Preliminary list of candidates for European Partnerships in Pillar II, III and cross-pillar, and short description of what the partnership stands and aims for		Currently envisaged implementation mode(s)	Predecessors	Composition of partners	Relevance for clusters/ pillars
Health	**1. EU-Africa Global Health Partnership** Increase health security in sub-Saharan Africa and Europe, by accelerating the clinical development of effective, safe, accessible, suitable and affordable health technologies as well as health systems interventions for infectious diseases in partnership with Africa and international funders.	Article 185 or Article 187 or Co-programmed or co-funded	EDCTP2 (Art.185)	MS/AC and 3rd countries (i.e. sub-Saharan African countries) Foundations/industry on an ad-hoc basis	Cl.1
	2. Innovative Health Initiative A collaborative platform bringing the pharmaceuticals, diagnostics, medical devices, imaging and digital sectors together for precompetitive R&I in areas of unmet public health need, to accelerate the development and uptake of people-centred health care innovations.	Article 187 or Co-programmed	IMI2 (Art.187)	Industry, other organisations on an ad hoc basis	Cl.1
	3. European partnership for chemicals risk assessment Bring together the European risk assessment and regulatory agencies to implement a joint research agenda, to ensure their capacity to deal with persistent or emerging challenges. It will promote the uptake of new methods, tools, technologies and information in chemical hazard identification and risk assessment and as part of this, sustain the development and use of human biomonitoring capacities in Europe.	Co-funded	Human Bio-monitoring and a number of other actions	MS/AC, National agencies, tbd the role of the corresponding EU agencies	Cl.1, 4, 6
	4. Pre-clinical/clinical health research The partnerships aims for establishing and implementing a strategic research agenda and joint funding strategy between major European public funders in health research.	Co-funded	Around 10 previous and current ERA-NET actions	MS / AC / 3rd countries	Cl.1, 6
	5. Large-scale innovation and transformation of health systems in a digital and ageing society Improving health and care models in an ageing, data-driven and digital society, shifting to holistic health promotion and person-centred care approaches through health policy and health systems research.	Co-funded	AAL2 (Art.185), JPI 'More Years, Better Lives' and others	MS / AC Civil Society organisations	Cl.1
	6. Personalised Medicine To align national research strategies, promote excellence, reinforce the competitiveness of European players in Personalised Medicine and enhance the European collaboration with non-EU countries	Co-funded	ERA-PerMed and actions in support of ICPerMed	MS / AC	Cl.1
	7. Rare Diseases To improve the integration, the effectiveness, the production and the social impact of research on rare diseases through the development, demonstration and promotion of Europe/ world-wide production, sharing and exploitation of research and clinical data, materials, processes, knowledge and know-hows.	Co-funded	EJP Rare diseases (until 2023)	MS/AC /3rd countries, civil society organisations, EU research infrastructures	Cl.1

Digital, Industry and Space	**8. High Performance Computing** The EuroHPC Joint Undertaking has as its mission to establish an integrated world-class supercomputing & data infrastructure and support a highly competitive and innovative HPC and Big Data ecosystem.	Article 187 or Co-programmed	EuroHPC (Article 187)	Industry and MS/AC	Cl.4
	9.Key Digital Technologies Maintain the European Electronics Components and Systems industry at the technological forefront and contribute to boosting the EU's competitiveness, including that of its industries by providing essential components and software as well as the related manufacturing infrastructure in Europe and national strategies.	Article 187 or Co-programmed	ECSEL (Article 187), part of Photonics cPPP	Industry and MS/AC (research funders)	Cl.1,2,4,5
	10. Smart Networks and Services Enabling the infrastructure basis in terms of key technologies and deployment for Next-Generation Internet services used by citizens and for "smart" services required by vertical sectors such as transport, energy, manufacturing, health and media.	Article 187 or Co-programmed	cPPP 5G	Industry and academia in the field of connectivity	Cl.1,4,5
	11. AI, data and robotics The partnership on AI will help structuring the European AI community, develop a strategic research agenda and federate efforts around a topic that holds great potential to benefit our society and economy	Co-programmed	cPPPs on Big Data and robotics	Industry, academia, end-users, and civil society	Cl.3
