

# INJECTION MOULDING REPURPOSING FOR MEDICAL SUPPLIES ENABLED BY ADDITIVE MANUFACTURING

## IMPURE PROJECT

The strategic goal of impURE is to repurpose non-medical plastic processing industrial lines, for the rapid production and broad distribution of Critical Medical Supplies (CMSs) in order to meet the need for vital medical supplies and equipment. ImpURE focuses on the repurposing of existing injection moulding lines through the quick manufacturing of modular moulds with interchangeable inserts.

### TECHNICAL AND ECONOMIC IMPACTS

- 48h production line repurposing
- 80–90% production costs reduction with injection moulding based on AM
- Reduction of production time by 60-70% by manufacturing tools with AM

### BUDGET

7 287€

### KEYWORDS

Insert, Injection Moulding, Repurposing, Additive Manufacturing, Critical Medical Supplies (CMS)

### RESEARCH THEMES AND EXPERTISES

Integrated product/process design  
Functionalized tooling & control

### EQUIPMENTS

Robotic Welding & WAAM cell

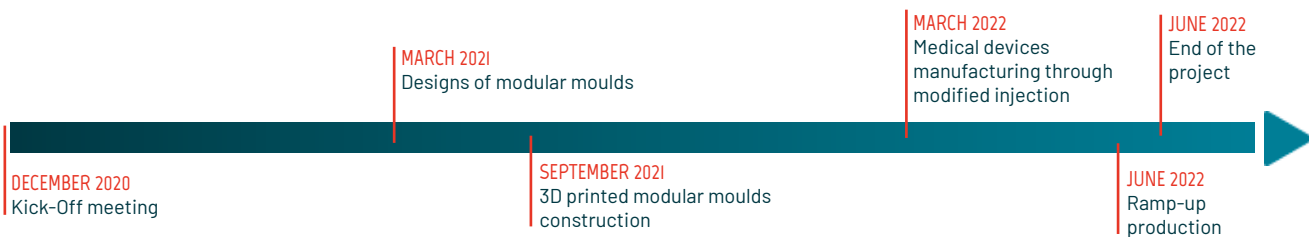
### PARTNERS

Coordinator : NTUA (EL)

Industrials : ANG SRL (IT) , BIOG3D (EL), CONIFY (EL), DBM (IT), ELVEZ (SI), IES (UK), IRES (BE), IUNGO (IT), NIT (ES), PRODUCTA (IT), PASCOE ENGINEERING (UK), SIDAM (IT), STIL COMMA (IT), WARRANT HUB (IT)

Academics : NKUA (EL), NTNU (NO), UNIVERSITY OF STRATHCLYDE (UK)

RTO : ITAINNOVA (ES), IRT JULES VERNE (FR)



## INDUSTRIAL CONTEXT

The impPure project was launched in the context of a health crisis linked to COVID-19 with the aim of making up for the shortage in the global medical supply chain by using less traditional means of procurement for Critical Medical Supplies.

## INNOVATIVE FEATURES

- To fastly re-orientate and repurpose existing injection moulding production lines for production of medical supplies.
- To fast-track modular mould development & mould repurposing enabled by Additive Manufacturing.
- To develop interchangeable inserts for swift change of production of different Critical Medical Consumables.
- To develop digital twins of the injection moulding process to speed-up process set-up, virtual testing, remote control and machine operators training.

## INDUSTRIAL APPLICATIONS

The project should allow the plastic processing industrial lines repurposing towards production of personal protective equipment and ICU medical consumables.



This project has received funding from European Union's Horizon 2020 research and innovation programme under grant agreement N° 101016262.

### JULES VERNE INSTITUTE

Chemin du Chaffault  
44 340 Bouguenais

Commercial contact  
business@irt-jules-verne.fr

Press contact  
communication@irt-jules-verne.fr

WWW.IRT-JULES-VERNE.FR

Join us on :



LE FUTUR  
DE VOS USINES