MATERIALS SCIENCE AND TECHNOLOGY

Additive manufacturing processes for copper alloys

Funded By	Politecnico di TORINO [P.iva/CF:00518460019]
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Context of the research activity	Additive Manufacturing (AM) technologies are, for metals, a key driver that is now opening up new design and manufacturing opportunities, especially for the aerospace industry. The research project is focus on copper and its alloys to obtain the best thermo-mechanical and/or functional properties for use in extreme environmental conditions.
Objectives	The main objective of this doctoral activity is the optimisation of the additive manufacturing process of copper and its alloys. One of the most important objectives of this doctoral activity is the development of a holistic approach that includes: i) the design and engineering of materials to obtain components with advanced thermo-mechanical and functional properties; ii) the study of the correlation between microstructure, process and properties to optimise component performance; iii) the optimisation of heat treatment processes in order to assess their effect on component properties.
Skills and competencies for the development of the activity	The candidate should have expertise in materials science, and possibly in the field of additive manufacturing technologies for metallic materials. The candidate should be a motivated person, keen on working in team.