	12. Photonics Europe Photonics is one of the key drivers for tomorrow´s digital markets and the development of the digital European society as a whole. Photons will replace electrons in many of our most important technologies and digital products.	Co-programmed	cPPP Photonics21	Industry	Cl.1,2,4,5,6
	13. Clean Steel - Low Carbon Steelmaking The partnership on clean steel will provide a EU critical mass to ensure and in particular to upscale breakthrough technology, facilitate joint vision development, agenda setting and synergies of EU different funds. It will also contribute to the evolution to a programming approach in R&I in the energy intensive industry.	Co-programmed	Fuel cell and Hydrogen (Article 187) cPPP Spire	Industry	Cl.4, 5
	14. European Metrology Accelerating the global lead in metrology research that Europe currently holds, and creating sustainable metrology networks for highly competitive and emerging metrology areas, while incorporating a wide range of stakeholders.	Article 185 or co-funded	EMPIR (Article 185)	MS/AC (National Metrology Institutes)	Cl.1,2,4,5,6
	15. Made in Europe Towards a competitive discrete manufacturing industry with a world-leading reduction of the environmental footprint whilst guaranteeing the highest level of well-being for workers, consumers and society.	Co-programmed	cPPPs Factories of the Future, part of Robotics and Photonics	Industry	Cl.1,5,6

Digital, Industry and Space	**16. Carbon Neutral and Circular Industry** Transforming European process industries to make them carbon neutral by 2050, to turn them into circular industries together with material and recycling industries, and to enhance their technological leadership at global level and international competitiveness.	Co-programmed	cPPP SPIRE	Industry CSO/NGOs	Cl.4,5, 6
	17. Global competitive space systems Perform fast and structured advances on selected innovative critical space systems R&I roadmaps such as for example reusability, in orbit demonstration, assembly and manufacturing, so as to acquire global industrial leadership	Co-programmed	n.a.	Industry MS/AC	Cl.4
Climate, energy and mobility	**18. Transforming Europe's rail system** Define, design and implement the full spectrum of rail research and innovation activities – from fundamental research to large-scale demos – to trigger a major transformation of the railway system as the backbone of an integrated and sustainable mobility in Europe, maximising socio-economic benefits	Article 187 or Co-programmed	Shift to Rail (Article 187)	Industry, Railway Operators and Infrastructure Managers	Cl.5
	19. Integrated Air Traffic Management Enhance the performance of the Union's air traffic management system as technological pillar of the Single European Sky (SES) and more broadly of the air transport sector as a whole.	Article 187 or Co-programmed	SESAR (Article 187)	Industry, Eurocontrol	Cl.4, 5
	20. Clean Aviation To accelerate and amplify the impact of the European aviation research and innovation on Energy Union, Mobility Package, renewed industrial policy strategy and EU GHG and air pollution emissions, including for the 2050 horizon and noise regulations, tackling energy and climate-change challenges, European industry competiveness, "first mover advantage" on international markets, as well as a sustainable mobility for society.	Article 187 or Co-programmed	Clean Sky 2 (Article 187)	Industry	Cl.4, 5
	21. Clean Hydrogen Accelerating the market entry of nearly-zero GHG-emission hydrogen-based technologies across energy, transport & industrial end-users, covering the full value chain for competitive hydrogen and fuel cells technologies, ensuring pole position for Europe to realise the potential of hydrogen technologies at scale.	Article 187 or Co-programmed	Fuel Cell and Hydrogen (Article 187)	Industry	Cl.4, 5
	22. Built environment and construction Generate the necessary technology and socio-economic breakthroughs for an improved built environment to support the achievement of EU 2050 decarbonisation goals and the transition to clean energy and circular economy, while improving quality of living, health and wellbeing for people, ensuring a high degree of mobility and creating competitive ecosystems for business.	Co-programmed	Energy-efficient Buildings cPPP	Industry	Cl.4, 5
	23. Towards zero-emission road transport (2ZERO) Accelerating the transformation of the road transport system into zero-emission mobility through a world-class European R&I and industrial system, with a competitive new generation of light weight, energy efficient and affordable road transport vehicles and support measures to facilitate their rapid deployment	Co-programmed	European Green vehicle initiative (cPPP)	Industry	Cl.4, 5

