder

Customised functional filaments development for FFF
(thermoplastic matrices with recycled magnetic metal powder/recycled chopped fibres)



Customised functional pastes development for LDM (e.g. with thermal/humidity regulating properties)



Customised functional resin development for VPP (e.g. with light-diffusing agents, ceramic powder, lightweighting)

Morphological/Mechanical/ Toxicological and Chemical Analysis

Equipment for Morphological Testing

- [a] Scanning Electron Microscope (SEM)
- [b] Stereo Microscope

Equipment for Mechanical Testing and Surface Analysis

- [a] Compression Testing
- [b] Tensile Testing (+Filament Testing)
- [c] Bending Testing
- [d] Fracture Testing
- [e] Nanoindentation
- [f] Profilometry

Bioanalytical & Chemistry Lab Equipment

- [b] Dissolution Automated sampler
- [c] UV-Vis Spectrophotometer
- [g] Fourier-Transform Infrared Spectroscopy (FTIR)
- [d] Material Formulation Equipment for FFF/ VPP/ DIW/ LDM/ ES technologies

Fully-equipped Cell Culture Lab

Our know-how extends to a range of cell types, such as lung, skin, bone cells, etc. When it comes to toxicological assessment of the materials, cell culture techniques may include Cell Viability, Cellular Morphology Analysis, Gene Expression and more.

Cell Viability Assays: Assess cell health post-exposure	Cell Proliferation Assays: Measure cell growth rates	Cellular Morphology Analysis: Detect morphological changes
Apoptosis & Necrosis Assays: Identify cell death mechanisms	Genotoxicity Assays: Evaluate DNA damage potential	Cytokine Release Assays: Measure inflammatory responses
Barrier Function Assays: Assess barrier integrity	Hemocompatibility Testing: Evaluate blood-material interactions	3D Cell Culture Models: Mimic tissue architecture

Thank you!