

M3DLoC Project Newsletter

2022

Additive Manufacturing of 3D Microfluidic MEMS for Lab-on-a-Chip applications

M3DLoC aims at the employment of multi-material 3D printing technologies for the large-scale fabrication of microfluidic MEMS for lab-on-a-chip and sensing applications. The concept is based on the combination of multimaterial direct-ink-writing method and an extrusion-based 3D printing pilot line, in order to fabricate microstructured detection devices with the ability to perform all steps of chemical analysis in an automated fashion



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M3DLoC Open Day 2022

The **M3DLoC Open Day 2022** - Additive Manufacturing of 3D Microfluidic MEMS for Lab- on-a-Chip applications Conference, is taking place on the 24th June 2022 as a hybrid event. The in-person meeting will be held in Lavrion Technological & Cultural Park (Attica), Greece.

This will be a great opportunity to meet the M3DLoC partners and learn about activities and the results of this project, from the project partners presentations and exhibitions in person and on our EXPO page (www.m3dloc.eu/EXPO). The M3DLoC aims at the employment of multi-material 3D printing technologies for the large-scale fabrication of microfluidic MEMS for lab-on-a-chip and sensing applications. The concept is based on the combination of multimaterial direct-ink-writing method and an extrusion-based 3D printing pilot line, in order to fabricate microstructured detection devices with the ability to perform all steps of chemical analysis in an automated fashion. For more information, please visit the Workshops page at: www.m3dloc.net/workshops/

M3DLoC Relunched website

The M3DLoC Project website (www.m3dloc.eu) has been revamped with new iconographic, that has also been used for creating animations in the project video. A new leaflet has also been updated prior to the Open Day.



PARTNERS

National Technical
University of Athens -
NTUA

University of Limerick

Universidade de Aveiro

AltraTech Limited

Cambridge Nanomaterials
Technology Ltd

University of Strathclyde

RayScan Technologies
GmbH

Avanzare Innovación
Tecnológica SL

VITO

IRES

M-SOLV

Fraunhofer ILT

BioG3D

Microliquid S.L.

PolyPico Technologies Ltd

ELVESYS SAS

NTUA-AMDC - Lavrion
Technological and Cultural
Park

Joanneum Research -
Health



News Partners

Visit to the M3DLoC Pilot line by the Ambassador of Belgium in Greece

On February 15th, 2022 the Ambassador of Belgium to the Hellenic Republic, her excellency Françoise GUSTIN accompanied by her co-operators including the First Secretary of the Belgian Embassy Koenraad Stevens and Mme Geneviève WLAZEL, Conseillère Economique et Commerciale (Wallonia Export Investment Agency in Athens) visited the Lavrion Technological Cultural Park. During their visit, the delegation visited the M3DLoC Pilot Line where Assimakis Chadoumellis (LTCP Site Manager), Eleni Gkartzou, and Dimitris Fantanas (R-nano, NTUA) made a short presentation on the Pilot Line and its innovations.

M3DLoC Partner Success Story – AVANZARE

Avanzare, Spain, at the beginning of **M3DLoC** project 4 years ago, was a small SME. At the beginning of 2020 AVANZARE open a new production facility and in April 2022 a second plant to become one of the world's leading graphene and 2D materials manufacturers, and in the production of nanointermediates, inks and graphene-based composites. With these new plants, **Avanzare** has over 30.000 sqm of facilities, been the leader in the European market. In the last 4 years Avanzare has multiply by 4 the personnel and by 10 its revenues. The new inks and new composites develop by **AVANZARE** in **M3DLoC** project will be new growth opportunities for the company and its commercialization will be done during the next 2 years



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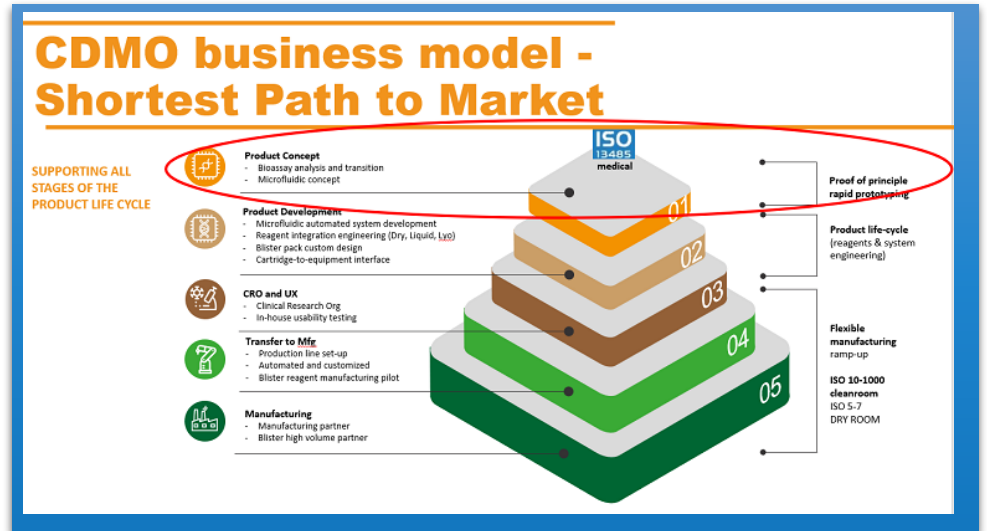
Cambridge
Nanomaterials
Technology – CNT Ltd.

