ANNEX IV - TASK 1.1._D2_Best Practices of Cutting-Edge Open Innovation-Based Quadruple Helix Co-Creation Mechanisms

Number	Country / Region	Name of institution or Project that facilitated the co-creation	Subject of the course	Website	Innovative elements or success factors (if any)
1	UK, Greece, Italy, Poland	TranERGY project	Energy efficient operations	https://www.tranergy-project.eu	Full course embedment in universities, quadruple helix participatory co-creation; piloting sessions
2	Turkey, Greece, Italy Portugal, Belgium	iSTART	Virtual Environment Platform for Entrepreneurship education	https://istart.yasar.edu.tr/	Co-creation of an entrepreneurship curriculum for face-to-face academies and a Virtual Leraning Environment platform for supporting entrepreneurial education
3	Ireland, Netherlands, Germany, Lithuania, Romania, Hungary, Portugal, Spain, Greece	EMBRACE project	Corporate Social Entrepreneurship	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/612464-EPP-1-2019-1-IE-EPPKA2-KA	Establish a favourable climate for all quadruple helix actors to be actively informed of the need for Corporate Social Entrepreneurship; Co-design, co-create, co-develop and co-implement an innovative, multidisciplinary European Corporate Social Entrepreneurship Curriculum (ECSEC) to be incorporated into HEI education programmes across all disciplines.
4	Portugal, Spain, I	R&I Loop	Civic Universities	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2020-1-PT01-KA203-078366	1) develop, test and mainstream a systemic and holistic approach that enhances the education, research and innovation links of HEIs; 2) build, test and scale-up of capacitation actions for HEIs' teachers, researchers and staff to be better equipped to respond to social challenges and needs; 3) design, test and mainstream of supporting tools that allow HEIs' to adopt a systemic holistic approach and improve their educational offer; 4) promote and enhance civic and social responsibility across relevant actors of the quadruple helix nodes.
5	Montenegro, Bosnia and Herzegovina, Slovenia	Youth 4 Open Innovation	Entrepreneurship, ICT and innovation to increase open innovation	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/618421-EPP-1-2020-1-ME-EPPKA2-CBY-WB	creation of one curriculum program for open innovation; 4 training programs for empowering open innovation skills of youth dealing with: technical, media literacy, interactive and research skills; 3 pilot open innovation projects developed on Hackathon (or similar) activity in Mostar and Bar; increased awareness of population, business and public sector on open innovation.
6	Romania, Greece, Austria, Germany	TraCCE	Creative and cultural entrepreneurship	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2020-1-RO01-KA203-079950	a higher education CCE Curriculum and a CCE Train the Trainers Toolkit that will be offered to academia & the CCE community (open access) through a virtual learning environment and piloted through two international workshops.
7	Germany, Greece, Italy, Cambodia, Thailand, Vietnam	SWAP project	Waste management	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/618723-EPP-1-2020-1-DE-EPPKA2-CBHE-JP	Establishing Training Hubs for sustainable solid waste management, health and environmental risks related to improper waste treatment, and business operation
8	Netherlands, Slovakia, Bulgaria, Greece, Finland	INVEST project	establish a European university alliance	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/101004073	Establishing the Living Lab's as innovative platforms for the quadruple helix (research, education, companies/NGOs and GOs) collaboration with the stakeholders from the regions, together with innovative solutions, such as Virtual Campus or the EDUC8EU integrated platform, the INVEST alliance will create perfect conditions to build a modern European University, satisfying needs and requirements of the new generation of Europeans as the leaders of introducing sustainable life in regions across the Europe, responding current global challenges determined within the UN Sustainable Development Goals.
9	Albania, Germany	USIA project	strengthening institutional and human resources capacities in HEIs in Albania	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/618997-EPP-1-2020-1-AL-EPPKA2-CBHE-JP	The project will establish and expand a Quadruple Helix network and online platform which will offer networking, matchmaking, brokerage, dissemination, competences development, support and valorisation for academic and non-academic actors.

