



VitriMetTech

Project ID: 607080

Funded under: [FP7-PEOPLE](#)

Vitrified Metals Technologies and Applications in Devices and Chemistry

From 2013-10-01 **to** 2017-09-30, ongoing project

Project details

Total cost:	Topic(s):
EUR 3 465 780,12	FP7-PEOPLE-2013-ITN - Marie-Curie Action: "Initial Training Networks"
EU contribution:	Call for proposal:
EUR 3 465 780,12	FP7-PEOPLE-2013-ITN See other projects for this call
Coordinated in:	Funding scheme:
Italy	MC-ITN - Networks for Initial Training (ITN)

Objective

VitriMetTech aims at educating a group of young researchers to implement methods for cutting edge research on new metallic glasses (e.g. Fe, Mg, Al, Ti-based), also in bulk form, and their amorphous/crystalline composites, for functional, bio-mechanical, chemical and structural micro-part applications. Transfer of results to industrial companies will boost innovation in a part of the Metal sector of the European manufacturing industry.

This interdisciplinary proposal by ten of the best European academic research teams with six private sector companies will both improve the availability of materials and technologies in fields where metallic glasses are already in the production line (e.g. magnetic devices), and open up new fields of application in chemistry (e.g. in catalysis and spectroscopy) and electrical and electronic engineering (e.g. motor components and MEMS).

VitriMetTech comprises five Research Projects which are designed to achieve the following objectives:

- 1) Soft magnets with low or zero-magnetostriction for use in inductors and toroid-shaped or flat transformers.
- 2) Highly magnetostrictive alloys to exploit magneto-mechanical coupling for energy harvesting and cantilever devices.
- 3) Bio-corrodable Mg-based bulk vitrified metals for implants free of toxic elements and with low elastic modulus.
- 4) Nano-porous metals made from metallic glass precursors for electro- and heterogeneous catalysis, enhanced Raman spectroscopy, flexible electrodes and actuators.
- 5) Improving the mechanical properties of vitrified metals for the above applications: suppression of shear banding and attain ductility as a function of sample size, composition, and temperature.

The training programme overcomes barriers among traditional disciplines providing top level tuition to 16 fellows (10 ESRs and 6 ERs) on topics spanning from laboratory work for the synthesis and property characterization, to processing and device fabrication, and on a full set of complementary skills.

Related information

Report Summaries	Periodic Report Summary 1 - VITRIMETTECH (Vitrified Metals Technologies and Applications in Devices and Chemistry)
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Subjects

[Life Sciences](#)

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