



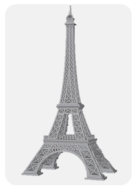
<https://www.laas.fr/projects/MultiFAB/>

multifab@laas.fr

What is MultiFab?

MultiFAB is an open platform funded by FEDER and Region Occitanie that promotes the development, transfer and dissemination of additive manufacturing technologies project to both academic and industrial partners.

Digital 3D design
(CAO software/3D scanner)



Slicing

This design file is sliced into thin layers that are further sent to the 3D printer



Materials and 3D printing process



Post processing
(Post bake, development, polishing)



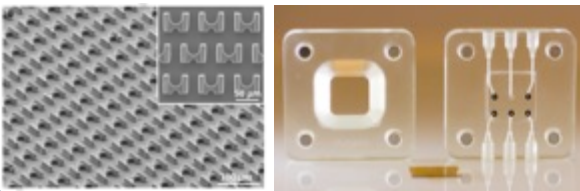
What is 3D printing?

3D printing is an additive manufacturing process that creates a physical object from a digital design. It has become a new paradigm for the manufacturing of integrated micro devices with applications ranging from aeronautics, automotive, electronics, optics, microfluidics, biological analysis to regenerative medicine. 3D printing enables both the rapid prototyping and manufacturing of complex and functional 3D architectures using a large range of materials from metals, alloys, polymers, composites, and biomaterials.

3D printing : a novel paradigm for device manufacturing

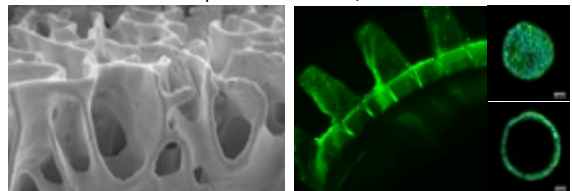
Microfluidics / Microsystems

Lab on chips, Micro Electro Mechanical Systems, Optical devices, Mechanical parts...



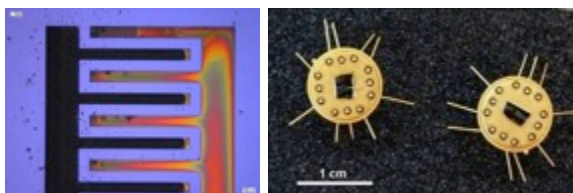
Cell microenvironments for biology

3D bioprinting of bone phantoms, hydrogel scaffolds for intestinal epithelium models, ...



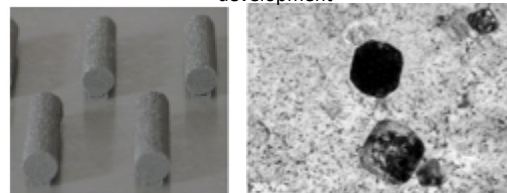
Microelectronics / Energy

Super capacitors, energy harvesting, integrated circuits

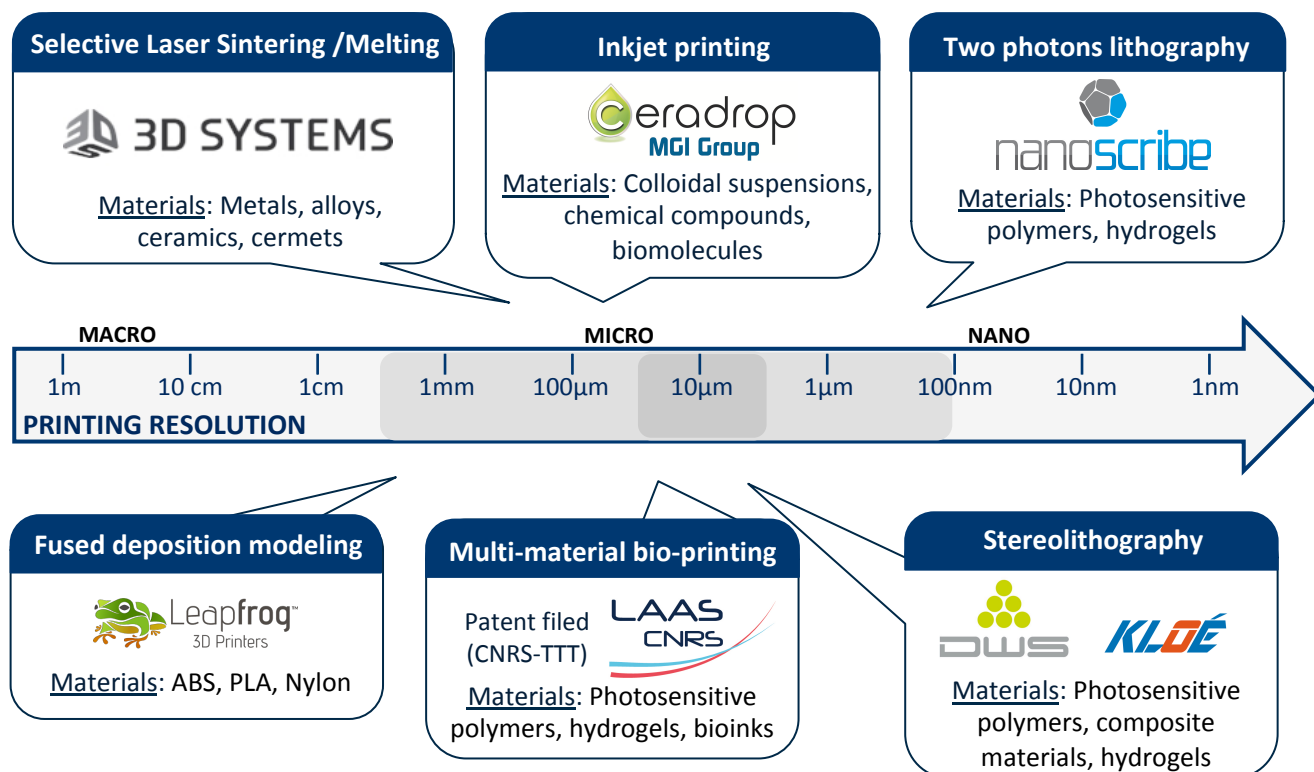


Aeronautics / Space

Mechanical parts, surface treatments, metals and alloys development



Cutting edge technologies for 3D printing



MultiFab aims at developing cutting edge 3D printing and bioprinting technologies with a special focus on high resolution (<10µm) and multimaterials processes. The project also includes the synthesis, development of novel functional materials associated with the optimization of 3D manufacturing processes.

Technological environment and staff

- Characterisation facilities** (Cell & molecular biology, chemistry, optics...)
- Micro and Nanotechnology platform**
- Material development** (synthesis, physico-chemical characterisation, post processing...)
- Dissemination and technological training** (design, printing processes, software...)
- Interdisciplinary research environment** (physicists, biologists, chemists...)

Industrial partners:


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