

Mineral Resin Fast Additive Manufacturing

FARAMIR project

IRT
JULES
VERNE

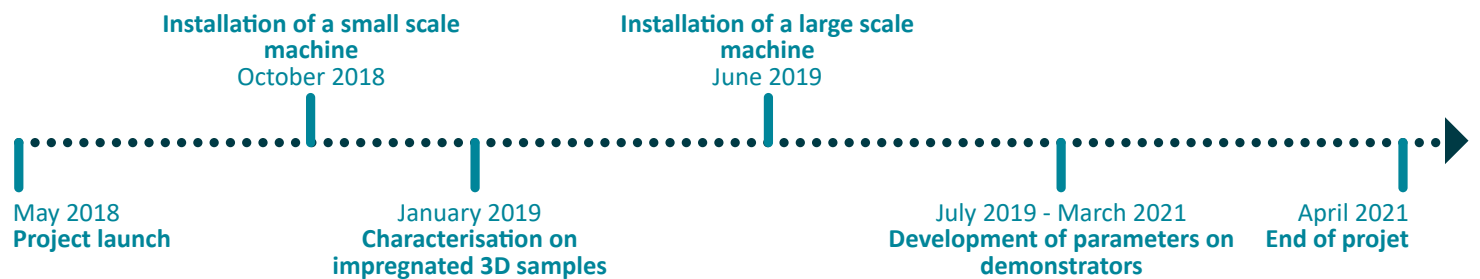
The project aims to develop an innovative 3D printing process, combined with an impregnation of polymer resin. This hybridisation of processes will allow the manufacturing of complex tooling with the same level of properties as tooling processed with conventional techniques.

Technical and economic impacts

- ▶ Low cost raw material
- ▶ Fast processing
- ▶ An estimated economic gain of 50%

Keywords

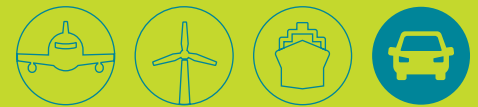
Additive manufacturing // Ceramic // High deposition rate // Impregnation



INDUSTRIAL CONTEXT

The actual tooling required to the manufacturing of composite or metal parts is mainly developed, depending on production speed, from machined and assembled boards constituted of metal and/or mineral charges and a polymeric binder. These materials are then shaped by CNC machining in order to obtain the desired functional preform.

The hybridisation of additive manufacturing and impregnation processes enables the manufacturing of parts at optimised costs with satisfactory mechanical characteristics.



INNOVATIVE FEATURES

- ▶ One-step manufacturing of complex 3D preforms
- ▶ Integration of functions in the preform in order to reduce the number of elements
- ▶ Ceramic / composite processes hybridisation

Partners

- ▶ IRT JULES VERNE
- ▶ AXIOME
- ▶ LOIRETECH

INDUSTRIAL APPLICATIONS

The project aims to directly obtain tools with the same characteristics as those developed from machined and assembled boards. We can cite for example the tooling for trimming or airbag weakening applications, designed for the automotive market.

Interest of development for mid-sized parts and complex parts.

Budget

- ▶ 1 460 K€

Equipment

- ▶ Ceramic additive manufacturing machine

Sales contact

business@irt-jules-verne.fr

Press contact

communication@irt-jules-verne.fr

www.irt-jules-verne.fr