Email: info@m3dloc.eu



MicroLiquid

MicroLiquid business model goes from the microfluidic concept until manufacturing.



Reagent integration capabilities à Lyophilized reagents, Blisters and microarrays

Material & Processes engineering for your application

State of the art techniques for improving functionalities, reduce cost of reagent integration and improved self-life of the devices

- Lyo beads (and other formats) in different programs
- Microarrays
- Liquid reagent

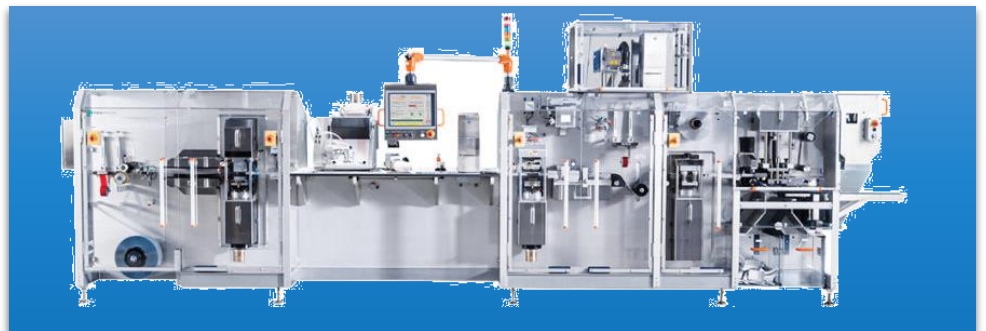


Liquid reagent packaging capabilities (for blisters)

- An off-the-shelf and easily customizable packaging option:
- Soft open & external pierce dispensing mechanisms
- 50-1000 μ L fill volumes Hundreds of compatible fluid options Seal under vacuum available
- Fully characterized performance metrics:
 - Fluid dispense profile (<2% CV)
 - Pierce & collapse force
 - Recovery efficiency
 - Shelf life & stability
 -



- Production QTY's excess of 4M per year
- Ramping to >1M per month

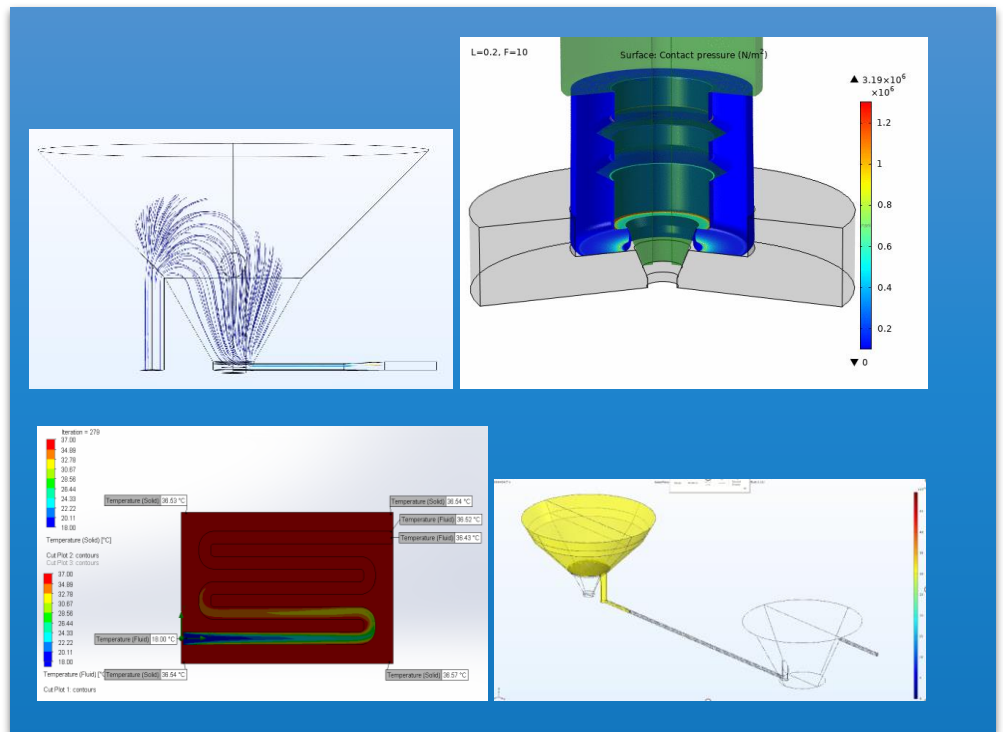


www.m3dloc.eu

The logo for m3dloc, featuring the letters 'm3dloc' in a stylized, blue, sans-serif font. The '3' is a large, bold digit. The letters are arranged in a single line, with the 'm' and 'l' being the tallest, and the '3' being the tallest of all.

Simulations

- Expertise on the use of pressure control driven flow in microfluidics
- Objective: Expertise on the quality by design



www.medlocexpo.net

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