Nanosciences and Nanotechnologies	
Maximising the contribution of Nanotechnology on sustainable development	• Exploration, optimisation and control of nano-catalytic processes for energy applications • Self-assembly and biomimetics of lignocellulosic systems
Nanotechnology for benefiting environment, energy and health	• Nanotechnology-based sensors for environmental monitoring and other mass market applications • Nanotherapeutics to treat bacterial infectious diseases
Ensuring the safety of Nanotechnology	• Safety in nanoscale design and processing • Nanomaterials safety assessment data curation: Ontology, databases for modelling and RA • Development of a systematic framework for naming, handling and assessing safety of hybrid nano-molecular systems being developed for renewable energy and other industrial applications
Cross-cutting and enabling R&D	• Multi-scale modelling for nanomaterials and systems by design • In-situ synthesis of nanomaterials • Metrology research for the development and validation of design rules for engineering of nanostructured and nano-enabled materials and devices • Deployment of societally beneficial nanotechnology in ICP countries • Support for cluster activities of projects in the main nanotechnology application fields • Supporting skilling and career development to meet the needs of EU industry and society for responsible nanotechnologists

Materials	
Health	• Novel biomaterials for advanced therapies for a specific disease process • Biomaterials: Imaging and rapid micro/nano prototyping technology for custom made scaffolds – with China (NSFC)
Energy	• Wide bandgap semiconductor materials and structures for power electronics in energy applications (wind energy, photovoltaics, grid) • Materials solutions for durable energy-scavengers (for low-power applications, e.g. autonomous nano/microdevices, medical implants, smartcards)
Environment and strategic supply	• Replacement of critical materials (e.g. rare earths, platinum group elements) - with Japan • New functional (e.g. anti-bio-fouling and/or self-healing) materials for advanced underwater maritime applications (within the 'Oceans of tomorrow' initiative)
Opening new business areas or production routes	• New bio-bases for materials in chemical value chains
Interdisciplinary, enabling & multiuse	• Developing new, economically and ecologically advantageous, precursors and processing routes for carbon fibres
Integration	• From research to innovation: substantial steps forward in the industrial use of European intellectual assets (stimulating the use of newly developed materials and materials technologies by the industry).
Structuring ERA and other CSA	• Benchmarking and best practices of LCA assessment with focus on the ecological implications of materials • Advanced materials - our allies for a sustainable future

Public Private Partnerships	
Energy-efficient Buildings (EeB) PPP – Cross thematic Call NMP, ICT, Energy, Environment:	• Nanotechnology for light-weight, fire-resistant construction materials and components • Safe, energy efficient and affordable eco-innovative materials for building envelopes/partitions to provide a healthier indoor environment • Integration of most promising materials and technologies • New testing methods and methodologies leading to pre-standardisation activities along the value chain (from design until commissioning) in energy efficient integrated building applications • Development of energy efficient solutions for district heating and integration with decentralised thermal energy generation at district level • High efficiency retrofitting of buildings residential, commercial, changes of use
Factories of the Future PPP (FoF) – Cross thematic Call NMP & ICT	• Improved use of renewable resources at factory level • Innovative re-use of equipment and integrated factory lay-out design • Workplaces of the future: the new human-centred production site (IMS priority) • Innovative methodologies addressing social sustainability in manufacturing • Innovative collaborative design environments for product-services and enhanced, interoperable models for related processes • Mini-factories for customised products using local flexible production • New hybrid production systems in advanced factory environments based on self-learning human-robot interactive cooperation • Manufacturing strategies for renovation and repair • Innovative business models for product-services and their manufacturing in globalised markets (IMS) • Manufacturing of using engineered metallic and composite materials • Manufacturing of highly miniaturised components

New Production Technologies	
New Production	• Tools for Monitoring and Assessing Resource-efficiency in the Value Chain of Process Industries • Processing and Control Systems for Sustainable Production in Farms and Forests • Embedded Knowledge in Intelligent Products (IMS Joint Call with Korea)
Integration	• Safe Life Extension Management of Aged Infrastructures and Industrial Plants
Raw materials	• Breakthrough Solutions for Mineral Extraction and Processing in Extreme Environments • European Intelligence Network on Critical Raw Materials