Climate, energy and mobility	**24. Mobility and Safety for Automated Road Transport** Long-term framework to the strategic planning of research and pre-deployment programmes for connected and automated driving on roads at EU and national levels in a systemic approach (vehicle, interactions, infrastructure, technical and non-technical enablers and societal impact)	Article 187 or Co-programmed	n.a. related: 5G, Big Data, ECSEL, S2R, SESAR, batteries, 2ZERO	Industry	Cl.4, 5
	25. Batteries: Towards a competitive European industrial battery value chain Development of a world-class European R&I system on batteries, with a view towards European industrial leadership. It will bring together all Horizon Europe activities to develop a coherent strategic programme, in cooperation with industrial players and research community, making a substantial contribution to fulfilling the Paris Agreement, and enhance the competitiveness of current and emerging European industries along the battery value chain.	Co-programmed	n.a.	Industry	Cl.4, 5
	26. Clean Energy Transition Respond to the call for decarbonisation in medium- and long-term in a holistic way, synthesizing all fragmented actions to allow for greater integration of relevant research & innovation areas and provide greater impact.	Co-funded	Around 10 existing ERA-NET Cofund actions	MS/AC (RFOs and RPOs)	Cl.5
Food, Bioeconomy, Natural Resources, Agriculture and Environment	**27. Accelerating farming systems transition: agro-ecology living labs and research infrastructures** The partnership will enable to grasp short to long-term agroecological processes at landscape level and accelerate the transition towards sustainable climate and environment-friendly farming practices by boosting place-based innovation in a co-creative environment accelerating the adoption of innovation by farmers and other actors.	Co-funded	n.a.	MS/AC (RFOs/regional authorities)	Cl.1,5,6
	28. Animal health: Fighting infectious diseases The partnership aims to bring sustainable and innovative solutions to tackle infectious animal diseases, including those transmitted between animals and humans (zoonoses) and to contribute to the fight against anti-microbial resistance, implementing the One Health concept. It will support sustainable animal production, reduce trade barriers, and protect consumers.	Co-programmed, Co-funded	A small number of current ERA-NETs	Either MS/AC or Industry, and regulatory agencies	Cl.1,6
	29. Environmental Observations for a sustainable EU agriculture The objective of the initiative is to support the delivery of a sustainable CAP. This will be done through the improvement of agricultural practices and farm profitability, by using the possibilities the current digital/data technics in the field of EO offer. In line with the digitalisation of the EU's farming sector, new services and applications will be developed enabling more efficient, environmentally friendly and profitable production systems.	Co-funded	EuroGEOSS	MS/AC (research funders, national/regional authorities)	Cl.4,6

Food, Bioeconomy, Natural Resources, Agriculture and Environment	**30. Rescuing biodiversity to safeguard life on Earth** Halting biodiversity loss, maintaining and restoring natural capital is essential for the transition towards sustainability, climate neutrality and for respecting the planetary boundaries. The partnership aims to deploy solutions to stop the ongoing mass extinction of species caused by human activity by upscaling, aligning and integrating European R&I efforts and investment, guiding actions to protect, restore and sustainably manage ecosystems and natural capital.	Co-funded	ERA-NET Biodiversity, EKLIPSE, ESMERALDA	MS/AC (RFOs, national/regional authorities)	Cl.1,2,5,6
	31. A climate neutral, sustainable and productive Blue Economy The objective is to sustainably unlock, demonstrate and harvest the full potential of Europe's Oceans and Seas through a well-structured, sustained and simplified joint effort in this borderless domain with the aim to support the transition to a strong, climate neutral and sustainable blue economy by 2050.	Co-programmed or Co-funded	BONUS, MARTERA, JPI Oceans, ERA_NET Cofund BlueBio	MS/AC (research funders, national/regional authorities), EU Agencies	Cl.1,2,4,5,6
	32. Safe and Sustainable Food System for People, Planet & Climate Fixing our food system is central to the transition to a 'Sustainable Europe by 2030', and key to meeting the IPCC climate targets and operating within key planetary boundaries. This partnership will deploy FOOD 2030 and deliver the Food Safety System of the future, ensuring consumer trust, safety, quality and traceability; (and) Sustainable Food Systems, providing alternative proteins sources, dietary shifts, the halving of food waste, and exploit the potential of microbiomes for sustainable and healthy food systems.	Co-programmed or Co-funded	FACCE Surplus, ICT Agri2, Core-Organic, ERA GAS, SUSAN, ERA HDL, SusFood2	MS/AC (research funders, national/regional authorities), EU Agencies	Cl.6
