



Biopolymers with advanced functionalities for building and automotive parts processed through additive manufacturing

Acronimo: **BARBARA**

Call: **H2020-BBI-JTI-2016**

Responsabile UNIPG: **Prof. Luigi TORRE**

Abstract: The project aims at the valorisation of side-stream fractions and residues from agro-food production into novel polysaccharides and functional additives. These raw materials have been selected based on the advanced functionalities that provides to the polymeric matrixes. The extracted polysaccharides will be compatibilised with polyesters and polyamides and reinforced with extracted, modified and functionalised additives to obtain engineering bioplastic formulations adapted to current Fused Filament Fabrication (FFF) processes. The target of BARBARA project is the development of novel bio-based engineering bioplastic materials to validate in functional prototypes with advanced properties for building and automotive sectors.

The main functionalities developed under the BARBARA approach will permit the improvement of mechanical, thermal, aesthetical and well-being properties of novel biobased engineering polymers. Selected demonstrators of direct final parts for the automotive sector and moulds and tools for hybrid manufacturing for advanced building applications. Innovations in FFF will be validated during the project in order to enhance the performance of BARBARA biobased materials through this technology and fulfil the high-requirements of the industrial sectors. BARBARA project will directly contribute to achieve SIRA 's objective in KPI 5 (4 new advanced biobased materials) and KPI 6 (3 validated consumer products through 2 novel value chains for FFF).

The BARBARA consortium involves 11 partners (5 RTD, 3 SME and 3 Large Companies) accounting to 1 BIC full member, 1 in process of engaged and 3 associated, in 36-months project with a budget of 2,770,750€.