	Countries	Project	Topic	Link	Description
10	Belgium, France, Croatia, Spain, Italy, Norway	Stride for Stride project	building up the concept of Regional Skills Ecosystems	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2020-1-FR01-KA202-080311	1. Tackling skills intelligence and forecasting at regional level to build regional skills ecosystems, and 2. involving all relevant actors featured in the quadruple helix interaction system to help building powerful skills intelligence tools, not only as external "validators" of the process, but as an intrinsic part of it.
11	Greece, Poland, Romania, Bulgaria	ATSIV project	increase the professional competences of NGOs workers	http://ngotraining.eu/	Development of a virtual learning environment (VLE) to enable continuous quadruple helix co-creation of the game based curriculum and best practices (also ensuring multi-stakeholder validation of the resources)
12	Bulgaria, Romania, Spain, Netherlands	Smart technologies by desig	design thinking and disruptive innovation processes to develop smart city solutions	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2019-1-BG01-KA202-062298	Training program for smart disruptive innovation; Training toolkit for managers and owners of smart businesses; Digital platform for smart innovations
13	Germany, Poland, Austria, Slovenia, Hungary, Italy	NetHIIP project	smart specialization	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2019-1-HU01-KA203-061181	develop a transnational and digital incubation process that allows innovation to emerge by a bottom up process at HEIs in interaction with RIS3 actors.
14	Belgium, Finalnd, Spain, Portugal	NICCoLLa project	implementation of technology and ICT in the care and wellbeing sector	http://www.niccolla.eu	Based on a quadruple helix approach and by involving relevant external stakeholders and target groups directly in the project activities, this transnational project will foster transnational, transdisciplinary co-creative learning and development, built around innovative learning methodologies such as hackathons, blended learning, and patient/client journeys.
15	Poland, Greece,	NEXTLOG project	Digital, intelligent and sustainable logistics (DISL)	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2019-1-PL01-KA203-065731	co-create DISL curriculum and pilot it through an open innovation and co-creation virtual learning environment (VLE)
16	Germany, Swede	IncluSTEM project	STEM	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2020-1-SE01-KA203-077917	Developing an "Onboarding Handbook"; Implementing STEM study-specific language courses in English, German, Spanish and Swedish online and offline; Create structure, content and teaching methods for "Training for employability"; Developing an action plan to set up job-matching schemes
17	Greece, United Kingdom, Italy, Spain, Romania, Bulgaria	Διάλογος project	fighting disinformation and false beliefs	https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2019-1-EL01-KA203-062969	make the difference between the current, widespread, superficial, a-critical thinking about big and little issues, and a deeper, more complex and productive style of reasoning, able to generate new ideas, resolving conflicts, enriching the involved perspectives and deliver innovation for the benefit of the whole community through the adoption of the Open Innovation paradigm and the Quadruple Helix model
18	Belgium, Netherlands, Finland, South Africa	CASO project	improving health outcomes and performance of health systems	http://www.caringsociety.eu/	(1) placing health(care) learners in community clinical settings; (2) teaching more basic healthy lifestyle and enhanced physical activity education and (3) involving local communities in health(care) education and focus on strengthening the competence level and professional position of the health(care) professional
19	Germany, Egypt, Spain, Italy, Greece	SureMap project	Sustainable Resources Management	https://suremap.e	develop an interdisciplinary study program, offering MSc and advanced diplomas in Sustainable Resources Management
20	Netherlands, United Kingdom, Spain, Turkey, Finland, Lithuania	SESAME project	social enterprises	http://sesameproj	a manual, a training on social enterprise, online toolkit, a European platform, local one-stop shops, and a mentor methodology.
21	United Kingdom, Spain, Belgium, Denmark, Norway	ALTAS project	assistive living technology (ALT) training courses for health and social care staff	http://www.altas.t	(1) develop a recognised standard, curriculum, course and qualification that will give professionals an incentive to add to their knowledge and skills; (2) stimulate demand for and increase the uptake of innovation through stakeholder engagement and co-creation of course development; (3) provide the opportunity to continuously update the curricula and standards by linking the professionals to a strong knowledge cluster.

22	Italy, Spain, Swec	Smart Jump project	Creative and cultural entrepreneurship	http://www.smartj	development of the Quadruple Helix model that aimed at developing female entrepreneurship
23	USA	U.S. Green Building Council	Green Building Design and Construction Curriculum Toolkit (LEED)	https://www.usgbc.org/resources/green-building-design-and-construction-curriculum-toolkit	Resources and activities to prepare higher education students for 21st century careers in green building and sustainability industries
				https://www.usgbc.org/resources/selected-courses-education-usgbc-subscription-support-higher-education-curriculum	Selected courses in Education @USGBC Subscription to support Higher Education Curriculum
24	West Lafayette, Indiana, USA	ASEE/Purdue University	Integrating Sustainability into Construction Education - Strategic Paper	https://peer.asee.org/integrating-sustainability-into-construction-education.pdf	The faculty is already heavily involved in the change process: identifying faculty strengths, analyzing current curriculum, and establishing learning objectives and outcomes. Analysis of the existing curriculum and pedagogy identifies existing SDE and opportunities for vertical and horizontal integration. Active learning through PBL is the best application for learning SD within construction education courses. Learning from other institutions' challenges and successes is crucial to a seamless integration. Most notably, support of faculty in order to counteract resistance is key to success. Providing instructors with educational and implantation-related resources helps to provide relevance and positive associations with SDE integration. The progress of SDE implementation depends upon the program's or intuition's ability develop a plan that keeps open lines of communication as a source of support for faculty in order to proactively address any challenges of SDE implementation.
25	The Kendeda Building For Innovative Sustainable Design	Georgia Institute of Technology	The Kendeda Building for Innovative Sustainable Design ("Kendeda Building") is the latest example of the Georgia Institute of Technology's sustainability leadership and innovation. Georgia Tech completed the building in September 2019 and constructed it to the Living Building Challenge 3.1 ("LBC") certification standard, the world's most ambitious building performance standard. For example, The Kendeda Building must produce more onsite renewable electricity than it uses and it has composting toilets that use a fraction of the water of conventional toilets. This Building Manual provides tips on usage, instructions for reserving space, and catering guidelines, as well as details on how to operate and maintain the building.	https://livingbuilding.gatech.edu/kendeda-building-innovative-sustainable-design	The most environmentally advanced education and research building ever constructed in the Southeast. The Living Building Challenge aligns with Georgia Tech's longstanding vision for the campus and provides a unique opportunity to physically demonstrate how Georgia Tech practices thoughtful stewardship of all of its resources and how its innovative thinking can transform future generations.
26			Projects that emerge from our new research hub, facilitating applied research in green construction and sustainable building practices in the Canadian construction, engineering and IT sectors. Projects range from advanced prototyping to building information modelling to building automation.	https://www.georgebrown.ca/about/office-of-research-innovation/research-facilities/green-projects	The Green Building Centre acts as a hub of research infrastructure that connects industry to economically meaningful applied research. This new research hub focus on the Canadian construction, engineering and IT sectors, facilitating applied research in green construction and sustainable building practices.
	Canada	The green building centre			