	33. Circular bio-based Europe: sustainable innovation for new local value from waste and biomass (Sustainable, inclusive and circular bio-based solutions) The goal is to drive sustainable and climate-neutral solutions accelerating the transition to a healthy planet, where renewable products and nutrients will be produced from biomass and waste instead of non-renewable fossil and mineral resources. The partnership will create awareness, capacities and appropriate structures in a systemic approach extending beyond industry partners, also mobilising producers of biological resources and end users.	Art.187 or Co-programmed	BBI JU	MS/AC (research funders, national/regional authorities)	Cl.4,5,6
	34. Water4All: Water security for the planet The partnership aims at securing all water demands in terms of quality and quantity, and that both economic and natural systems, as well as people are protected from water-related hazards. This is essential to support the transition to a healthy planet and to ensure a resilient Energy Union, EU climate neutral policy and respect of planetary boundaries.	Co-programmed or Co-funded	Water JPI	MS/AC (research funders, national/regional authorities)	Cl.1,2,4,5,6

Partnership candidates: Other Pillars	**35. Innovative SMEs** The initiative aims to provide financial support to transnational market-oriented research projects initiated and driven by innovative SMEs. Innovative SMEs shall take the lead and should be able to exploit commercially the project results, thus improving their competitive position. Research organisations, universities, other SMEs, large companies and others actors of the innovation chain can also participate in Eurostars projects.	Art.185 or co-funded	Eurostars-2	MS/AC (SMEs)	Pillar III
	36. European Science Cloud (EOSC) The EOSC 2.0 partnership is aimed at facilitating the EOSC implementation activities in its second phase. After 2020 the EOSC will become more stakeholder-driven, with a permanent governance structure in place, and would benefit from a co-programmed financing mechanism.	Co-programmed or co-funded	n.a	MS/AC, Academia	Cross-Pillar
	37. EIT Climate-KIC EIT Climate-KIC is a network of universities, businesses and research organisations delivering solutions mitigate or adapt to climate change and accelerate the deployment of new solutions to market.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.5
	38. EIT InnoEnergy It aims at building a sustainable, long-lasting operational framework among the knowledge triangle actors in the energy sector, with the goal of fostering the generation of new talents, the emergence and deployment of new innovative solutions and the creation and development of companies.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.5
	39. EIT Digital EIT Digital's mission is to drive digital innovation and develop entrepreneurial talent in order to enhance both economic growth and quality of life across Europe.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.4
	40. EIT Health EIT Health is a network of universities, businesses and research organisations delivering solutions to enable European citizens to live longer, healthier lives by promoting innovation.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.1
	41. EIT Food EIT Food is a network of universities, businesses and research organisations delivering solutions to develop a highly skilled food sector. EIT Food collaborates with consumers to provide products, services and new technologies, which deliver a healthier lifestyle for all European citizens.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.5
	42. EIT Manufacturing EIT Manufacturing will be a network of universities, businesses and research organisations delivering solutions to transform today's industrial forms of production towards more knowledge intensive, sustainable, low-emission, trans-sectoral manufacturing and processing technologies, to realise innovative products, processes and services.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.4

Partnership candidates: Other Pillars	**43. EIT Raw materials** EIT RawMaterials is a network of universities, businesses and research organisations delivering solutions to boost competitiveness, growth and attractiveness of the European raw materials sector via radical innovation, new educational approaches and guided entrepreneurship.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.4
	44. EIT Urban Mobility EIT Urban Mobility will be a network of universities, businesses and research organisations delivering solutions to develop a greener, more inclusive, safer and smarter urban transport system.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.5