(e) Key enabling technologies for societal challenges -

Year	Topic Title	Instrument	TRL	Comments
2016	Biomaterials for treatment and prevention of multiple sclerosis The aim of this topic is to develop innovative approaches for biomaterials for health that are easily transferable from industry to the clinic and based on new methodologies directed to the improvement of the treatment and prognosis of multiple sclerosis, where regrowth and regeneration of affected areas of the nervous system is the key to successful therapy.	RIA	4-6	Source: Biomaterials roadmap
	Nanoformulation of biologicals This topic focuses on the formulation of nanocarriers containing biomolecules. Many biomolecules (e.g. proteins, peptides, nucleic acid have demonstrated interesting activities in vitro. However, in pre-clinical in vivo development, they show disappointing loss of efficacy and/or unacceptable toxicity. For example, the biomolecule may be processed by the immune system or enzymes of the host before reaching its targeted tissue. Nanotechnology represents a promising opportunity to overcome these drawbacks.	RIA	4-6	Source: NanoMedicine white paper & roadmap
2017	Reference methods for managing the risk of engineered Biomaterials This topic focuses on the comparison and validation of current (and/or development of new) test methods and test schemes, including in vitro and in silico methods, to detect adverse effects from biomaterials to human health and the environment. Projects are expected to initiate and support standardisation of the proposed biomaterials and methods, including methods that will reflect their eventual deployment as part of Advanced Therapy Medicinal Products or Medical Devices.	RIA	4-6	Source: Biomaterials roadmap
	Upscaling of the production of nanopharmaceuticals This topic would be a repeat of the 2014 upscaling topic. Our objective was to establish an ecosystem of GMP facilities for nanopharmaceuticals industry in Europe. Three projects is a good start but it is not an ecosystem yet. Many good initiatives exist out there and the new ENATRANS CSA resulting from the 2014 call, which supports the identification of new nanopharmaceuticals is going to create new needs for the manufacturing of these pharmaceuticals.	RIA	4-6	Source: NanoMedicine white paper & roadmap: SME supportive
	Nanotechnologies for imaging cellular transplants and regenerative processes in vivo Detection and monitoring of cell transplants in vivo is of utmost importance for development of clinical cell therapy. Suitable nanotechnology-based imaging approaches with high sensitivity should allow for monitoring of cell viability, engraftment and distribution. Appropriate imaging techniques have been developed for application in small animals, but are not available yet for use in preclinical large animal models and patients.	RIA	4-6	Source: NanoMedicine white paper & roadmap
	Mobilising the European nano-biomedical ecosystem This Coordination Action would be supporting the development of an ecosystem for Nanomedicine in Europe, including activities such as coordinating national platforms and regional clusters; developing common training material and services; international cooperation related to community building, road-mapping, and tackle issues such as regulation, reimbursement and pricing and standardization.	CSA		Source: NanoMedicine white paper & roadmap; SME supportive

	ERA-NET on Nanomedicine (Call 2017) This proposed COFUND action would be continuing the activities started by EuroNanoMed	Eranet		Source: NanoMedicine white paper & roadmap; Eranet COFUND